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Evaluation of the DoD High School Testing Program

by

Gus C. Lee

HUMAN RESOURCES RESEARCH ORGANIZATION
300 North Washington Street • Alexandria, Virginia 22314

January 1979

Prepared for:

Department of Defense
Office of the Assistant Secretary of Defense
(Manpower, Reserve Affairs, and Logistics)

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Beginning with a review of the 20-year history of the high-school testing program, this report examines the current policies, organization, and management structure; relationships between the educational community and the program; characteristics of test-takers; and estimates of accessions related to the program. The report includes chapters on establishing goals and measuring program performance, and on measuring the costs and benefits of high-school testing. the final chapter presents conclusions and recommendations.

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Dr. A. J. Martin, Director Accessions and Retention Programs, Office of the Assistant Secretary of Defense Manpower Reserve Affairs and Logistics, initiated the study.

EXECUTIVE SUMMARY

The High School Testing Program, frequently called the DoD Institutional Test Program, has existed in one form or another for twenty years. As inauguarated by the Air Force in 1958, the attributes of the program were similar to the present program. The examination is administered in a large number of high schools; test scores and other information about seniors and juniors is furnished to recruiters; the test scores of all test takers are provided to school counselors for their use in counseling and guidance. The test is offered free of charge to the high schools on the basis of its use in civilian counseling, as well as its use to military recruiters.

The program is not easy to manage--not only because it is a joint program, but also because the program involves several different organizations. Overall management responsibility for the program is presently assigned to the Army, as Executive Agent, and delegated to the Military Enlistment Processing Command (MEPCOM). Research and development coordination on the Armed Services Vocational Aptitude Battery is the mission of the ASVAB Working Group composed of representatives of ASD (MRA&L) and service human resource laboratories; the Air Force Human Resources Laboratory serves as the "lead" laboratory. Test administration operations are conducted by the Armed Forces Entrance and Examining Stations (AFEES) of MEPCOM; operations of contacting the schools to market, promote and schedule the tests are conducted by the Recruiting Services in cooperation with MEPCOM. Supervision and coordination of the program at the local level is performed by Interservice Recruitment Committees (IRC) consisting of the Commanders of Recruiting Service elements and the AFEES. The extent of participation by local school systems is voluntary. The program is well administered in spite of this complex structure.

During the school year 1977-78, 1,092,415 students were tested at 14,817 high schools. This was about 74 percent of the available high schools where it would be productive from a recruiting standpoint for the Department of Defense to administer the test; about 10 percent of the available students (10th, 11th, 12th grades) in these high schools were tested, including about 29 percent of the available seniors. After seven years of steady growth to a peak of 15,847 schools and 1,297,453 students tested in 1974-75, the number of schools and students has declined; however, the number of students and schools tested in 1977-78 was about the same as 1976-77.

The AFEES-IRC areas vary widely in their performance in marketing the test, as measured by the percentage of productive high schools or percentage of available students tested. In the 1977-78 test cycle the percentage of productive schools tested by each AFEES-IRC ranged from 42-125 percent (one AFEES-IRC tested more schools than were on its list of productive schools) and the percentage of available students tested ranged from 4-24 percent. The median of productive schools tested was 75 percent, and the median for percentage of available students was 12 percent.

Many counselors and school administrators who are not particularly interested in the use of the test for civilian counseling are willing to offer it for students who may be interested in military service. For this reason the Services are able to test in many schools where the percentage of students who take the test is relatively small.

The propensity to test a large percentage of available students tends to be higher in small rural schools than in large urban schools. While rural schools are found in all sections of the country, the average percentage of rural schools is higher in southern states than for the country as a whole. School officials in smaller rural schools are more apt to perceive the ASVAB as meeting their needs in civilian counseling than are counselors in large urban schools; also rural schools generally are more limited in funds and, therefore, more apt to take advantage of a "free" testing program. In general this helps explain the relatively large percentage of available students tested in AFEES-IRC where the percentage of rural schools is relatively high and, in particular, the relatively large percentage of students tested in AFEES-IRC that are located in southern states.

Although a primary marketing appeal is the usefulness of the test in civilian counseling, particularly for vocationally-oriented students, the population of test takers has attributes which are more conducive to military enlistment than are found in the high school population as a whole: there is a slightly higher proportion of males; the proportion of test takers who plan to enter military service is significantly higher than in the general high school population; the percentage of students who plan to enter college is significantly lower. The mental group distribution of high school test takers is more favorable than the mental distribution of applicants tested at AFEES and MET sites. Despite the wide use of the test in civilian counseling, many schools offer it primarily as a test for students who are

interested in military service or for students who counselors believe might benefit from military service. The composition of the test pool is suitable, although not ideal, for "prescreening" for military service.

The chief military benefit of the test is to furnish recruiters the names and addresses of a prescreened list of students who are soon likely to be high school graduates. The test takers furnish information about their future plans which, along with the test scores and personal data, enable the recruiter to utilize his contacting and prospecting time more efficiently. The offer of the test for civilian counseling, on balance, benefits the military services in creating favorable awareness of Service opportunities; however, a minority of high school counselors and officials in an estimated 15 percent of the total number of schools for various reasons regard the program unfavorably.

The names of seniors and juniors on the high school test lists who obtain passing scores constitute a good lead list. Not all the students are immediate prospects, but the occupational plans of students are frequently tentative and subsequent changes in plans are made by many of them. The table below shows the percentage distribution of the Future Plans of test takers and the Future Plans at the time of the test of those who subsequently enlisted.

Percent of Test Takers and Accessions by Future Plans at Time of Test

Future Plans	Percent of Test Takers	Percent of Accessions
Military Plans	8.0	39.2
Undecided	30.5	30.5
Four Years of College	30.7	11.9
Work	14.6	8.7
Vocational Technical School	6.7	5.0
Two Years of College	9.5	4.7

A significant proportion of accessions enlist from among students who do not plan to enter military service when they take the test. Promotion of the test as useful in civilian counseling, in addition to its promotion as a military entry test, apparently results in more accessions than would occur by marketing the test solely as a military test.

This study "tracked" the accessions from the 1976-77 school year test cycle. Through June 30, 1978, an estimated 100,000 accessions, Active and

Reserve, had occurred from students who took the ASVAB-5 in high school during the 1976-77 school year. The number includes enlistees in the Delayed Enlistment Programs as of June 30, 1978. An estimated 58 percent of these accessions occurred in FY 1977 and 42 percent in FY 1978. In past studies, the number of accessions from among high school test takers was underestimated because many were retested prior to entry. These accessions enlisted under another test and were not counted among accessions who took the high school test, even though the recruiter may have identified them as a prospect by using the high school test list. In the 1976-77 test cycle, about 60 percent of the 100,000 accessions entered using high school test scores as scores of entry, and about 40 percent entered with some other test scores. The number of high school test takers who entered Service by use of some other test scores may be unusually high because a new test became operational for both high school and applicant testing during this period.

Each Service shares in the accessions from high school test takers in rough proportion to its share of accession requirements except the Air Force, which has a significantly higher accession share from high school test takers. The Army and Marine Corps have somewhat smaller accession shares from high school test takers than their shares in total accessions. The favorable Air Force experience in the enlistment of high school test takers is attributable partly to the full use which Air Force recruiters and Air Force recruiting managers make of the high school test results as refined lead lists. It was observed in field visits that Air Force recruiters generally implemented a policy of contacting all names on the list who had passing scores; recruiters of the other services generally worked the lists more selectively.

Most of the accessions are from among the seniors who take the test but there is also a significant "pay-off" from among juniors who take the test. The accessions from the 1976-77 school year test cycle consisted of 71.2% of the accessions who were seniors at the time they took the test and 28.5 percent who were juniors.

The chances of obtaining an accession from males on the high school test lists are highly related to the Future Plans of test takers. The information on Future Plans assists a recruiter to make efficient use of his time. A recruiter will find it much harder to obtain an enlistment from among those who plan four years of college than from those who are undecided, although

there are about the same number of test takers for each of these categories of Future Plans. The tabulation below shows the number of accessions per 100 test takers for the selected categories of male seniors, male juniors, and female seniors by Future Plans. The number of accessions per 100 female test takers is much lower than males because of the smaller accession requirement for females.

Number of Accessions Per 100 Test Takers in Selected Categories Classified by Future Plans at Time of Test

Future Plans	Male Seniors	Male Juniors	Female Seniors *
Military Plans	60.3	38.4	32.0
Undecided	17.8	10.1	3.8
Vocational Technical School	11.2	1.5	2.2
Two Years of College	10.1	6.9	2.0
Work	9.5	6.7	.9
Four Years of College	6.5	4.0	1.6
TOTAL	15.9	11.1	3.7

*Accessions of Female Juniors are about one-third as many as female seniors

As indicated by the table, the number of accessions from a group of test takers would vary significantly with significant changes in the proportion of the category of male seniors tested.

The directly identifiable budgeted costs of the High School Testing Program are $4,194,103 for FY 1978. These are the direct costs which would be avoided if the program were discontinued. Other costs are allocable to the program, but are not readily identifiable. For example, the costs of pay, travel, and per diem of education specialists/coordinators or recruiters in marketing the program or proctoring an examination are spread among nearly all production recruiters or education specialists/coordinators. The costs are allocable to the program, but constitute such a small percentage of any one individual's time that those costs probably would not be avoided if the program were discontinued. If all allocable costs were identified, the estimated total would amount to about $5 million.

Using directly identifiable budget costs, unit costs were estimated as follows:

- average cost per test session: $276.36
- average cost per examination: 3.83

- average cost per examination of seniors and juniors: $5.65
- average cost per examination of seniors and juniors, Mental Groups I-III: 7.30

The average cost per examination of seniors and juniors is relatively low at $5.65 per examination--$6.74 if the rough estimate of total allocable costs is used. In considering the military benefits of the test, the total costs of the tests may be related to the number of seniors and juniors who take the test because the test scores of sophomores and freshmen are not furnished to recruiters.

The study concludes that the High School Testing Program, as presently configured, produces contacts, prospects and leads at a low cost per lead with favorable chances of conversion of leads to the enlistment of a high school graduate.

A three-year program to increase the number of test takers to 1,200,000 to 1,250,000 would include the following actions:

- Continue a balanced marketing approach between civilian and military uses of the test, including an objective of participation of 50 percent or more seniors among test takers.
- Enhance IRC capabilities to tailor marketing at local levels by analysis of characteristics of high schools and test takers.
- Continue validation studies of the use of ASVAB for civilian counseling in order to improve and extend the use of ASVAB in civilian counseling and strengthen the viability of promotional statements.
- Refine MEPCOM capabilities with regard to the important initiative which has been taken in the establishment of local AFEES-IRC goals in measuring performance. Include "tracking" of the characteristics of test takers in each test cycle so that the effectiveness of the program in producing leads can be measured, as well as the number of schools and students tested.
- Extend MEPCOM's responsibility for marketing beyond the feasibility test stage. Because of the relatively high directly budgeted costs of MEPCOM marketing, phase the extension prudently; the next stage would be to extend MEPCOM marketing to 10-15 additional AFEES-IRC selected from poorer performing AFEES-IRC.

- Each Service strengthen periodic reviews of recruiter use of high school lists to assure optimum use of the lists; emphasize through use of the lists by training, professional development, supervisory, and inspection activities of recruiting.

EVALUATION OF THE DOD
HIGH SCHOOL TESTING PROGRAM

CHAPTER 1
HISTORY OF THE HIGH SCHOOL TESTING PROGRAM

The High School Testing Program, frequently called the DOD Institutional Test Program, has existed in one form or another for twenty years. The program began as an Air Force recruiting initiative in 1958. As inaugurated by the Air Force, the attributes of the program were similar to the present program: the Air Force administered the Airman Qualification Examination in a large number of high schools; the test scores of seniors were provided to recruiters; scores were also provided to school counselors for their use in guidance and counseling. Then, as now, the test was offered to schools on the basis of its usefulness in civilian guidance and counseling, as well as its use to students who wished to consider enlistment in the Air Force.

The other Services followed the Air Force lead and soon began to administer their own tests in the high schools.

After 10 years of unilateral service experience with high school testing, the Department of Defense established a joint high school testing program in 1968. The joint program was, in part, a response to complaints from high school officials about competing service programs and to resistance by them to the additional testing time required for the services to administer their own test batteries separately. A logical solution was for all the services to use the same test battery; for one service to administer the test in a particular high school in behalf of all services; and for the information on students tested to be distributed to all services.

In 1966, the Assistant Secretary of Defense (Manpower and Reserve Affairs) requested the services to develop a common test battery in a Memorandum for the Undersecretaries of the Military Departments from ASD (M&RA), Subject: "Development of a Common Aptitude Battery," February 3, 1966. At first, the Assistant Secretary requested the services to develop a joint test to serve four purposes:

- testing high school seniors
- establishing mental qualifications for enlistment and induction
- selection of enlistment applicants for particular occupations and training
- classification and assignment.

The request was modified to limit the task to development of a test suitable for testing high school seniors.

The tasks of conducting a joint program were divided among the Services by DOD Directive 1304.12: The Army was assigned lead responsibility for test development; the Navy was assigned responsibility for development of a High School Counselor's Manual; the Air Force, staffed by representatives of all Services, was assigned responsibility for processing test scores. Known as the Armed Services Vocational Aptitude Battery, the joint test was introduced in the high schools in 1968.

The program was already sizeable in school year 1968-69, reaching 7,200 schools and 350,000 students.

During the transition to the volunteer force higher priority was given to the program and efforts were made to improve its management. Several recruiting needs led to more emphasis on the program beginning in 1971:

- the services placed more emphasis than before on the recruitment of high school graduates;
- the primary source of recruiting leads -- the names and addresses of men who reported for pre-induction processing examinations for the draft (PIP list) -- would no longer be available after the end of the draft;
- the recruiting services had difficulties in obtaining names and addresses of high school students from school officials or in purchasing the lists commercially.

Several actions were taken in an effort to improve the program. ASD (M&RA) sponsored a Joint Conference on High School Testing on May 27-28, 1971. Possible improvements identified at this meeting included the following:

- development of at least two operational forms of the test for use in re-testing and in meeting possible problems of test compromise;
- research to provide scoring norms for 10th and 11th grades in order to persuade more school counselors to use the test;
- publication of a new High School Counselor's Manual to furnish better information to counselors on use of the test to counsel students;
- preparation of a single DoD booklet to promote the test in lieu of the separate Service booklets then in use;

- provision of individual scores to counselors and students in place of a single computer print out which required the counselor to transcribe the scores to school records;
- provision of more formal training for test administrators.

At the Joint Recruiting Conference on October 5-6, 1971, Air Force representatives recommended more professional management of the test program and stated the willingness of the Air Force to assume executive responsibility for an agency to manage the program in behalf of all services. On December 4, 1972, DOD Directive 1304.12, Armed Forces High School Recruiting and Testing Program was revised, designating the Air Force as Executive Agent with overall responsibility for the High School Testing Program. The Armed Forces Vocational Testing Group (AFVTG) was activated by the Air Force at Randolph AFB, Texas, in March 1973 to manage the program.

The time period of AFVTG management -- the test cycles for School Year 1973-74 through School Year 1975-76 -- were the peak years for the program. The functions of the joint program, which were previously divided among the Services, were consolidated into the AFVTG and were staffed by representatives of the four services and the Coast Guard. The Air Force was the Executive Agent for the Department of Defense in management of the program. The test administrators remained under the Military Services but were trained by the AFVTG both in marketing the test in the high schools and in administering it.

In 1973 the Navy began to employ civilian Education Specialists who, among other duties, contacted high schools to promote the ASVAB and later the Army followed suit with its employment of Education Coordinators. The Air Force began use of an alternate form of the ASVAB for applicant testing in 1973, providing a precedent for current use of the ASVAB for both high school testing and applicant testing by all services.

All of these actions contributed to the growth of the program. Over 1 million students were tested in the School Year of 1973-74. The peak was reached in School Year 1974-75, when over 1,297,000 students were tested at 15,847 high schools.

The program has since declined in both number of students and number of high school tested, particularly in the 1976-77 school year. The three school-year test cycles since the peak year of 1974-75 have been marked by relatively more changes and more turbulence affecting the program than occurred earlier during its years of steady growth.

The major events which have impacted on the program since the 1974-75 school year are:

- The General Education Provisions Act of 1974 which resulted in a revised agreement signed by each student taking the test. The agreement emphasized student awareness that one of the purposes of the test was for the services to obtain information to be used in recruiting;
- Transfer of responsibility for overall management of the program from the Armed Forces Vocational Testing Group, Air Training Command to the Directorate of Testing in the newly organized Military Enlistment Processing Command, Fort Sheridan, Illinois, Army;
- In a memorandum dated July 15, 1975, the ASD (M&RA) identified the resources to be transferred from the other Services to the Army as Executive Agent for the new Command. The pending transfer impinged on the program in the 1975-76 school year and the actual transfer in January, 1976 affected the 1976-77 school year testing program.
- The OASD (M&RA) agreements with Congressman Mosher on March 23, 1976, which required over 10,000,000 errata sheets on ASVAB related materials to be printed and distributed early in the 1976-77 school year. Several publications were revised to remind school officials and parents of the following:
  1. Tests are voluntary and mandatory testing is not desired by the Services.
  2. The validity of the ASVAB for determining aptitudes for civilian jobs has not yet been proven.
  3. ASVAB scores are used for recruiting purposes; they will not be used for any purposes other than recruiting and civilian counseling.
  4. Scores will not be retained for more than two years, except for research; at the end of two years personal identifying information will be removed.

  Most of the content of the agreement had already been incorporated in material used in the field; however, one side effect was an attitude of uncertainty on the part of some field personnel as to the emphasis they should place on marketing the High School Testing Program.

- The introduction of ASVAB-5 on July 1, 1976, for use in the 1976-77 School Year. The new forms of the ASVAB were primarily designed as a single common test to be used for applicant testing, although one of the forms, ASVAB 5, is used in the high schools. In contrast, ASVAB 1 and 2--the forms previously used in the High School Testing Program--were designed solely for high school testing. Revised forms of the ASVAB replaced seven tests in use by the Services at the time of the decision in April 1974.[1] The revised form of the ASVAB was a combination of sub-tests adapted from previous service tests or from earlier forms of the ASVAB. ASVAB 5, the form now used in high schools, requires some 3 hours to administer compared to 2 hours 22 minutes for the earlier forms designed for high school testing. The additional time for administration has discouraged some high schools from offering the test.
- Criticism of the ASVAB in February, 1977 by Dr. Lee J. Cronbach, Professor of Education at Stanford University. In a letter to ASD (MRA&L) Dr. Cronbach stated that the ASVAB composite scores derived from the sub-tests within the battery intercorrelated so highly as to limit the usefulness of the test for high school counseling. In response, the Deputy Assistant Secretary for Personnel Policy (ASD-MR&L) directed the Services to develop by April 20, 1977, new aptitude composites which would be "minimally intercorrelated." It was too late to correct promotional material for the 1976-77 school year but a number of revisions were made by the start of the 1977-78 school testing year in July.

  The major changes were:

  1. The six composites used for scoring the high school test were renamed and redefined to provide greater differentiation in individual aptitude profiles;
  2. Student result sheets were changed to discontinue use of green, yellow, and red coloring to indicate relative aptitude rankings and replaced with a single color.

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[1] Briefing to Defense Manpower Policy Council on "Use of a Common Aptitude Test for Entry Into All Military Services." April, 1974. (ASD-MRA&L) files.

3. The Counselor's Manual and other promotional materials were modified to provide current information on the new composites; pre-test and post-test promotional films were recalled.

Although the causes of the decline in numbers of students tested cannot be pin-pointed, the magnitude of the decline is significant. From the peak year of 1974-75 through the school year 1977-78, the decline is 16% in the number of students tested and 6.7% in the number of schools tested; the decline in seniors tested is 18.3%.[1] The table below gives the year-to-year totals of the number of schools and students tested as well as significant events which contributed to the result.

High School Testing -- Number of Schools and Students
(1968-1978)

School Year	Significant Events Impacting Program	Number of Schools	Number of Students
1968-69	First use of ASVAB	7,200	350,000
1969-70		7,200	375,000
1970-71		8,100	425,000
1971-72	AVF program begun	10,800	580,000
1972-73		14,000	824,000
1973-74	AFVTG management	15,623	1,100,000
1974-75	Peak year	15,847	1,297,458
1975-76		15,763	1,255,887
1976-77	Mosher criticism, MEPCOM transfer, ASVAB-5	14,809	1,094,371
1977-78	Cronbach criticism	14,781	1,090,232

The average size of a test session has declined from 80 in 1975-76 to 72 in 1977-78.

The best assessment is that no one of the events which have impacted on the last two testing cycles has had, by itself, a major impact but that, in combination, they have contributed to a significant set-back in the program.

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[1] "High School Seniors Tested With ASVAB-School Year 1974-75," Bernard D. Karpinos, MARDAC, undated. DMDC files. The number of high school seniors tested in 1974-75 is shown as 575,000.

Consequently, some civilian educators perceive that the high school testing program is characterized by instability and for this reason are hesitant to endorse it.

Several recent actions have been taken by MEPCOM to improve the program. For the first time goals were established for the individual Interservice Recruitment Committees in the testing cycle for School Year 1977-78. A system for measuring accomplishment of the goals by the IRC's was inaugurated. As a feasibility test of MEPCOM marketing, MEPCOM was assigned responsibility for contacting the schools and marketing the test in five IRC's.

CHAPTER 2
POLICIES, ORGANIZATION, AND MANAGEMENT STRUCTURE

The High School Testing Program is difficult to organize and manage for several reasons:

1. The policies establish dual purposes and objectives for the program.
2. The primary market for the program is the high school educational community, or its representatives; mostly through them, the students themselves are a secondary market.
3. Recruiting and examining operations have to be brought into close coordination to retain the good will of the primary market.

The policies which govern the program recognize both the military and civilian purposes of the program. The military purpose is to furnish the recruiting services the names and addresses of potential high school graduates, pre-screened for mental abilities, so that the individuals on the list may be contacted about enlistment. In DOD Directive 1304.12 this purpose is expressed in general terms as "determining the high school student's eligiblity for military service." The civilian, or non-military purpose, is to furnish test scores to students and high school officials in a form which is useful in career/vocational guidance and counseling. As will be discussed, a longer list of names results from offering the test as a tool for vocational guidance. In this way the "civilian purpose" helps accomplish the "military purpose" of the program. It is not easy to organize and to meet both of these objectives efficiently.

Another reason that the program is difficult to organize and manage is that the market is different than the normal recruiting market. The normal primary marketing target for recruiting consists of young men and women who may become qualified prospects or applicants. It is true that such "influencers" as parents or high school teachers are often interviewed by recruiters or reached by recruit advertising but they are secondary targets. In the case of the High School Testing Program the primary market consists of high school counselors and other school officials who determine whether and to whom to offer the test in their high schools. Once a decision to test has been made

by school officials, the student's participation is a target. Students mostly learn about the test from friends, counselors, or promotional materials. Recruiters often urge individual students to take the test.[1]

Student participation is influenced by the way Recruiters or Education Specialists/Coordinators market the test. If the goal is to "sell" the school and simply accept the number of students who show up, the total number of test takers will be less than if the test is marketed as a counseling and guidance instrument which is useful in civilian as well as military counseling. Some counselors may urge all students to take the test; others offer the test in routine fashion, still others may suggest that only students interested in military service take the test. Some counselors prefer other tests such as the General Aptitude Test Battery of the Department of Labor, for use in civilian vocational counseling. Counselors and other high school officials obviously have a great deal to do with the success of the program.

Recruiting and examining functions are organized separately within the Department of Defense but they have to be brought into close coordination in the High School Testing Program. Test administration in the high schools may be thought of as a supporting service to recruiting, just as in applicant testing, but a difference exists because the educational community's satisfaction with the service is also an important consideration.

These are not new points but rather reminders that this is a difficult program to plan and execute. It can be expected that the program will be criticized from time to time by outside observers, as well as some members of the Department of Defense. The surprising fact is that the program is so well accepted that the services annually test over a million students in nearly 15,000 high schools.

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[1] "Evaluation of ASVAB-5 Promotional Materials." Preliminary draft of Final Technical Report, Canyon Research Group, Westlake Village, California, 1978. About 9% of the students said they learned about the test from a recruiter.

Policies Governing the High School Testing Program

The basic policies governing the High School Testing Program are stated in DOD Directive 1304.12, "Armed Forces High School Recruiting and Testing Program," dated December 4, 1972. The Directive was reissued in 1978 but the policies were not changed. The guidance provided in the Directive is amplified in Joint Regulations and conveyed to recruiters and high school counselors in guidance manuals issued by the Military Enlistment Processing Command.

The key policies are:

- recruiters should encourage students to stay in high school and graduate.
- the ASVAB will be given to as many seniors as possible but may also be given to lower classmen if the school insists.
- assistance should be provided the high schools to use ASVAB for both military and civilian counseling.
- the Services will contact the schools and administer the test jointly.
- when a current ASVAB score is available it should be used for enlistment and another test should not be required unless the ASVAB lacks a service specific test component for determining the eligibility for enlistment.

The policy framework is about the same as it was in the August 1969 version of the Directive. The policies have been interpreted over the years by application in actual operations so that some of the language of the Directive is out of date. Later in the report suggestions are made for clarification of the Directive.

For one thing the dual purposes of the program as discussed earlier in this chapter are recognized but are not clearly stated. The Directive recognizes both the military and civilian attributes of the program by stating that "assistance should be provided the high schools to use ASVAB for both military and civilian counseling."

For another thing the Directive seeks to maximize the testing of high school seniors. While it permits the testing of lower classmen the Directive does not encourage testing juniors or sophomores. The language is: "The ASVAB shall be given to as many seniors as possible and may be given

to lower classmen if the school insists." As will be discussed subsequently, a significant proportion of accessions came from among high school graduates who took the test when they were juniors.

The Military Enlistment Processing Command, which is assigned the overall responsibility for the high school testing program, has issued guidance to the field that amplifies and clarifies the policies of the Directive. The ASVAB High School Counselor's Guide is made available to high school officials to orient them on the program.[1] The Guide states, "The Department of Defense fully supports programs for career education at the national, state, and local levels. Through the High School Testing Program it offers counselors assistance in (1) administering an effective aptitude test battery; (2) providing students with information that will give them a better understanding of themselves; (3) helping students explore and make choices about various career fields after graduation."

Of course, the military use of the ASVAB is also explained to counselors. The Guide states, "The results of ASVAB are used by military recruiters to contact potential enlistees. This is a vital source of prospects for all military recruiters and the results can be used to advise these young people of the military jobs or schools for which they qualify. However, this use of ASVAB should not be confused with the school's use..."

The ASVAB Recruiter's Guide is another of the MEPCOM publications which amplifies program guidance.[2] The Recruiter's Guide contains section on the following topics:

- Basic recruiting tips.
- How the ASVAB scores and personal identifying information will be used.
- Recruiter responsibilities.
- Psychological testing.

In telling the recruiter how to present the ASVAB to high school officials, the Recruiter's Guide emphasizes that the ASVAB can be administered

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[1] ASVAB High School Counselor's Guide. Military Enlistment Processing Command, Fort Sheridan, Illinois, 1977.

[2] ASVAB Recruiter's Guide, Military Enlistment Processing Command, Fort Sheridan, Illinois, 1977.

to all high school students, not just to seniors. The key points in the Guide on presenting ASVAB are:

- Teachers, counselors, students have a strong interest in any program that will help them in career exploration.
- The school should be made aware that the ASVAB is offered without charge or obligation and that it is given at the school's convenience.
- ASVAB is a recruiting tool for the Services, but, more important, it is also a test widely used by counselors to help students learn more about themselves.
- Another important point is that ASVAB can be administered to all high school students, not just to seniors. This makes it an excellent tool for career awareness and exploration.

Once the school has agreed to the administration of ASVAB the recruiter should encourage the counselor to see that as many seniors as possible are tested. Assure the counselor that he does not desire to enlist students prior to graduation.

Reasons for testing juniors are given in the MEPCOM Educational Bulletin, dated August 30, 1978:

"a. To generate good prospects lists for entrance into the Delayed Enlistment Program.

b. Gives counselors a head start on counseling next year's 12th graders.

c. To acquaint juniors with vocational/technical job opportunities before they "lock in" on an academic pathway.

d. To identify weak and strong skill areas in time for curriculum adjustments during the senior year.

e. Juniors are more accessible during the spring of the year than seniors.

f. Historically, juniors have scored almost at the same level as seniors on the ASVAB (i.e., about the same proportion in each grade receives service qualifying scores).

g. Many schools do not have standardized testing programs for juniors and fewer have vocational assessment programs."

MEPCOM guidance encourages the testing of juniors, as well as seniors. The broadened testing of juniors, as documented in the chapter which discusses

accessions from among high school test takers, is desirable from the standpoint of the military usefulness of the test, as well as from the standpoint of civilian counseling.

In summary, basic policies establish the High School Testing Program in order to administer the ASVAB to members of the high school population. The primary role of the program in the accession system is to furnish a screened list of the names and addresses of high school students for use in recruiting operations. Coincident with this role, the program also serves a public relations and an institutional advertising purpose by providing a free testing service to the high schools. The major feature used to market the program in high schools is the usefulness of the test scores in civilian guidance and counseling. The program is marketed, however, under a set of policies which primarily emphasizes testing of seniors in order to increase the military usefulness of the screened pool. For those who are interested in military service the high school test is intended, as a matter of policy, to provide their entry test scores; however, the volume of re-testing conducted under the general policies governing re-testing, lessens the fulfillment of this purpose.[1]

Organization and Management Structure

An extensive high school testing program is conducted each year on a joint basis in spite of the difficulties of managing the program. The overall responsibility for the program is assigned to the Department of Army by the ASD (MRA&L) and to MEPCOM by the Joint Regulation, published as AR 601-222, March, 1977. Within the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) policy responsibility is assigned to the Deputy Assistant Secretary (Military Personnel Policy), Director Accessions and Retention Programs. The day-to-day operations are divided between the recruiting services and MEPCOM: the operations of contacting the high schools to promote and market the test is a function of the recruiting services; test administration is performed by MEPCOM. Local level coordination and cooperation between the recruiting services and MEPCOM is accomplished by Interservice Recruitment Committees (IRC). Prior

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[1] The subject of re-testing is discussed in the chapter on "Accessions Related to the High School Testing Program."

to the establishment of MEPCOM, the test administrators were assigned to the services and they performed both the function of marketing the test in the high schools and administering it.

The purpose of this section is to present a brief overview of the organization and management of the program by summarizing the key directives and regulations and by observations based on field visits. MEPCOM's staff leadership and program management responsibilities are contained in the Joint Service Regulations. The following are functions of the Executive Agent:

- provision of test forms and related material,
- preparation of material for high school counselors and other officials,
- administering the tests,
- scoring and distributing results.

The joint regulation assigns the following functions to MEPCOM:

- managing, coordinating and implementing the High School Testing Program;
- supporting research and development on procedures, scoring, and validating of the test;
- developing training programs and techniques to promote ASVAB in the high schools;
- developing training programs for test administrators;
- providing test security and control over test administration.

The test development is under the guidance of the ASVAB Working Group which has representatives from ASD (MRA&L), service personnel officers and personnel laboratories, and MEPCOM. The "lead laboratory" for development of ASVAB for high school use and for applicant testing is the Air Force Human Resources Research Laboratory.

The joint regulation assigns the Interservice Recruitment Committees responsibility to "plan, coordinate and maintain the relationship between local recruiting organizations and schools for testing purposes." The IRC in each AFEES geographic area consists of Commanders of the Army District Recruiting Command, Navy Recruiting District or Class "A" Station, the Air Force Recruiting Squadron, the Marine Corps Recruiting Station. The AFEES Commander is a non-voting member of the IRC. The IRCs implement the DOD Directive and joint regulation to conduct the program jointly by the

assignment of school and/or areas to the individual recruiting services in the same proportion as each service's share of total non prior service accessions. Pursuant to this assignment by the IRC, representatives of the recruiting services contact high schools to market and schedule the test.

The organization and management structure is not a neat pyramid of authorities and responsibility; instead, the management structure may be described as consisting of a number of key links, as follows:

- the Directorate of Testing, MEPCOM
- the Interservice Recruitment Committees
- the Navy and Army Education Specialists/Coordinators and experienced recruiters of all services but particularly the Air Force
- the Commander, Test Control Officer, Non-Commissioned Officer In Charge and test administrators at AFEES stations.
- ASVAB Working Group, which has considerable impact on the program, since it furnishes guidance to the laboratories for research and development on the test instrument.

The Directorate of Testing, MEPCOM

The Directorate of Testing, MEPCOM provides the staff leadership for the program. The basic activities of the Directorate are:

- develop plans and procedures to implement the program, including monitoring the performance of the IRC's in terms of schools and students tested;
- prepare, publish and distribute informational and promotional materials; for example, the ASVAB Reference Center, which includes a Recruiter's Guide, a Counselor's Guide, recent research studies on the validity of ASVAB and other topics of interest to ASVAB users;
- score the high school tests and distribute results;
- develop procedures for test administration, including control and security of test material, and for test scheduling;
- training programs for testing personnel;
- conduct and monitor related research and development.

The Directorate performs these functions for applicant mental testing as well as high school testing, except that applicant test scoring is performed at the AFEES stations or MET sites.

A better picture of the Directorate of Testing, MEPCOM, activities related to the High School Testing Program can be obtained from a list of major projects in the Directorate, as of March, 1978:

- Expansion of use of Civil Service Commission Examiners, including high school testing in San Francisco, Dallas, St. Louis, Denver, Atlanta, Philadelphia, New York and Boston regions.
- Feasibility test of MEPCOM marketing of the high school test.
- Establishment of goals for high school testing by IRC.
- Three year research plan.
- Computer tracking system for IRC productivity.
- Development of procedures to minimize test compromise.
- Preparation of training programs for Test Control Officers, Non-Commissioned Officers in Charge, and Test Administrators.
- Analysis of school year 1976-77 test results.
- Collection and analysis of retest data.

Although high school testing was not a MEPCOM mission until July 1, 1976, MEPCOM and its predecessor organizations have accumulated over 25 years of continuous experience in administering mental tests in the Department of Defense. Applicant testing, not high school testing, accounts for the major portion of MEPCOM resources allocated to mental testing. In FY 1978 there were 742 military Test Administrators in MEPCOM of whom 161 (21.6%) were allocated to high school testing for seven months. The total number of test administrators was reduced when MEPCOM was established; formerly, the Services used between 1,000-1,100 test administrators. The direct costs of mental testing are estimated at $12,441,188 of which $4,194,000 is attributed to high school testing. A comparative analysis of the costs of the applicant testing and high school testing is discussed in the chapter on Measuring the Costs and Benefits of High School Testing.

Interservice Recruitment Committees

The Interservice Recruitment Committees are a key link in the organization and management structure. In the 66 AFEES-IRC areas the Interservice Recruitment Committees largely determine the priority of effort which the high school testing program receives.

Basically, the Interservice Recruitment Committees assure the joint operation of high school testing in the field. The joint regulations provide a general statement of the mission of the IRC's and specifically provide for the IRC's to coordinate the program, chiefly by the assignment of schools or areas to a specific service for the purpose of marketing and promoting the test. When practical, the military service which previously contacted the school retains this responsibility so that this activity is not usually a major duty of the IRC's.

The IRC's vary widely from time to time and from area to area in the extent of their activity. For one thing the chairmanship rotates each year among the Services. The chairmanship, of course, is an additional duty and each chairman usually furnishes his own staff support; however in some IRC's the AFEES furnishes staff assistance. One IRC visited is conducting a workshop on high school testing in preparation for the 1978-79 school year. Another IRC visited delegated to the AFEES Commander the task of writing each school principal to provide an early offer to schedule the test. Two other IRC's visited had been relatively inactive during the past year.

In connection with the 1977-78 school year testing cycle the establishment of individual IRC testing goals was a major activity of the IRC's. This was the first time that goals were established for individual IRC's. Each IRC assisted MEPCOM in updating the list of public and private schools and the numbers of students by grade. The IRC's decided which of the schools could be considered "productive" from the standpoint of high school testing. A tabulation of the reasons for school refusal of testing was also made. This project of assigning individual goals and monitoring performance will provide a basis for the activities of the IRC's in meeting their goals. The project is further discussed in the chapter on "Establishing Goals and Measuring Performance."

Education Specialists/Coordinators and Recruiters

The continuing operations of marketing and promoting the use of the ASVAB depends on the Education Specialists/Coordinators and Recruiters. The Navy and Army are the two services which employ Education Specialists/Coordinators. The Education Specialists/Coordinators are more likely to spend their time at the level of a school district superintendent and his or her staff and are not routinely working at local high school levels, except when called in for a problem or other special reasons. The day to day contacts with local high schools are largely the responsibility of recruiters in all services.

Although the High School Testing Program absorbs a limited portion of their time (estimated at 15-20 percent by eight Education Specialists/Coordinators interviewed), the Education Specialists are a major asset for the program. At the District level they are the Recruiting Commanders' chief advisor on the High School Testing Program. The Navy employs 65 civilian Education Specialists assigned to Navy Recruiting Districts and Class "A" Recruiting Stations. The Army assigns an Education Coordinator to each of 5 Regional Recruiting Commands, and its 57 District Recruiting Commands. The Education Specialists/Coordinators have a college degree; usually they have had experience in education, either as a teacher or counselor; their grade levels are GS 7-11. Their other duties in connection with educational and vocational training programs available in the service also involve liaison with the educational community. At District level experienced Educational Specialists/Coordinators are usually the best source of knowledge on the characteristics of the school systems and of problems in testing and measurement.

Most of the recruiters are well enough qualified to present the program to smaller schools or other schools where the testing has been readily accepted for years. Recruiters can ask for specialized assistance if the need arises. The High School Testing Program, in fact, frequently helps the recruiter to gain access and to build up contacts with school officials. United States Army Recruiting Command (USAREC) Pamphlet 600-4 for Recruit-Station Commanders points out that offering the ASVAB frequently requires an expert presentation which may be beyond the skills of some recruiters.

Area Commanders/sector supervisors, particularly in the Air Force, are often well trained to assist the recruiters under their supervision.

As is discussed subsequently, much of the scheduling for testing is "repeat" business which can be counted upon from year to year, if all goes well in relationships with the schools.

Currently, MEPCOM is conducting a feasibility test of MEPCOM marketing in five AFEES-IRC areas. The test is discussed in a section of MEPCOM marketing in the chapter on "Establishing Goals and Measuring Performance."

AFEES Commanders, Test Control Officers, Non-Commissioned Officers in Charge, and Test Administrators

AFEES Commanders are responsible for test administration. They are non-voting members of the IRC and serve in a supporting role for the High School Testing Program. In many AFEES they furnish additional support to assist the IRC to function as a coordinating committee.

The Test Control Officers (TCO), usually a Lieutenant but sometimes a Captain, supervise test administration. The NCOIC is usually a "working foreman" who assists the TCO in supervising the operation. Test Control Officers are frequently assigned without previous experience or training in testing and the better part of a high school test cycle may be needed for them to learn the job. In such cases an experienced NCOIC is usually available to help them. The duties encompass both applicant and high school testing.

AFEES Test Administrators perform the day to day operations of test administration in connection with high school testing. The functions are:

- cooperate with the recruiters in scheduling high school tests
- account for test material and maintain test security
- survey and check out the test site in advance
- conduct the briefing and give the instructions in preparing students for the test
- arrange for recruiters or high school representatives to serve as proctors.

The test administrators contribute almost as much as recruiters to the public image which the Services receive in the high schools as a result of the program. If promises to the school are not met or there is a

testing "goof," the school is quite likely to refuse testing the following year. It is often a tough job; all test administrators have faced difficult situations, particularly in the inner city schools, where student behavior may become troublesome during a test session.

Under current MEPCOM plans, Civil Service examiners will be used extensively in lieu of military testers. The concept was initially tried in the Seattle and Chicago Civil Service Regions. Under the gradual expansion plan Civil Service Examiners are to be used at remote MET locations and high schools where travel and per diem costs of military testers are relatively high. Determination of trade-off costs in meals, travel, and lodging funds will result in expansion of Civil Service testing to additional locations as attrition occurs in military testers. Some military testers will remain at AFEES for production testing, conducting large inner city high school testing, and conducting large high school test sessions of over 240 students. MEPCOM is obligated to turn in approximately 230 military positions by the end of FY 1979 to accomodate the expansion of Civil Service Commission testing. Implementation of the plan is expected to improve testing service and to reduce costs.

Half of the AFEES visited assigned test administrators either to applicant testing or high school testing and half of the AFEES used them interchangeably. At the present level of resources not many AFEES could schedule over 3 schools a day unless some test administrators could be reassigned from applicant testing. Most of the AFEES, however, have a few occasions during a test cycle that require all test administrators to be mobilized for a day to meet the requirement for a mandatory test program in a large school.

The three MEPCOM Sectors are intermediate Headquarters between Headquarters MEPCOM and the individual AFEES. In each of the geographic areas of the Sector there are Mid-Level Interservice Recruitment Committees composed of the Regional-level Recruiting Commanders and the Sector Commander. Based on limited observations of one Sector, the functions performed are primarily administrative.

In summary, high school testing is a cooperative joint effort by MPECOM and the Recruiting Commands of the Services under policies of the Department of Defense. MEPCOM furnishes the program leadership and the techniques. The Recruiting Commands largely determine the goals and the

priority to be given the program. Local day to day marketing operations are performed by the District level offices of the Recruiting Commands; local day to day operations of test administration are performed by the AFEES under MEPCOM. The day to day operations of the program are discussed further in subsequent chapters of the report.

CHAPTER 3
THE EDUCATIONAL COMMUNITY AND THE PROGRAM

The purpose of this chapter is to discuss those characteristics of the high school educational community which assist in understanding the High School Testing Program.

Public or private education through high school is available in the United States to nearly all students who want it.[1] High School education is offered in some 25,700 public high schools and 3,700 non-public high schools. Enrollment in public high schools is about 14.4 million and in non-public high schools about 1.4 million. Small annual declines in enrollment are expected throughout the decade of the 1980's.

The Department of Defense does not try to test in high schools that would not be productive for testing from a recruiting standpoint. Religious schools and seminaries, remedial schools, very small schools with less than 40 seniors, for example, either would not permit testing or would not offer many test takers. MEPCOM's list of "productive" schools, based on the submissions of the Interservice Recruitment Committees contained 19,888 "productive schools" in the 1977-78 school year with an enrollment of 10,759,784 students in grades 10-12. This is the target group for high school testing.

In the 1977-78 school year the test was given in 14,817 high schools to 1,092,415 students. This was about 74% of the productive high schools, about 10% of the available students in those high schools, including about 29% of the available seniors.

The enrollment of the 14,817 high schools which offered the test to students was 7,062,985. The coverage of high schools is broader than the coverage of students, partly because Department of Defense policies emphasize the testing of seniors. Nearly 1,000 of the high schools which were tested did not test any seniors. The average size test session was 72 students.

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[1]Unless the citation is otherwise, educational statistics are from the Digest of Education Statistics, National Center for Education Statistics, U.S. Department of Health Education and Welfare, Washington, D.C. 1976 Edition.

Views of Counselors and School Officials

A large majority of high school counselors and officials regard the program favorably. In 80 interviews with high school counselors and officials conducted in connection with this study 60 of the interviewees commented favorably on the high school testing program. Nearly all of the interviewees who did not comment favorably were counselors and officials of urban schools in metropolitan areas; however, most of these schools offer the test in spite of some unfavorable views on the part of counselors. (Although schools of varying sizes and in various states were selected for interviews, the number of interviews is not an adequate sample for all high schools; the interview results are illustrative only.) Six of the comments from counselors of schools which do not test also account in part for unfavorable comments. Three of them mentioned "over zealous" recruiters as a reason for not testing.

The most frequent of the favorable comments are paraphrased below with the number of interviewees who expressed this point of view given in parenthesis:

- "Very helpful for students who do not know what they want to do; it is a useful tool for non-college bound students" (25 interviewees)
- "Helpful in planning student curriculum while still in high school" (15 interviewees)
- "Helpful for seniors who want to go into service" (11 interviewees)
- "Useful in career planning when used in conjunction with other tests" (7 interviewees)
- "Our best way to help students identify future job opportunities" (2 interviewees)

Typical unfavorable comments are listed below:

- "Minimally helpful because I have not been taught how to interpret scores and relate them to student job exploration" (8 interviewees)
- "Many other tests meet student population needs better" (6 interviewees)
- "Our school is academically oriented, practically all of our graduates plan to go to college, test does not help them" (4 interviewees)
- "Test administration is poor and this makes the test results invalid" (2 interviewees)

The conclusion of a survey of high school counselors and school officials conducted under contract by MEPCOM during 1978 was that the test program is favorably regarded by a majority of representatives of the high school community.[1] Fifty-nine percent of 341 counselors who responded said their impression of the program was "very good" or "above average;" thirty-two percent said it was "average"; only 9 percent rated the program "below average" or "poor." Forty percent of 219 high school officials (other than counselors) rated the program "above average" or "very good" and 45 percent rated it "average."

Familiarity with the program was high on the part of high school counselors, but was relatively low on the part of other high school officials, parents, and students. Seventy-six percent of the counselors said they were familiar with the program; 22 percent said they were familiar with the name ASVAB, but not with the program; only 2 percent said that they were not familiar with the program or the name. Thirty-six percent of other high school officials said they were familiar with the program; 53 percent were only familiar with the name ASVAB; 11 percent said they were not familiar with the name. Thirty percent of the parents and 28 percent of the students were familiar with the program, but 44 percent of the students and 49 percent of the parents were not familiar with the name ASVAB.

It is difficult to compare the awareness level of ASVAB with other specific programs. The high counselor awareness is not surprising with regard to a program which has been in the high schools for 20 years. Parent and student awareness is somewhat lower than a 50 percent awareness rate for "top of mind" recall of service advertising.[2]

The report by Canyon Research explains the relatively low level of parent and student familiarity with ASVAB, in part, by the fact that only 4 percent of the parents and 4 percent of the students who responded reported interest in military service as an option after high school graduation.

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[1]"Evaluation of ASVAB Promotional Materials," Canyon Research Group, Westlake Village, California. Preliminary Draft of Final Technical Report. June, 1978.

[2]"Youth Attitude Tracking Study," Fall, 1977. Market Facts, Chicago, Illinois, p. 125.

It is interesting that 82 percent of the counselors indicated that post-secondary vocational or occupational training was appropriate for 21-50 percent, or more, of their students but 76 percent of the same counselors thought that military service was appropriate for 20 percent, or less, of their students. While Education Specialists/Coordinators and Recruiters who market ASVAB must refrain from recruiting operations while marketing the test, it is appropriate for them to mention to counselors how ASVAB is used in military counseling as part of military assignment procedures which usually result in vocational training with varying degrees of skill transferability to civilian jobs.

Repetition of testing is largely assured year-to-year because most schools are more or less satisfied customers. During June-July, 1978, when field visits were made to four AFEES-IRCs in connection with this study, the lowest performing AFEES-IRC had 40 percent of the schools which had been tested during the 1977-78 school year already rescheduled for the 1978-79 school year. In three of the AFEES-IRCs visited, better results than this had been obtained mostly as the result of letters to the high schools from the Chairman of the IRC or the AFEES Commander on behalf of the IRC.

As indicated by interviews with counselors and high school officials there is a significant minority of schools where continued testing or renewed testing depends upon future events. For the most part these events can be influenced by the management and operation of the high school testing program. These matters are discussed throughout this report.

Reasons for Not Testing

As an element of planning for the 1977-78 test cycle, MEPCOM asked the IRCs to provide the reasons for a school's refusal of testing. There is an element of judgment in this analysis of reasons for not testing because an Education Specialist/Coordinator or Recruiter has to make the initial determination based on information given by high school officials. In some cases school officials may not be specific. The information was translated by MEPCOM into a percentage of enrollment unavailable for testing by each Service from the total enrollment in schools assigned for testing. A larger percentage of enrollment was unavailable for testing in the schools assigned to the Marine Corps than in schools assigned to other services.

This is in part accounted for by the circumstances that the Marine Corps was the last service to participate in the joint program when it was first established; many IRCs assigned the schools not already assigned to the Marine Corps, including many now productive schools.

Percent of Enrollment Unavailable for Testing for Refusal of Testing[1]

Reason for Refusal	% of Enrollment Unavailable for Testing			
	Army	Navy	Marine Corps	Air Force
School Policy	9.3	11.5	17.8	12.4
External Conditions	5.0	0.6	1.1	3.6
OSD-MOSHER Agreement	0.2	0.3	0.6	0.1
Length of ASVAB	1.8	1.5	2.3	1.5
Split Curriculum	0.9	0.6	1.1	0.8
Anti-Military	1.0	2.2	1.5	1.5
Total	18.2	16.7	24.4	19.9

[1]The report was made prior to the series of articles by Dr. Lee Cronbach, criticizing the validity of the test as an instrument used in civilian counseling.

There is some evidence that the Mosher agreement has had adverse consequences which have continued. As part of the understanding with former Congressman Mosher of Ohio, the Department of Defense agreed that it did not require mandatory testing by the high schools. In some localities this has been interpreted as a prohibition against mandatory testing. A severe decline in the number of students tested occurred in the Cleveland AFEES-IRC from the 1976-77 school year to the 1977-78 school year (Congressman Mosher, an Ohio Congressman, was not reelected). In addition, significant declines occurred in four of the six AFEES-IRC contiguous to Indiana. It cannot be stated definitely that the Mosher agreement caused the decline in these AFEES-IRCs but the Defense representatives and school officials in these states were probably influenced more by the agreement than AFEES-IRC remotely located from the publicity in Ohio. The year-to-year results in Ohio and in the contiguous AFEES-IRC are shown below:

Students Tested in SY 1977-78 as Percentage of SY 1976-77

Indianapolis	80.5%
Cleveland	76.0
Chicago	80.4
Detroit	91.2
St. Louis	91.4
Columbus	94.1
Louisville	112.9

In the interviews made in connection with this study, six of the counselors interviewed mentioned anti-ASVAB articles in educational journals as a matter of concern about the validity of the test, but only one of the high schools represented by this group had refused testing on this account. Some school officials continue to test despite having some reservations about the program.

A refusal to test does not always represent a hard and fast decision for the future. As will be discussed subsequently, a feasibility test of marketing and promotion of the high school test by MEPCOM conducted during 1977-78 school year showed that many schools formerly considered "non-productive" could be persuaded to agree to use the test.

Two policy questions were mentioned by counselors which affect the number of students tested in many schools which offer the test. Among the counselors and high school officials interviewed there were four who mentioned that they had discontinued a former practice of mandatory testing "because the Army (or some other service) requested it." The change in mandatory testing in some schools results from the Department of Defense agreements in March 1976, with former Congressman Mosher, as already discussed. Another question mentioned was the testing of sophomores. Three counselors mentioned that they would test sophomores "if the services permitted it." As will be discussed in the next chapter, there is widespread testing of sophomores, as well as some testing of freshmen, but there are some IRCs which are strict in discouraging the practice.

From time to time State Superintendents or other state education officials have "endorsed," or at least called the attention of high school officials in their states to the advantages of offering ASVAB to their

students. As of March, 1978, the MEPCOM list of states that had recently endorsed the test through their chief state school officials was as follows:

Alabama
Florida
Georgia
Iowa
Louisiana
Kentucky
Michigan
New Hampshire
South Carolina
Tennessee

Among the states which had earlier issued endorsement letters but had not according to MEPCOM files, updated them were Indiana, Massachusetts, Mississippi, North Dakota, South Dakota, Rhode Island and Virginia.

Many of these states offer the test to a significant proportion of their students but it is not practical to quantify the contribution of the endorsement to this result. Nevertheless, such endorsements or acknowledgements are considered by most field personnel interviewed to be helpful in promoting the program.

Evaluation of Promotional Materials

One of the major means of communication with the high schools, as well as parents and students are the promotional materials prepared by MEPCOM. The annual costs of such materials in the FY 1977 and 78 budgets are estimated to be on the order of $650,000.

The major items are briefly described below:

Counselor's Guide	Describes the test and its potential use in counseling and guidance.
Recruiter's Guide	Defines recruiter's role in High School Testing and explains the test to recruiters.
ASVAB Mini Guide	Brief description of the test, used mainly at educator conventions.
Your Future Is Now (student pamphlet)	Brief description of the test with typical illustrative test items. Describes advantages of taking the ASVAB.
Time for Decision (parents pamphlet)	Brief description of the test and its use in career awareness.

ASVAB Student Results Sheet (sample)	Used by ASVAB representatives in contacting counselors.

In addition, an ASVAB calendar, posters, and metric card, a 3 ring binder and information folders are used as handouts at national educator conventions.

By contract with MEPCOM an evaluation of promotional materials was made in 1978 through mail questionnaires and interviews.[1]

The user groups included were:

- Students
- Parents
- High school counselors and school officials
- Civilian Education Specialists/Coordinators of the Services.

The non-technical summary materials disseminated by MEPCOM were rated highly by all user groups, but the technical reports were not considered useful by significant proportions of the user groups.

Ninety-eight percent of the counselors and 92 percent of other school officials rated the Mini Guide favorably. Fifty-seven percent of the counselors and 97 percent of other school officials said that the Counselor's Guide provided an adequate overview of the program. Civilian Education Specialists/Coordinators of the Services did not rate the publications quite so highly: 89 percent rated the Mini Guide favorably and 70 percent thought the Counselor's Guide presented an adequate overview.

Asked to evaluate the effectiveness of "ASVAB-Your Future Is Now," in presenting the program to students, 96 percent of the counselors and 92 percent of the parents thought it provided a good summary. Although 88 percent of the students reported it was "easy to understand," only 56 percent thought that it was interesting; the remainder, 44 percent, considered it to be "boring."

The more technical materials were less well regarded. The discussions of psychological measurement in the Counselor's Guide were reported as being "unnecessary" by 42 percent of the counselors; 27 percent of them thought that the discussions of the development of the current ASVAB were unnecessary. The instructions on the score sheet ("Your ASVAB Results") were rated as "understandable" for 10th grade students. Thirty-three

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[1] "Evaluation of ASVAB Promotional Materials", Canyon Research Group, Westlake Village, California. Preliminary Draft of Final Technical Report, June, 1978.

percent of the Education Specialists/Coordinators thought that high school counselors would not know what the scores meant.

In the interviews conducted for this HumRRO study, high school counselors were asked for suggestions on the high school testing program. The need for simple materials on the significance of ASVAB scores and the relationship of the scores to training needed for civilian or military occupations was the most frequently mentioned suggestion. When the research reports that are available from MEPCOM were mentioned in these interviews, the counselors were either not familiar with the reports or thought they were "too technical." One counselor said, "If students have a high score in an aptitude area, they need to know the different occupations that are related to that area and the kind of training they need to qualify for employment in that career field." The same need is evidenced by the frequent commendations of counselors for the post-test group interview sessions conducted by some Civilian Education Specialists/Coordinators which are held in order to discuss the interpretation of the test scores with students.

Attributes of Local System Which Affect Testing

In the interviews conducted in connection with this study, there was a tendency for counselors in small rural schools to perceive the ASVAB as a useful tool for civilian or military counseling and a tendency of counselors of large urban or affluent suburban schools to perceive the test as useful primarily for students who were interested in military service or for those who the counselor believes would benefit from military service.

Table 6 in the appendix illustrates the tendency for rural schools in all sections of the country to test a larger percentage of available students than urban schools. The table lists the 15 states with the largest percentage of rural schools and the fifteen states with the largest percentage of urban schools. The AFEES-IRC area which primarily serve high schools in these states are listed along with the percentage of available students tested. State boundries and AFEES boundries do not always coincide so that the table does not show the percentage of available students tested in each state. The table does show, however, except for Hawaii and Phoenix, Arizona AFEES-IRC, that all of the AFEES-IRC on the list located in states with a large percentage of rural schools test a greater percentage of students than do the AFEES-IRC with a large percentage of urban schools. The general statement holds for

state school systems which are predominently rural in states in the northeast, western and central sections of the country as well as southern states; the percentage of available students tested tends to be larger in southern rural schools than in other rural schools.

Effective marketing of the high school test needs to be tailored to local school districts on the basis of their characteristics. A surprisingly small proportion of high schools are in urban areas and a surprisingly large proportion in areas that are considered rural. Although Census Bureau data indicate that approximately 73 percent of the population of the country lives in urban areas, U.S. Department of Education data indicate that urban areas account for about 29 percent of the school systems and 33 percent of the schools. Every local AFEES-IRC area will have some urban schools and some rural schools. The average percentage of rural schools in southern states is 78 percent, however, compared to 67 percent for the country as a whole. It is not practical, except in the broadest terms, to design a national marketing approach which takes into account the variations in perceptions of counselors and high school officials in rural schools and urban schools.

Another variation in the perception of counselors and high school officials emanates from the academic or occupational orientation of the high school. Counselors in schools with occupationally oriented curricula appear to have a more favorable perception of the high school test. The United States Office of Education estimates that 63 percent of public high schools include occupationally oriented "tracks" but the percentages vary widely by states.[1] Eleven of the 15 states considered southern states by the Bureau of Census classification are above the national state average for schools with vocational "tracks."

One large suburban high school contacted for interviews in connection with this study had one counselor for academic students and one for vocational students. It is interesting that the academic counselor did not believe that the ASVAB was very useful but the vocational counselor considered it very helpful. Test participation is not likely to be favorable in high schools that have 80-90 percent college bound student in the senior class.

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[1] 1971 study by Office of Education.

Many community colleges with a two year terminal program are also occupationally oriented. In theory, they would be a good market for the ASVAB but in practice this has not generally proven to be the case. Field personnel often explained that they experienced difficulty in locating an interested school official. A further explanation may be that the occupational choice of many students has become more decisive after they graduate from high school so that the need for the test is not as readily perceived in the community colleges as it is in the high schools.

There is a pattern in the school systems of southern states which helps to explain the popularity of the high school test in southern areas. The average enrollment per high school by state ranges from 172 in North Dakota to 1,082 in New Jersey.[1] The average state enrollment of the 50 states is 531 and the average enrollment in all southern states is 431. As mentioned above, there is a relatively high percentage of schools with vocational orientation in the southern states. On the average schools are smaller. As already mentioned, large proportions of the schools are rural schools. These attributes of school systems in southern states, in addition to the relatively favorable opinion held of the military services, help explain the wide use of the ASVAB in southern schools which is described in the next chapter.

Research on the Use of ASVAB in Civilian Counseling

In the interviews conducted in connection with this study the most frequent suggestion by high school counselors was the need for more assistance in interpreting test scores in relation to civilian occupations. This observation was not usually made as a question of the validity of the test; rather, it was a tacit statement about not knowing how to use the results of the test.

The technical reports made available by MEPCOM might be expected to respond to this need, directly or indirectly. For example, three reports published in December 1977 are:

- Armed Services Vocational Aptitude Battery (ASVAB-5): Comparison with GATB and DAT Tests

[1] "Digest of Educational Statistics," op. cit.

- Armed Services Vocational Aptitude Battery Profiles for Selected Occupations and Jobs[1]
- Armed Services Vocational Aptitude Battery Development.

A report publiched in March 1978 is:

- Validity of the Armed Services Vocational Aptitude Battery for Predicting Performance in Service Technical Schools.

Counselors interviewed either considered the reports "too technical" or they were not familiar with the reports. This is understandable if one remembers that the "average" high school counselor has had some college courses in guidance but that they are usually not specialized in the field of tests and measurements. In addition, there is a problem in distributing the reports as more than half of those interviewed were not familiar with them. The counselors, in general, want simpler aids which "link" the test to its use in counseling.

Descriptive technica statistics such as those published in the MEPCOM Counselor's Guide furnish norms for the test and are necessary, of course, to obtain support, or at least avoid opposition of specialized test and measurement specialists on state staffs or school district staffs. These tables include:

- Means and Standard Deviation of ASVAB Sub-Tests by Grade and Sex
- Mean and Standard Deviations of the Composite Scores by Sex and Grade
- Correlation Between Sub-Tests in ASVAB-5
- Tables for Conversion of Raw Scores to Percentile Scores.

This type of technical data is required in marketing a standardized test but does not appear to be of primary interest to counselors.

The activity which comes closest to meeting the expressed needs appears to be the post-test session conducted with students by some Education Specialists/Coordinators. In these sessions, Education Specialists/Coordinators interpret test scores to students and help students learn something about themselves from the scores. Six of the counselors interviewed commented favorably on this activity. It is not practical for Education Specialists/Coordinators to conduct such sessions except in a minority of the high schools because of constraints on their time and travel costs.

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[1]Distribution held in abeyance by MEPCOM errata sheet issue May, 1978, pending more comprehensive analysis.

The Department of Defense cannot take over the counselor's role; however, the Department promotes the test as useful in civilian counseling so that, within reasonable limits, the Department may be expected to furnish assistance which "backs up" the statement.

The ASVAB Educational Bulletin of November 1976 lists a number of primary studies as part of the ASVAB on-going research program that are related to ASVAB use in civilian counseling. The list includes the following studies:

- Developing comparability indices between Service and civilian occupations.
- Using ASVAB to predict vocational and academic success in secondary schools.
- Developing standard aptitude profiles for common civilian occupations.
- Predictive validation of ASVAB in post-secondary schools.
- Validation of ASVAB against civilian job performance.

Findings of such studies, furnished in non-technical summaries, would be useful in meeting counselor needs. The validities of the ASVAB in military training courses are relatively well established. In varying degrees the knowledge and skills required for success in military courses and jobs are comparable to those needed for civilian jobs. A logical case can be made in behalf of the use of ASVAB in civilian guidance and counseling but the case would be enhanced by appropriate validation studies of the use of the test for selection for civilian job training.

Summary

Generally, high school counselors and high school officials view the high school testing program positively. There is a tendency for larger test participation by students in average size or small rural schools than by students in large urban or suborban schools. This tendency, in part, reflects the perceptions of counselors in these schools of the usefulness of ASVAB in civilian counseling. Counselors in the larger urban schools are more apt to consider the test useful only for those students who have an interest in military service or students who counselors believe would benefit from considering military service.

In marketing the test, the uses of the test as an aid in military counseling as well as in civilian counseling should be presented. Local AFEES and IRCs can "tailor" the marketing approach to the tendencies in their school systems.

Marketing materials developed by MEPCOM are generaly well regarded. There are some problems of dissemination of the material. Also, many counselors express a need for less technical materials which would assist in the interpretation of ASVAB scores in relation to aptitude for civilian occupations and jobs.

CHAPTER 4
CHARACTERISTICS OF TEST TAKERS

A capsule description of the high school test takers as a group would include the following characteristics:

- There is a significantly higher proportion of seniors among high school test takers than in the high school population.
- Slightly more boys than girls take the test.
- The proportion of blacks who take the test is about the same as the proportion of the school enrollment.
- A heavier proportion of test takers relative to high school enrollments are in the southern states; about 43 percent of the test takers are in southern states compared to about 30 percent of the enrollment.
- The mental group distribution of high school test takers, based on AFQT percentile scores, is favorable compared to the mental distribution of applicant test takers as a whole.
- On the basis of Future Plans, the largest groups of test takers are those who plan 4-year College or who are Undecided as to their plans.
- Eight percent of test takers plan to enter military service (11 percent of male test takers and 4.6 percent of female test takers). A significant proportion of them actually enlist, as discussed in the next chapter.[1]

The above summary of the characteristics of test takers is amplified in the succeeding paragraphs. One inference seems clear from the summary characteristics of test takers: a preponderant majority of students who take the test do so for reasons other than an immediate interest in military service.

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[1]The incidence of definite plans to enter military service appears to be significantly higher among test takers than among the male population of military age. Very few young men indicate that they are definitely going to enter military service. This category ranges from 1.3% of the survey population in Marine Corps to 1.7% in Navy. The estimates of propensity to enlist largely consists of young men who say they probably will enlist. "Youth Attitude Tracking Study," February 1978, Market Facts, Chicago, Illinois.

Educational Level of Test Takers

The ideal grade level composition of test takers would not necessarily be the same for purposes of military enlistment as for civilian guidance and counseling. From the standpoint of enlistment potential, the composition of the group of test takers should primarily be weighted with seniors and, secondarily, with juniors. Some of the reasons for the Department of Defense to emphasize testing seniors and juniors are: Defense policies encourage high school graduation prior to enlistment; students are at least 17 years old when they graduate so they have reached the age of enlistment; test scores are valid for two years so a junior who takes the test would have a valid score for enlistment after graduation or for entering the DEP in anticipation of graduation.

From a civilian counseling standpoint a high proportion of sophomores among test takers would be desirable; the student and the counselor would obtain the aptitude scores early in the student's high school career and could discuss curricula choices and possible career pathways. The scores of sophomores are not furnished to military recruiters, but many schools who test sophomores ask them to take the test again in their senior year. Later in the report the desirability of testing more juniors is discussed.

The table below shows the number and percentage of test takers by educational level and the percentage distribution of the population of students in public high schools by educational level. Seniors make up 43 percent of the test takers--about double the 21 percent of seniors in the high school population. The percentage of juniors among high school test takers is about the same as in the high school population; the percentage of sophomores and freshmen is much lower in the group of test takers than in the school population. As indicated in the table, nearly 68 percent of the test takers are seniors and juniors compared to 45.5 percent of the high school enrollment.

ASVAB-5 Test Takers by Educational Level, School Year 1976-77[1]

Educational Level	Number of Test Takers	Percent of Total	Percent High School Population
Seniors	469,914	42.9	21.3
Juniors	271,768	24.9	24.2
Sophomores	352,689	32.2	54.5
Total	1,094,371	100.0	100.0

[1]Unless otherwise specified, the data in this chapter on high school test takers is from Defense Manpower Data Center computer summaries extracted from the high school test files maintained by MEPCOM. The total number of seniors and juniors who took the test in the 1976-77 school year is 741,682. Because some students did not completely fill out their information cards, or because of other clerical errors, the number of seniors and juniors on whom detailed information is available is 669,653. Unless otherwise indicated, 669,653 is the base number of cases for the statistical tables in this section on the characteristics of test takers. The sample consists of:

Seniors	428,605	64%
Juniors	241,048	36%
Total	669,653	

The test scores of freshmen and sophomores who take the test are furnished to counselors, but are not furnished to recruiters. The subsequent analyses of the characteristics of test takers covers seniors and juniors only. Only seniors, juniors and sophomores are included in the numbers of available students; freshmen are not included.

MEPCOM guidance is somewhat less restrictive in testing sophomores than is the DoD Directive. The testing of sophomores is responsive to a need expressed by many civilian counselors. From the standpoint of marketing the tests the extensive testing of sophomores is defensible, although names and scores of sophomores are not furnished to recruiters. Many counselors, however, are not aware that the testing of sophomores is permissible. Clarification of the DoD Directive and other policy statements on the policies governing the testing of sophomores would be desirable.

Test Takers by Sex[1]

More males take the test than females, whether juniors or seniors: 53.3 percent were males and 46.7 percent were females. The high school population of seniors is slightly more evenly divided between males and females than are the test takers: males made up 51 percent of the total high school population and females made up 49 percent.

Percentage of Test Takers by Sex, School Year 1976-77

	Percent Males	Percent Females
Seniors	53.0	47.0
Juniors	53.7	46.3
Total, Seniors and Juniors	53.3	46.7

From the standpoint of military accession requirements an even larger number and proportion of males among test takers would be desirable. The ASVAB lists will, however, become increasingly important in the recruitment of female high school graduates. Under the volunteer force the percentage of female accessions has grown to nearly 6 percent in FY 1977. The growth is programmed to continue and is projected to reach 11 percent of non-prior service accessions by FY 1983. The decline in the pool of male 18 year olds in the 1980s may lead to higher female objectives than are currently planned.

Test Takers by Race

The racial composition of total test takers appears, in general, to correspond roughly to the racial composition of the public school enrollments. The percentage of blacks among test takers was 14.7 percent, compared to 15.2 percent in the school population. As shown in the table below 16.8 percent of the seniors who took the test were blacks compared to 11 percent of the juniors. Although not shown in the table, slightly more female blacks took the test than male blacks; the total of 14.7 percent black test takers shown in the table consists of 7.6 percent who are females and 7.1 percent who are males.

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[1]As indicated in the previous footnotes Test Takers in this chapter refers to Seniors and Juniors only, unless otherwise specified.

Percent of Test Takers by Race and Educational Level, School Year 1976-77

	Caucasian		Black		Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Seniors	340,734	79.5	72,060	16.8	15,811	3.7	428,605	100
Juniors	202,964	84.2	26,577	11.0	11,507	4.8	241,048	100
Total	532,698	81.2	98,637	14.7	27,318	4.1	669,653	100

The favorable acceptance of the test in the southern states, discussed in the next section of the report partly explains black participation. There were 98,637 black seniors and juniors (14.7 percent of senior and junior test takers) among the sample of 669,653 seniors and juniors for whom detailed information on characteristics is available; 77,285 of the blacks were enrolled in a high school located in an AFEES-IRC area which predominantely tests in a southern state.[1] As shown in the next table 23.5 percent of the test takers in the southern geographic region were black, compared to 14.7 percent blacks among test takers as a whole.

A heavy incidence of black test takers in southern high schools is not surprising. Despite substantial migration from the south nearly half of all blacks still live there.[2] The proportion of blacks, ages 16-21, enrolled in school in the south is higher than the proportion of these ages enrolled in the rest of the country. Also, the south has the largest proportion of rural schools and, as previously discussed, rural schools tend to participate more in the high school testing program than do urban schools. Finally, as discussed later in this chapter a higher proportion of Blacks than Caucasians indicate military service as their Future Plans and take the test for this reason.

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[1]The following AFEES-IRC test predominantly in high school located in southern states: Atlanta, Beckley, Charlotte, Ft. Jackson, Jacksonville, Raleigh, Richmond, Knoxville, Louisville, Montgomery, Nashville, Jackson, Little Rock, Memphis, New Orleans, Shreveport, Amarillo, Dallas, El Paso, Houston, San Antonio, Oklahoma City, Baltimore, Miami.

[2]Black American, Bureau of Labor Statistics, U.S. Department of Labor, 1971. This publication, based on the 1970 census, is the source of data for this paragraph.

Percentage of Test Takers in Southern AFEES-IRC by Race and Educational Level, School Year 1976-77

	Percent Caucasian	Percent Black	Percent Other Races
Seniors	72.9	25.1	2.0
Juniors	74.8	23.0	2.2

Test Takers in Southern AFEES-IRC

Of the sample of 669,653 seniors and juniors about whom the files contain complete information, 313,962 (46.8%) took the test in a southern AFEES-IRC area.[1] These AFEES-IRC areas had 28 percent of the total enrollment available in productive schools. The propensity of southern high schools to participate in the program was also noted in the previously cited Karpinos study of the 1974-75 testing program. In that year 48.9 percent of the seniors who took the test were in high schools in southern states.

The acceptance of the program in the southern area of the country is quite pronounced. A list of AFEES-IRC areas (Table 2, Appendix) in rank order of the percentage of available students tested shows that all but three of the AFEES-IRC in the upper third are southern AFEES-IRC (the exceptions are Honolulu, Sioux Falls, and Butte). The four southern AFEES-IRC that are not in the upper third (Louisville, El Paso, Charlotte, and Richmond) are in the second third of the AFEES-IRC ranked on the percentage of available students tested.

It should be noted, however, that the student population is higher in many non-southern AFEES-IRCs than it is in the southern AFEES-IRCs. Los Angeles, Oakland, Fort Hamilton, New York, Chicago, Detroit, Cleveland, Pittsburgh, Philadelphia, St. Louis, and Newark all have a higher student

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[1]The data in this report is aggregated by AFEES-IRC areas and not by states. In the case of an AFEES-IRC area in a border state the test takers would be predominantely but not entirely in a southern state. For example, the Baltimore AFEES-IRC area includes 2 Delaware counties which would not be included as southern if the data were aggregated by states; use of AFEES-IRC areas overstates the extent of participation by southern high schools by a few percentage points.

population than Jacksonville, Florida, which is the southern AFEES-IRC with the highest student population. An AFEES-IRC with a high student population may rank high on the number of students tested but rank low on the percentage of students tested. The Los Angeles AFEES-IRC, for example, tested 40,966 students; this number is second only to Jacksonville, which tested 44,317. The students tested in Los Angeles are only 6 percent of the available students, but are 21 percent of those available in Jacksonville. The differences in school population and in AFEES-IRC performance are discussed further in the chapter on Establishing Goals and Measuring Performance.

The pattern of Future Plans of Test Takers is discussed in the next section of the report, In discussing the acceptance of the test in southern high schools, it may be mentioned that the pattern of Future Plans of the students who take the test is not appreciably different from the country as a whole. An interesting point is that the frequency of Military Plans of male seniors and juniors among those who took the test in non-southern states is higher than in southern states, as shown below.

Percent of Male Test Takers Indicating Military Plans by Geographic Area, School Year 1976-77

Geographic Area	Percent of Test Takers, Military Plans
Southern	10.2
Non-Southern	13.9
Total	11.0

The higher incidence of Military Plans of test takers in non-southern AFEES-IRCs is unexpected because of the propensity of black test takers in the south to indicate Military Plans. This is a further indicator that many counselors in large urban schools offer the test primarily on behalf of their students who are interested in military service or who the counselors believe would benefit from military service.

Mental Group Distribution of Test Takers

The screened list of high school students who take the ASVAB furnishes the recruiter information on two of the primary selection factors considered by all of the services: mental test scores and educational level. MEPCOM furnishes the recruiters the converted test scores of each test taker in a format which enables the recruiter to determine if the student meets the Service entry standard and qualifying scores for enlistment options.[1]

Considered as a pool of possible applicants, the mental distribution of test takers is reasonably satisfactory compared to the standard population and is more favorable than the pool of applicants tested in FY 1977. The distribution is lower than that of FY 1977 accessions because preference is given in selection of enlistees to those with higher scores, if they meet other qualifications.

Mental Group Distribution of Test Takers, High School Program Compared to Standard Population, AFEES Applicants, and Accessions

Mental Group	High School Test Takers	Standard Population	FY 1977 Applicant Test Takers *	FY 1977 Accessions
I	3.9%	7%	4.3%	5.8%
II	27.0	28	20.2	29.5
IIIa	19.3	34	20.3	22.5
IIIb	26.9		30.2	36.9
IV	15.3	21	17.1	5.3
V	7.5	10	7.9	**

* Source: Study of FY 1977 Accessions by Bernard J. Karpinos, to be published.

** Includes 1,738 Mental Group V or unknowns.

[1] This section of the report discussed the AFQT equivalent scores of test takers in order to use a standard measure. The AFQT equivalent scores are derived from raw scores by counting the right answers, converted into percentile scores, on the ASVAB sub-tests for Word Knowledge, Arithmetic Reasoning, and Space Perception.

The differences in mental group distribution of high school test takers by sex, race, and educational level are similar to those found in applicant testing at AFEES:

- males tend to score higher than females;
- Caucasians, both males and females, score significantly higher than Blacks;
- seniors, both males and females, have a slightly higher percentage of scores in Mental Groups I and II than juniors, but nearly as high a percentage of juniors as seniors receive qualifying test scores.

These differences in mental group distributions of test takers in the high school program are shown in the next table.

Mental Group Distribution of Test Takers by Sex, Race and Educational Level, School Year 1976-77

	Male		Female	
Mental Group	Caucasian	Black	Caucasian	Black
I	5.7%	0.2%	3.1%	0.1%
II	33.9	4.9	28.5	2.9
IIIa	21.6	8.6	21.6	5.8
IIIb	25.2	27.3	29.3	24.0
IV	10.0	33.5	13.3	37.8
V	3.6	25.5	4.1	29.5

	Seniors		Juniors	
Mental Group	Male	Female	Male	Female
I	5.3%	2.7%	4.4%	2.4%
II	30.6	24.8	28.2	22.6
IIIa	18.9	18.0	21.2	20.4
IIIb	24.8	27.8	26.8	29.6
IV	13.5	17.7	13.2	17.4
V	7.0	9.0	6.3	7.6

Mental Group Distribution of Test Takers Indicating Military Plans or Undecided

The Mental Group Distribution of those who indicate Military Plans or Undecided is of interest because as discussed in the next chapter, they contribute the largest proportion of accessions. As would be expected, the mental distribution of test takers who indicate Military Plans or Undecided is less favorable than that of the population of test takers as a whole. The group of test takers who plan to continue their education has a more favorable distribution. The group of seniors that indicates Military Plans has a high proportion of Blacks (11,380 or 35 percent of the 32,509 test takers who indicated Military Plans). Since, as a group, Blacks score lower than Caucasians, the high proportion of Blacks among those who indicate Military Plans lowers the mental distribution of this group. The mental group composition of the group of 121,491 senior test takers who are Undecided as to their Future Plans is only slightly lower than test takers as a whole.

Mental Group Distribution -- Test Takers (Seniors) Indicating Military Plans or Undecided[1], School Year 1976-77

Mental Group	Seniors Test Takers	Seniors Military Plans	Seniors Undecided
I	4.0%	2.5%	2.2%
II	27.9	19.3	24.0
IIIa	18.4	15.4	18.7
IIIb	28.1	27.0	28.1
IV	16.5	22.5	19.3
V	4.1	13.5	8.7
Number =	428,605	32,509	121,657

[1]Includes males and females.

The mental group distribution of male Caucasian seniors, who indicate Military Plans is only slightly lower than the distribution for all male seniors, Caucasian, who take the test or for male senior Caucasians, who are Undecided as to their Future Plans. It is a significantly better

distribution than that of the previous table which includes seniors, males and females, of all races indicating Military Plans or Undecided.

Mental Group Distribution -- Caucasian Male Senior Test Takers Indicating Military Plans or Undecided, School Year 1976-77

Mental Group	Total	Military Plans	Undecided
I	6.2	3.9	3.5
II	35.6	31.9	32.4
IIIa	20.9	21.3	22.4
IIIb	24.2	26.5	27.5
IV	9.6	11.9	10.6
V	3.4	4.2	3.6
Number =	183,987	14,879	52,479

Future Plans of Test Takers

In addition to the information on mental test scores discussed in the previous section, the High School Testing Program furnishes the recruiter useful information on the future plans of the screened pool of high school students. This information can assist the recruiter in making more efficient use of the time allocated to contacts.

The series of tables in this section of the report show the Future Plans of test takers at the time they took the test.[1] The findings from the tables are:

- Military Plans

  8 percent of test takers plan to enter military service; the percentage of male test takers who plan to enter military service is 11 percent compared to only 4.6 percent for females. Among males a higher percentage of juniors (12.6%) indicate military plans than seniors (10.1%). The group which most frequently indicates future Military Plans are male Blacks -- 20.4 percent of male Blacks who take the test plan to enter military service.

[1]Students who take the test are asked to check one of six boxes which best indicates their Future Plans at the time of taking the test. The six choices are: military, 4-year college, 2-year college, vocational technical, work, undecided.

- Educational Plans

  By far the largest portion of test takers (46.9%) plan to continue their education either at a 4-year college, a 2-year college or a vocational technical school; 30.7 percent plan on a 4-year college, 9.5 percent plan on a 2-year college; and 6.7 percent plan on a vocational technical school. A higher percentage of girls than boys plan 4-year college and a significantly higher percentage of girls plan on 2 years of college. A slightly higher percentage of boys than girls plan on entering a vocational technical school.

- Work Plans

  14.6 percent of the test takers plan to go to work upon completion of high school; those who plan to go to work plus those who plan to enter military service make a combined total of 22.6 percent who plan to enter the "labor market" rather than continue their education. More seniors than juniors, whether boys or girls, plan to go to work.

- Future Plans - Undecided

  A significant portion of test takers (30.5%) are undecided as to their Future Plans. The percentage of juniors who are undecided is slightly higher than the percentage of seniors and the percentage of girls is slightly higher than the percentage of boys.

Examination of the Future Plans of test takers gives also some clues of the possible motives for taking the test. A clear inference can be made that interest in military service is the reason for a minority of test takers. Test takers who plan to enter 4-year College comprise the largest single classification of test takers grouped according to plans; those who indicate Military Plans comprise one of the lowest classifications.

The 30.7 percent of ASVAB test takers who are college bound for a 4-year college is lower than the experience factor of 45 percent high school graduates entering a 4-year college.[1] The large percentage (30.5%) of test takers who are Undecided, which is nearly as large as the group that plans on 4 years of college, in part reflects the influence of high school counselors in guiding students to take the test; many counselors regard

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[1]Digest of Educational Statistics. National Center for Educational Statistics, U.S. Department of Health Education and Welfare, Washington, D.C. 1977.

Percentage of Test Takers -- Future Plans by Sex and Educational Level, School Year 1976-77

Future Plans	Seniors	Juniors	Total Seniors & Juniors
Males			
Military Plans	10.1%	12.6%	11.0%
4-Year College	29.8	28.9	29.5
2-Year College	7.3	5.7	6.7
Voc. Tech School	8.2	6.6	7.6
Work	16.5	13.4	15.5
Undecided	28.1	32.0	29.7
Females			
Military Plans	4.7	4.5	4.6
4-Year College	32.2	32.1	32.2
2-Year College	13.1	11.7	12.5
Voc. Tech School	6.4	4.4	5.7
Work	14.9	11.3	13.6
Undecided	28.7	36.0	31.4
Total			
Military Plans	7.6	8.8	8.0
4-Year College	30.1	30.3	30.7
2-Year College	10.1	8.5	9.5
Voc. Tech School	7.3	5.6	6.7
Work	15.8	12.4	14.6
Undecided	28.2	34.4	30.5

the ASVAB as particularly useful in guiding average or below average students who are Undecided as to their plans. It appears that the civilian counseling attributes of the test, not its use as a possible pathway to military service, constitutes the major appeal of the test.

In the next chapter accessions are analyzed in relation to the Future Plans of entrants at the time they took the test. A significant portion of those who indicated Military Plans followed through in their plans and actually enlisted. Also, a significant portion of those who were Undecided subsequently enlisted. For many students their occupational choice at the time of the test proved to be quite tentative. Many who planned to continue their education or go to work changed their plans and entered military service.

The next table gives the percentage distribution of the Future Plans of male test takers for the country as a whole (also shown in the previous table), the distribution of plans of males who are Blacks, and the distribution for males who took the test in southern AFEES-IRC, Caucasian and Black. The percentage of male Caucasians in the south who indicated Military Plans (7.1) is unexpectedly low compared to 11 percent of all males who indicated Military Plans. Blacks and whites combined in the south are below the national average in the percentage who indicate Military Plans, as discussed earlier. This is explained, in part, by the larger proportion of the enrollment of students in southern AFEES-IRC who take the test.

Future Plans -- Percentage Distribution for Males, Black Males, Males in Southern Area, School Year 1976-77

			Males-Southern Areas		
	All Males	Black Males	Caucasian	Black	Total
Military Plans	11.0	20.5	7.1	20.5	10.2
4-yr College	29.5	28.1	33.7	25.9	31.9
2-yr College	6.7	6.3	5.8	5.7	5.8
Voc. Tech	7.6	6.5	8.0	6.9	7.8
Work	15.5	12.8	17.0	14.1	16.2
Undecided	29.7	25.8	28.4	26.9	28.1

Analysis of Military Plans and Undecided Test Takers

The next chapter of the report discusses accessions in relation to the plans of applicants at the time they took the test. Most of the accessions came from the group which indicated Military Plans or the group that was Undecided. For this reason it is useful to look further at the composition of these groups.

The table below shows the composition of 53,726 test takers who indicated Military Plans. Indicated in the table, the group indicating Military Plans are predominantely males (73.2%). There is a heavy proportion of Blacks, particularly among male seniors (22.3 percent of seniors with Military Plans). The proportion of Black males among juniors is about half as large.

Test Takers Indicating Military Plans by Sex, Race, and Educational Level, School Year 1976-77

	Seniors		Juniors		Total	
	Number	Percent	Number	Percent	Number	Percent
Males	23,042	71.0	16,280	76.5	39,322	73.2
Caucasian	(14,879)	(45.8)	(13,025)	(61.2)	(27,904)	(51.9)
Black	(7,235)	(22.3)	(2,480)	(11.7)	(9,715)	(18.0)
Other	(928)	(2.9)	(785)	(3.6)	(1,703)	(3.2)
Females	9,413	29.0	4,991	23.5	14,404	26.8
Caucasian	(4,863)	(15.0)	(3,330)	(5.7)	(8,193)	(15.2)
Black	(4,154)	(12.8)	(1,391)	(6.5)	(5,545)	(10.3)
Other	(396)	(1.2)	(270)	(1.3)	(666)	(1.2)
Total	32,455	100.0	21,271	100.0	53,726	100.0

The next table shows the composition of the group of 204,440 Test Takers who are Undecided in their Future Plans. The composition of this group may be compared with the composition of the total population of test takers described in the first section of this chapter. The Undecided group resembles the total population of test takers. The Undecided group differs from the group that indicated Military Plans mainly in that the proportion of males and the proportion of blacks is not as heavy in the Undecided group. As is discussed in the next chapter, this group provides a good contact list for recruiters because the probabilities of obtaining enlistments from among this group are relatively high.

Test Takers Indicating Plans Are Undecided by Sex, Race and Educational Level, School Year 1976-77

	Seniors		Juniors		Total	
	Number	Percent	Number	Percent	Number	Percent
Males	63,648	52.4	42,434	51.2	106,082	51.9
Caucasian	(52,479)	(43.1)	(36,787)	(44.3)	(59,266)	(43.7)
Black	(8,685)	(7.1)	(3,568)	(4.4)	(12,253)	(6.0)
Other	(2,484)	(2.0)	(2,079)	(2.5)	(4,563)	(2.2)
Females	57,843	47.6	40,515	48.8	98,358	48.1
Caucasian	(46,790)	(38.5)	(34,914)	(42.0)	(81,704)	(40.0)
Black	(9,066)	(7.5)	(3,833)	(4.6)	(12,899)	(6.3)
Other	(1,987)	(1.6)	(1,768)	(2.1)	(3,755)	(1.8)
Total	121,491	100.0	82,949	100.0	204,440	100.0

In the following table the percentage of test takers who indicate Military Plans is viewed in more detail. The AFEES-IRC are ranked by the percentage of male seniors and juniors who indicated Military Plans. The pattern of rankings suggests that the test is more apt to be perceived primarily as a military test outside the south, particularly in areas where the percentage of urban schools is larger. In the upper third of the rankings (22 AFEES-IRC) there are 9 AFEES-IRC located in the northeast area of the country where the propensity to enlist is generally lower than in other areas. The southern AFEES-IRC are found in the upper, middle, and lower third of the ranking but more of them are in the lower third. None of the AFEES-IRC in the northeast area of the country are in the lower third. While a relatively high proportion of total male test takers are from southern AFEES-IRC a higher proportion of male test takers who plan to enter military service are from AFEES-IRC in the northeast area.[1] This geographical difference apparently reflects different perceptions of the test by counselors and high school officials: in rural southern schools the test is apt to be perceived as a civilian counseling test, but in urban northeast and north central schools it is more apt to be regarded as a military test.

[1]The proportion of female test takers who indicate Military Plans does not vary widely among geographic areas.

Percentage of Males, Seniors and Juniors, Indicating Military Plans by AFEES-IRC, School Year 1976-77

Upper Third		Middle Third		Lower Third	
AFEES-IRC	% Test Takers	AFEES-IRC	% Test Takers	AFEES-IRC	% Test Takers
Puerto Rico	25.3	Atlanta, Ga	13.2	St. Louis	8.6
Syracuse, N.Y.	20.5	Cleveland, Oh	12.6	Milwaukee	8.5
Miami, Fla	18.7	Harrisberg, Pa.	12.5	Shreveport	8.3
Ft. Jackson, S.C.	18.6	Detroit, Mich	12.2	Kansas City	8.2
Ft. Hamilton, N.Y.	18.3	Oakland, Calif	12.1	Des Moines	8.2
Portland, Maine	17.8	Boston, Mass	11.6	Boise	7.9
Albany, N.Y.	17.3	Cincinnati	11.5	Little Rock	7.9
Philadelphia	16.6	Wilks Barre, Pa	11.3	Memphis, Tenn	7.2
Raleigh, N.C.	16.4	Fresno, Calif	11.3	New Orleans	7.0
Jacosonville, Fl.	16.2	Honolulu	11.2	Houston, Tex	7.0
Springfield, Mass	15.3	Montgomery, Ala	10.8	Louisville, Ky	6.7
New Haven, Conn	15.3	Columbus, Ohio	10.6	Beckley, W.V.	6.6
Buffalo, N.Y.	15.1	Pittsburgh, Pa	10.2	Knoxville, Tenn	6.4
Baltimore, Md	15.1	Jackson, Miss	10.1	Nashville, Tenn	6.0
Phoenix, Ariz	14.9	Minneapolis	10.0	Sioux Falls	6.0
Richmond, Va	14.5	Butte, Mont	10.0	Fargo, N.D.	5.8
Los Angeles	14.4	Denver, Colo	9.8	Omaha, Neb	5.8
Newark, N.J.	14.1	Charlotte, N.C.	9.5	Oklahoma City	5.3
Albuquerque, N.M.	14.1	Indianapolis	9.2	Spokane, Wash	4.5
El Paso, Tx	13.7	Chicago, Ill	9.0	Salt Lake City	4.4
Manchester, N.H.	13.5	San Antonio	9.0	Amarillo, Tx	4.4
Portland, Ore	13.4	Seattle	8.7		

The probabilities of obtaining enlistments from among those who indicate Military Plans, are very good, as discussed in the next chapter. For example, the AFEES-IRC areas in the lowest third in the table (based on the percentage of test takers who indicate military plans) obtained an estimated 7,200 enlistments from among test takers in their areas who indicated Military Plans.[1]

Summary

From the standpoint of furnishing the recruiters "pre-screened" names and addresses of high school students, the pool of test takers is suitable. The test taker population has a higher proportion of seniors than would be found in the high school population; there is a slightly higher proportion

[1]The limitations of accession estimates related to ASVAB test takers and AFEES-IRC areas are discussed in the next chapter.

of males than females; the mental group distribution of test takers is more favorable than the mental group distribution of applicants tested at AFEES and MET sites; there is a higher percentage of test takers who definitely plan to enter military service than there would be in the high school population as a whole and a lower percentage of students who are college-bound. The attributes of the pool of test takers is more conducive to military enlistments than the attributes of the high school population as a whole.

The "pool" of test takers is not an ideal pool from the standpoint of military enlistment. An ideal pool would consist almost entirely of seniors and juniors who do not plan to enter 4-year colleges. The policy of marketing the test, in part, because of its usefulness in civilian counseling results in a significant percentage of sophomores among test takers because high school counselors encourage sophomores to take the test to assist their counseling program. About 47 percent of the seniors and juniors who take the test plan, in some way, to continue their education after they graduate from high school, indicating that a significant number of students are motivated to take the test because they believe it will help them in some way with their civilian plans. As brought out in the next chapter, many of these students subsequently change their plans and enter service. The "pool" of test takers which results from the perceptions of many high school counselors that the test is useful for civilian, as well as military counseling results in a situable, if not ideal, pool of "pre-screened" names for recruiters.

CHAPTER 5
ACCESSIONS RELATED TO THE HIGH SCHOOL TESTING PROGRAM

Most students who take the high school test plan to continue their education or to go to work when they graduate but some of them subsequently change their plans and enlist. Recruiters initially contact many of them as a result of receiving their names and other information from the high school test lists.

An estimated 100,000 accessions resulted, in part, from the 1976-77 high school testing cycle. The basis for this estimate is discussed in the next section. But first, it is necessary to clarify the contribution which the High School Testing Program made to these accessions.

It is not feasible to determine the precise number of accessions which occurred solely because of the High School Testing Program. Even if a student had decided to enter military service before he or she takes the test, the recruiter makes some contribution to his final enlistment decision, but many of these students would have taken an applicant test, if the high school test were not offered. A majority of the accessions who took the test in high school entered with the high school test score as their entry test score but, as discussed later, a significant number were re-tested prior to entry. Although the re-tested applicant may have entered the service with the production version ASVAB score, the high school test may have generated the recruiter's initial contact which led to an enlistment after re-testing. Conversely, some students--9 percent of the test takers in a recent sample survey--take the test because a recruiter suggested that they do so.[1] Whatever the precise contribution, all of the accessions are related to the high school program.

Estimated Number of Accessions

The accession estimates which follow discuss the yield from one school year test cycle. Most of these accessions enter in two fiscal years. The rate of accessions through the high school test in a single fiscal year is the enlistment yield from two school year test cyeles.

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[1] "Evaluation of ASVAB-5 Promotional Materials." Draft of Final Technical Report. Canyon Research Group, Inc. Westlake Village, Calif. June, 1978.

An estimated 100,000 accessions, through June 1978, including those enlisted in the Delayed Entry Program, has occurred from among students who took the high school test in the 1976-77 school year.[1] About 94,000 of these accessions enlisted in the active forces of one of the DoD services and about 6,000 enlisted in the Coast Guard or in one of the Reserve Components. The accessions constituted about 9.2 percent of all test takers and 13.5 percent of all seniors and juniors who took the test.

In the past the number of accessions from those who took the test has probably been underestimated. Most of the past estimates have been based on matching the social security number of test takers and accessions. Many test takers do not have or do not furnish a social security number. About 29 percent of the seniors or juniors who took the test in the 1976-77 school year did not provide a social security number at the time they took the test, as shown below:

Test Takers, Seniors and Juniors	741,682	100.0%
(with Social Security Number)	(524,437)	70.7
(without Social Security Number)	(217,485)	29.3

As discussed in the following paragraph, the estimate of 100,000 accessions includes enlistments from among those without social security numbers at the time they took the test.

The estimate of 100,000 accessions, through June 1978, from the 1976-77 test cycle, consists of the following:

- 65,047 accessions from 524,437 seniors and juniors who had social security numbers when they took the test. These accessions, 12.4 percent of the seniors and juniors who had social security numbers, were identified by matching their social security numbers in the high school test file and the accessions file (61,153 entered the active forces; 3,903 entered one of the Reserve Components or the Coast Guard).
- 27,885 accessions who did not have a social security number but who entered in FY 1977 with ASVAB-5 scores as their entry test scores. This group constitutes 12.8 percent of the 217,455 senior

[1] The data on accessions is from the Defense Manpower Data Center computer summaries from accession files maintained by the United States Army Recruiting Command in behalf of all Services.

and juniors without a social security number when the took the test. ASVAB-5 accessions in FY 1977 can be attributed to the 1976-77 school year cycle because ASVAB-5 was first used in the high schools in September 1976. Accessions from an earlier high school test cycle would have entered with the former test, ASVAB-2, as their test identification. Few, if any, accessions from the subsequent test cycle, School Year 1977-78, which began in September 1977, would have enlisted in FY 1977.

- 7,058 of 35,510 ASVAB-5 accessions in FY 1978, who did not have a social security number are attributed to the 1976-77 school year test cycle while the balance of 28,452 of these accessions are attributed to the 1977-78 test cycle.[1] This estimate of 7,058 accessions, 20 percent of ASVAB-5 enlistees in FY 1978 (through June 1978) without social security numbers may be too high or too low.

It is likely that some additional accessions from the School Year 1976-77 test cycle will occur in Fiscal Year 1978 and in FY 1979 so that the estimate of 100,000 accessions is considered conservative.

Entry Test Identifier of High School Test Takers Who Enlisted

The estimate of 100,000 accessions includes a number of enlistees who took the ASVAB-5 in high school in the 1976-77 school year but whose entry score was from the current production test, from some other test, or was unidentified. About 60 percent entered with their ASVAB-5 score and about 40 percent with another test score, or with an unidentified entry test. The group of enlistees who entered with an ASVAB-5 score includes the following:

ASVAB-5 enlistees with matching Social Security number	24,769
ASVAB-5 enlistees without Social Security number	34,933
Total ASVAB-5 enlistees from 1976-77 test cycle	59,702

[1] This division of the ASVAB accessions without Social Security Numbers through June 1978 attributes 20% of them to the 1976-77 high school test cycle and 80% to the 1977-78 test cycle. The estimate may be described as an "educated guess." The factor of 20% is based on MARDAC Report 3215 which shows the numbers of juniors without Social Security numbers who took the test in School Year 1973-74 and later entered in January 1975 through June 1976.

The balance of 40,287 of the 100,000 accessions consists of enlistees whose social security number in the high school test files matches their social security number in the accession file, showing that they took ASVAB-5 in the 1976-77 school year, but whose identifying test of record in the accessions file was not ASVAB-5. The table below shows entry test information on this group.

Other Entry Tests of High School Test Takers, School Year 1976-77
(High School Test Takers with Matching Social Security Numbers)

Entry Test	Number of Accessions
ASVAB-6,7--current production tests	32,239
Entry test unidentified	5,219
Navy Basic Test Battery	1,734
ASVAB-2--previous high school test	807
Air Force Woman's Screening Test	194
ASVAB-3--previous applicant test	84
Army Classification Battery	21
Total	40,288

As indicated in the table, some of the accessions who took ASVAB-5 in high school in the 1976-77 school year used an old test for their entry score. In part this use of the older test is attributable to administrative problems in changing test forms when ASVAB-5, 6 and 7 were substituted for previously used tests.

The retest policies for the High School Test Program are the same as retest policies for applicant testing. The Assistant Secretary of Manpower and Reserve Affairs stated retest policies as follows:

- retests of ASVAB-5, 6 or 7 are authorized six months following the initial test.
- additional retests are not authorized until six months after the latest retest.
- exceptions may be made 30 days after the initial test when the Recruiting Commander in grade of Major or above personally determines that the initial test scores do not reflect the true capability of an applicant.

- immediate retests may be authorized by the AFEES commander if there is reason to suspect the test results, such as sickness of the applicant during testing.[1]

The broad policies have been modified by questions encountered in practical applications and a more detailed table of retest rules is published as Tables A-1, A-2 Appendix A, MEPCOM Regulations 611-1.

The subject of retesting policies is outside the scope of this study. It may be mentioned, however, that the subject was usually brought up by field personnel during visits made in connection with this study. Differences of opinion exist between examining personnel and recruiting personnel on the subject of retesting, as might be expected. Many examining personnel consider the 30-180 day request for a re-test is treated in some Services as routine. Examining personnel almost always considered retesting more prevelent in applicant testing than in high school testing. On the other hand many recruiting personnel believe that students do poorer on the high school ASVAB because they do not have the motivation that applicants do so that some recruiting personnel view the retest request as a cumbersome procedure that may result in a loss of recruits. MEPCOM study showed that an average of 5 percentage points increase occurs in the AFQT score upon retesting; this is within the boundries of research findings on the "practice effect" of retesting on results with other tests.[2] Navy recruiting managers were more likely than others to express concern over the validity of the test. More than one recruiter referred to the high school ASVAB as a "practice test." Until perceptions change some unproductive retesting is likely to occur.

So far the discussion has largely concerned the accession flow from high school students who took the test in the 1976-77 school year test cycle. The flow of accessions from a school test cycle can extend over three Fiscal Years under the policy which enables a test score to be valid for two calendar years. For example, a junior who took the test in the

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[1]Memorandum from Assistant Secretary of Defense (Manpower and Reserve Affairs to Assistant Secretaries of the Military Departments (Manpower and Reserve Affairs). Subject: "ASVAB Test Policies." December 2, 1975

[2]ASVAB Educational Bulletin, February 25, 1978. Published by MEPCOM. Fort Sheridan, Illinois.

the last half of School Year 1976-77 could graduate in June 1978 and enter service in Fiscal Year 1978 or FY 1979. It is also convenient to calculate the annual rate of accessions which comes from the high school test program as the yield from two or more test cycles.

One method for estimating the percentage of enlistments, annually, which comes from high school test takers is to assume that the results are the same from year to year. Data from the 1976-77 high school testing program indicates that about 60 percent of the 100,000 accessions through June 1978 occurred in FY 1977 and 40 percent in FY 1978. If the results are the same from year to year, 60 percent of the accessions from the 1977-78 school year test cycle would occur in FY 1978 and 40 percent in FY 1979. The accessions from high school test takers for FY 1978 would come from the 1976-77 school year test cycle and the 1977-78 school year test cycle; 40 percent from the 1976-77 school year and 60 percent from the 1977-78 school year. If each of the test cycles yielded 100,000 accessions, the annual rate of accessions would also be 100,000. It would be necessary to "track" several test cycles to see if this assumption is valid.

It is estimated that 90,000 of the accessions from among high school test takers are diploma graduates. Other than those enlisted in the DEP as of June 1978, 95 percent of the accessions, from the 1976-77 high school test cycle (individuals whose social security numbers matched in the 1976-77 high school test file and the accessions file) entered with a high school diploma. It is assumed that most of the seniors in the DEP would become diploma graduates; hence, it is estimated that 90,000 of the accessions from among high school test takers in 1976-77 were diploma graduates. This would be about 35 percent of the 257,000 high school graduate accessions in all services in FY 1977.

Female accessions who took the test in high school would be about 50 percent of all female accessions (all of whom are high school graduates), so long as female accessions continue at the current level of 30,000 a year.

Accessions by Sex, Educational Level and Race

Test takers who were male seniors at the time they took the test are the largest source of accessions (60.5%) and male juniors are the next (23.5%). Hence, males account for about 84 percent of test taker accessions. Females account for 16 percent of the accessions. The number of female accessions is probably constained by the requirement.

As discussed earlier, all test takers are fairly evenly divided among males (53.3%) and females (46.7%). Considering only senior and junior test takers, nearly two out of three are seniors; 64 percent of test takers are seniors and 36 percent are juniors. Largely as a result of the accession requirements of the services, 84 percent of the enlistments of test takers are males. Selection policies, which encourage high school graduation, favor the enlistment of seniors rather than juniors; 72.8 percent of the accessions from among test takers (males and females) were seniors at the time they took the test. The proportions of males and of seniors are higher among accessions than among test takers; the proportion of females and juniors are much higher among test takers than among accessions. Some of the juniors may repeat the test in their senior year and enlist with a score from a later test cycle. Many of the underclassmen who take the test, whose scores are not furnished recruiters, repeat the test in their senior year.

Percent of Accessions by Sex and Educational Level (at Time of Test)[1]
(Active Duty Accessions with Matching Social Security Numbers)

Sex and Grade Level	Number	Percent
Males	51,381	84.0
Seniors	(36,991)	(60.5)
Juniors	(14,390)	(23.5)
Females	9,772	16.0
Seniors	(7,532)	(12.3)
Juniors	(2,240)	(3.7)
Total	61,153	100.0

[1]The data is limited to 61,153 accessions whose social security number matched the 1976-77 high school test file. The percentages would not likely be changed significantly by the accessions without social security numbers. Unless otherwise indicated, this data base of 61,153 cases was used for the following tables on the characteristics of accessions.

The table below shows that 27.4 percent of the accessions among high school test takers were black. This is almost double the proportion of blacks (14.7) among test takers. The proportion of blacks among female accessions is higher than among males.

Race of Accessions from Among Test Takers
(Active Duty Accessions with Matching Social Security Numbers)

	Males		Females		Total	
	Number	Percent	Number	Percent	Number	Percent
Caucasian	34,806	69.7	6,293	64.4	42,099	68.8
Black	13,650	26.6	3,111	31.8	19,761	27.4
Other	1,925	3.7	368	3.8	2,293	3.8
Total	51,381	100.0	9,772	100.0	61,153	100.0

The percentage of black accessions (27.4%) from among high school test takers is higher than the percentage of black accessions among total DoD accessions. In FY 1977 Blacks were 20.5 percent of total non-prior service accessions. In part the black proportion reflects selection factors which favor blacks who are high school graduates in preference to Blacks who are non-graduates. As previously discussed, a relatively high proportion of test takers who indicate Military Plans are Black (28.3%).

Accessions of High School Test Takers by Service

The percentage distribution, by Service, of accessions from among high school test takers is roughly proportional to the distribution of total accessions. The Air Force percentage of accessions from among high school test takers exceeds its share of total accessions. This is partly explained by the relatively favorable perceptions of the Air Force held by high school graduates but it is also partly attributable to the efficient use, discussed subsequently, which Air Force recruiters make of the lists of test takers and the information furnished through the High School Testing Program.

Distribution of Active Force Accessions of High School Test Takers by Service[1]

(Test Takers in School Year 1976-77)

Service	No. of Accessions	% Distribution	% Distribution-Total Accessions[2]
Army	36,185	41.1	45
Navy	19,969	22.7	22
Marine Corps	10,049	11.4	13
Air Force	21,819	24.8	18
Total	88,022	100.0	100.0

[1]The accession tables by Service include: (1) accessions whose social security numbers matched in the 1976-77 High School Test Program file and who enlisted in FY 1977 or the first three quarters of FY 1978, and (2) accessions without matching social security numbers who entered in FY 1977 with an ASVAB-5 identifier. Test takers from the 1976-77 test cycle without matching social security numbers who entered in FY 1978 with an ASVAB-5 identifier are not included in the service distribution.

[2]Percentage distribution (three year average) used by Interservice Recruitment Committees to establish Service shares for assignment of high schools in marketing the high school test.

The FY 1977 percentage distribution of 29,846 total female accessions from all sources, shown in the table below, reflects the Service differences in female accession requirements.

	Number	Percent
Army	14,580	48.8
Navy	4,458	14.9
Marine Corps	1,434	4.8
Air Force	9,374	31.4
DoD	29,846	100.0

The break-out of Service accessions data of test takers by sex, is in the next table. The percentage distribution of total female accessions from among test takers approximates this percentage distribution of total female accessions. Each Service obtains a high proportion--ranging from 37 percent to 40 percent--of its total female accessions from among ASVAB test takers.[1]

Distribution of Accessions of High School Test Takers by Sex and Service
School Year 1976-77

Service	No. of Accessions	% Distribution
Army		
Males	30,534	40.7
Females	5,651	47.7
Navy		
Males	18,243	23.9
Females	1,726	14.5
Marine Corps		
Males	9,361	12.3
Females	688	5.8
Air Force		
Males	18,039	23.7
Females	3,780	32.0
DoD		
Males	76,177	100.0
Females	11,845	100.0
Total	88,022	

[1]As discussed in the previous footnote the accession numbers in the total are understated because of the lack of a Service distribution of ASVAB-5 accessions without matching social security numbers who entered in FY 1978.

Accessions by Geographic Area

The number of active force accessions at southern AFEES-IRC was 27,666 (45.2%) of the 61,153 accessions with matching social security numbers. The geographic area for the accessions without matching social security numbers is not available but their geographic distribution is likely to be about the same as accessions with social security numbers.

It is possible, of course, for an enlistee to take the test in a high school in a northern AFEES-IRC and to move to a southern AFEES-IRC to enlist. The percentage of accessions in southern AFEES-IRC (45.2%) is close to the percentage of seniors and junior test takers (46.8%) who take the test in southern AFEES-IRC areas.

Accessions by Future Plans of Test Takers

Test takers who planned to enter the military service and test takers who were Undecided as to their Future Plans at the time they took the test contribute nearly 70 percent of the accessions. The remaining 30 percent of accessions came from those who planned to continue their education (most of them in a four-year college) or who planned to enter the civilian work force after high school graduation.

Percent of Accessions by Future Plans at Time of Test
(Active Duty Accessions with Matching Social Security Numbers)

Future Plans	Number	Percent
Military Plans	23,991	39.2
Undecided	18,567	30.5
4-Year College	7,281	11.9
Work	5,345	8.7
Vocational Technical School	3,079	5.0
2-Year College	2,890	4.7
Total	61,153	100.0

The percentage distribution of accessions by the Future Plans that they had when they were test takers is generally consistent whether the enlistees are male or female or whether they were seniors or juniors when they took the test, as shown in the next table. A relatively large percentage of male juniors (43.5%) followed through in their plans to enter service. A larger percentage of females than males shifted plans from four-year college or two-year college and entered military service; a larger percentage of males than females shifted from work plans or vocational technical school plans to enter military service.

Percent of Accessions by Future Plans at Time of Test
by Sex and Educational Level

Future Plans	Males			Females		
	Seniors	Juniors	Total	Seniors	Juniors	Total
Military Plans	37.5%	43.5%	39.2%	40.0%	36.8%	39.2%
Undecided	30.6	29.8	30.4	20.1	32.5	29.9
4-Year College	11.9	10.4	11.5	13.4	14.9	13.7
Work	9.8	8.4	9.3	6.4	6.1	6.3
Vocational Tech.	5.7	4.6	5.3	3.9	2.7	3.5
2-Year College	4.5	3.5	4.2	7.3	6.9	7.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

By considering the chances of obtaining accessions on the basis of the Future Plans which applicants express, a recruiter can establish priorities in working the lists furnished by high school testing. The list below is a rank order listing of chances of obtaining an enlistment from among various categories of test takers:

Military Plans	-	Male Seniors
Military Plans	-	Male Juniors
Military Plans	-	Female Seniors
Undecided	-	Male Seniors
Military Plans	-	Female Juniors
Voc. Tech.	-	Male Seniors
2-Year College	-	Male Seniors; Undecided-Male Juniors
Work	-	Male Seniors
Voc. Tech.	-	Male Juniors
2-Year College	-	Male Juniors
Work	-	Male Juniors
4-Year College	-	Male Seniors
All Other Plans	-	Female Seniors and Juniors

This rank order listing is derived from the next two tables. Because of missing data in Future Plans among both test takers and accessions the numbers of accessions in the tables are understated; however, the numbers are valid in expressing the relationship between test takers and accessions by Future Plans.[1]

[1]The tables are based on Future Plans data of 669,653 seniors and juniors who took the test (about 90% of total senior and junior test takers) and 61,153 active force accessions with matching social security numbers (about 61% of active force accessions of test takers).

The next table, covering male seniors, shows the number of male senior test takers on whom the file contains Future Plans information and the number of male senior accessions with social security numbers which matched in the high school test file and the accessions file, enabling identification of their plans at the time of taking the test.

Future Plans of Male Senior Test Takers Who Enlisted and Number of Accessions by Plans

(No. of Accessions with Matching Social Secuirty Numbers Per 100 Test Takers)

Future Plans Male Seniors	No. of Test Takers, by Plans	Number of Accessions	Number of Accessions Per 100 Test Takers
Military Plans	23,042	13,900	60.3
Undecided	63,648	11,356	17.8
4-Year College	67,803	4,422	6.5
Work	37,575	3,551	9.5
Voc. Tech.	18,667	2,095	11.2
2-Year College	16,550	1,667	10.1
Total	227,285	36,991	16.3

The next table shows the relationship between the number of test takers, by plans, and the number of subsequent accessions based on educational level and sex. The number of male juniors who enlist per 100 test takers (11.1) is, of course, significantly lower than male seniors (16.3); however, considering the lapsed time until they graduate the accession yield of male juniors is quite good. Also, there will probably be additional enlistments of the junior test takers from this test cycle, since the accession data includes only the first three quarters of FY 1978. It is possible that many of the juniors took the test again in their senior year.

Future Plans of Test Takers Who Enlisted by Sex and Educational Level

(No. of Accessions with Matching Social Security Numbers Per 100 Test Takers)

	Males		Females	
Future Plans	Seniors	Juniors	Seniors	Juniors
Military Plans	60.3	38.4	32.0	16.5
Undecided	17.8	10.1	3.8	1.5
4-Year College	6.5	4.0	1.6	.9
Work	9.5	6.7	.9	1.1
Voc. Tech.	11.2	7.5	2.2	1.3
2-Year College	10.1	6.9	2.0	1.2
Total	16.3	11.1	3.7	2.0

Accessions, by Service, on the Basis of Future Plans of Test Takers

From a recruiter's point of view the best names on the high school lists are the students with qualifying scores who indicated Military Plans or who indicated that they were Undecided. The percentage distribution by Service of accessions of male seniors from those who indicated Military Plans or who were Undecided is about the same as the percentage distribution of total accessions. The finding suggests that all Services can use the high school test in the same way.

Number of Male Senior Accessions by Service for Selected Plans
(Military Plans and Undecided)

Service	Enlistments From Military Plans	Enlistments From Undecided	Enlistments, Mil. Plans & Undecided	Percent by Service
Army	5,797	4,516	10,313	40.8
Navy	2,984	2,781	5,765	22.8
Marine Corps	1,875	1,312	3,187	12.6
Air Force	3,244	2,747	5,991	23.7
Total	13,900	11,356	25,256	100.0

To obtain these enlistments the recruiters were furnished the names and other information on 86,690 male seniors--23,042 with Military Plans and 63,684 who were Undecided. About 13,000 of the names (15%) could be

screened out because the students AFQT equivalent scores were too low. The remaining number of names to be contacted by recruiters would be 71,760. The recruiters of all Services received the high school lists. The number of recruiter contacts, on the average, to obtain an enlistment from this list varies by Service. The Army recruiters probably need fewer contacts because their number and share of enlistments from the list is larger than the other Services. The number of contacts per recruiter needed for an enlistment cannot be stated with any certainty because of variances in Service preferences of prospects and recruiter efficiency. Dividing the number of names on the list by the number of enlistments for each Service may give a rough approximation of the number of male seniors who indicated Military Plans and Undecided who would theoretically be contacted per each Service enlistment:

Army	6.9
Navy	12.4
Marine Corps	22.5
Air Force	11.9

When the accessions from test takers were "shredded out" to individual AFEES-IRC areas the percentage of accessions from test takers who indicated Military Plans or Undecided ranged from 61.1 percent of accessions of test takers to 80.6 percent by individual AFEES-IRC. The data suggest that these categories of test takers is a good lead list in any recruiting area. One argument for adding more schools to the testing program and for increasing the average size of test sessions, provided the additional test takers are seniors or juniors, is that the increments would normally contain a number of test takers whose future plans are Undecided.

Service Use of High School Lists

All Services publish instructional materials designed to enable recruiters to make full use of their high school lists. A good discussion of how to use the list is published in MEPCOM's "ASVAB Recruiter's Guide." The number of field interviews on which this section of the report is based, in part, was limited to recruiting stations in four recruiting districts in each Service and by no means constitutes an adequate sample of the Recruiting Services as a whole.

All Services use the high school test lists but the Air Force Recruiting Service uses them thoroughly and effectively. Almost invariably on field visits to local recruiting offices, Air Force recruiters could show their annotated lists with dates of phone calls and with prospects cards showing dates of face-to-face interviews.

The Navy and the Army both have a computerized system for sending inquiry letters to high school seniors on the list who have passing scores. In the other Services many of the Recruiting Districts send similar letters.

In some instances Army recruiters were of the opinion that they had a good familiarity with the plans of seniors in their high schools as a result of personal contacts. Before January of the school year, when most of the testing of seniors is completed, the recruiters believed they would have knowledge of their most likely prospects so that the high school lists were not considered vital. Familiarity with high school seniors would be possible for an experienced Army recruiter who has only two or three counties each with an average size, or smaller, high school. For a recruiter with six to eight counties with some large high schools it would be difficult, if not impossible, for a recruiter to know all of the high school seniors as well as he would if he had their test scores and information on their Future Plans from the high school lists.

All recruiters interviewed were aware of the value of having a test taker's name who indicates Military Plans. As a Navy recruiter expressed it, "This guy gets four phone calls;" however, recruiters are not as aware that those whose plans are Undecided are also very good contacts, if they have passing scores.

Among field recruiting managers interviewed, recruiting managers of the Air Force are the ones most likely to state that the high school test is central to recruiting operations. Army recruiting managers frequently describe the list as "a good lead list among other lead lists." A few Navy recruiting managers expressed reservations about the validity of the test itself; this concern appeared to temper their views of the value of the high school list as a lead list.

Nearly all of the recruiting managers interviewed, irrespective of the Service concerned, expressed some opinion in favor of simplification of program administration. Their views were about equally divided, however,

on the merits of MEPCOM marketing as a solution. Many did not want to lose the contacts with the high schools that recruiter marketing provides.

Summary

The lists furnished to recruiters as a result of the high school test program constitute a good contact and prospect list. This is not only because the test takers are pre-screened on the basis of their mental abilities, but also because test takers furnish information about their Future Plans. The recruiter can use the Future Plans information to determine his priorities in working the lists.

Although accessions occur from among each of the six categories of Future Plans, those who indicated Military Plans or who indicated they were Undecided are the best prospects for enlistment. Many students who do not plan to enlist at the time of taking the test subsequently change their plans and actually do enlist, often as a result of contacts with a recruiter.

All Services share in the accessions from among high school test takers in rough proportion to their accession requirements, except that the Air Force, which uses the lists efficiently and thoroughly, obtains a larger share relative to its share of accession requirements.

CHAPTER 6
ESTABLISHING GOALS AND MEASURING PERFORMANCE

An important initiative in the management of high school testing was taken by MEPCOM by the establishment of testing goals by individual AFEES-IRC for the testing cycle for the school year 1977-78. Prior to this time only overall objectives were set; management's capability to assess the performance of individual AFEES-IRC was quite limited. In connection with the new procedures for setting goals MEPCOM also inaugurated a series of computerized reports for measuring the performance of individual AFEES-IRC. The new system has considerable potential to provide a data base for analysis and improvement of performance.

It is difficult to set individual AFEES-IRC goals because of wide variation in past performance among the individual areas, diversity in the local school systems, lack of coincidence between recruiting service and AFEES boundries, and for other reasons.

The Joint Recruiting Commanders set the overall goal at 1,250,000 students in grades 10-12 to be tested in school year 1977-78. The goal for seniors was set at 580,000 -- 45.4 percent of the goal for the total number of students. Both goals were higher than the actual results in 1976-77 when 1,094,371 students, including 469,914 seniors, were tested. The estimated number of available students in the 'productive" schools was 10,713,500 in grades 10-12; the goal of 1,250,000 students to be tested represented 11.7 percent of the total students available in the productive schools.

The actual number tested was 1,092,415 or about 87 percent of the Joint Recruiting Commander's goal of 1,250,000.

MEPCOM recognized that the number of students tested is in part beyond the control of the local IRC's. Some schools may establish mandatory participation; others may test seniors only; some may provide little notice to the students that the test is being given beyond announcing it over the school's public address system. Although not entirely satisfactory, the use of the number of students tested may be preferable to establishment of the goal in terms of the number of high schools tested. If the number of

students tested falls, the number of possible leads to recruiters would decrease, even if additional high school's were tested. In monitoring performance, MEPCOM tracks both the number of students and the number of schools tested.

In dividing the goal among IRCs, MEPCOM took into account the following factors:

- the year-to-year improvement needed to reach the goal of 1,250,000 students targeted by the Joint Recruiting Commanders.
- the varying size of the high school population in each AFEES-IRC.
- the increase in students to be tested in each AFEES-IRC so that those which tested the lowest percentage of students in 1976-77 would make the largest relative increases in 1977-78. Increased goals of individual AFEES-IRC ranged from a few percentage points to 25 percent.

The goals were calculated as a percentage of available students to be tested and later translated into numerical goals. Using percentage goals allows for differences in numbers of schools and enrollments among the IRC.

The table below by AFEES Sectors and by MEPCOM shown separately, summarized the goals for the number of students to be tested. MEPCOM is shown separately because MEPCOM was responsible for marketing in five AFEES-IRC areas in connection with the feasibility test of MEPCOM marketing. This summary table does not display the wide diversity in the 66 individual AFEES-IRC. The extremes among individual AFEES-IRC are indicated by the following:

- the goal for students to be tested ranged from 4,249 out of 26,161 students available in the Boise, Idaho IRC to 54,666 to be tested out of 623,335 available in the Los Angeles IRC.
- the number of high schools ranged from 79 in El Paso, Texas, IRC to 726 in the Los Angeles IRC.

The wide variations among AFEES-IRC in numbers of high schools and students are discussed in detail in the next section of this chapter.

The goals varied throughout the year with fluctuations of school populations. The numbers in the following table are extracted from MEPCOM's computer summary report for June, 1978.

Goals for Number of Students to be Tested, School Year 1977-78[1]
(By AFEES Sectors and MEPCOM in 000's)

Sector	Number of AFEES	Available Students	To Be Tested[2] 1977-78	Percent of Availables
Eastern	22	3,669.2	429.3	11.7
Central	22	3,748.7	479.3	12.8
Western	17	2,132.8	286.6	13.4
MEPCOM	5	1,162.8	107.5	9.2
Total	66	10,713.5	1,302.7	12.1

[1]Appendix contains list of AFEES in each Sector.

[2]Computations of student enrollments after assignment of schools by AFEES-IRC resulted in higher goals than initially established by Joint Recruiting Commanders.

The local IRC's assign schools to one of the Services for purposes of marketing the test and coordinating the test scheduling with the high school and with AFEES. This work is divided among the Services on the basis of each Service's share of accessions averaged over the previous three years. The percentages used were:

Army	45%
Navy	22
Air Force	18
Marine Corps	13
Coast Guard	2

On this basis the Army carries the heaviest load in terms of contacting the schools and marketing the program. At local levels adjustments in assignments of schools are made and the final assignments approximate, but do not exactly fit, the percentage shares of accessions. In School Year 1977-78 the Army was actually assigned a slightly higher percentage and

the Marine Corps a lower percentage than the percentage distribution of accession requirements. In the 1977-78 school year MEPCOM performed marketing functions in five AFEES-IRC as part of a feasibility test of MEPCOM performance of the function. The schools assigned to MEPCOM are separately identified and reported but are also included in totals of the Service to which they were previously assigned. The tables below show the number and percent of students tested by Service.[1] The variance between the number assigned and the number tested consists preponderantly of schools contacted but that declined to offer the test. The number not contacted was estimated, on the basis of a one-time report from the IRC's, to be less than 2 percent of the total number assigned.

[1]MEPCOM furnished a school directory and enrollment information obtained from the Curriculum Information Center, Denver, Colorado, to the IRC's for their review and revision. The lists cover public, Catholic, and other non-public schools. After revision by the IRC the lists became part of the data base for the computerized reporting system.

Schools Assigned and Tested by Service
School Year 1977-78

Service	Number of Schools	Actual Number Tested	Percent Tested of Assigned
Army	8,367	6,757	81%
Navy	3,775	2,808	74
Marine Corps	1,634	1,109	68
Air Force	3,388	2,486	73
Coast Guard	59	59	100
MEPCOM	1,871	1,562	83
Total	19,888*	14,781	74

*Includes 794 initially reported as productive but subsequently unassigned by IRC.

The number of students to be tested is shown in the table below.

Students Assigned for Testing by Service[1]
School Year 1977-78

Service	No. of Students Assigned	% of Total	Actual No. Tested	% of Assigned	% of Total
Army	546,948	43.0	520,240	95.1	47.7
Navy	262,862	20.6	217,390	82.7	19.9
Marine Corps	113,308	8.8	77,739	68.6	7.1
Air Force	236,103	18.6	186,097	78.8	17.1
Coast Guard	5,626	.4	4,267	75.8	.4
MEPCOM	107,498	8.4	84,449	78.5	7.8
Total	1,272,345	100.0	1,090,182	85.6	100.0

[1]Number of students in the above table varies from table which shows student goals by sectors because some schools, included in the earlier tables, were unassigned to the Services by local AFEES-IRC.

The tables on the assignment of schools and students show that, when all AFEES-IRC are aggregated, the Army Education Coordinators and Recruiters marketed the test in larger percentage of its assigned schools and these schools tested a larger percentage of students than the other Services. This is partly explained by the fact that Army, when the program was revitalized under the former Armed Forces Vocational Testing Group in 1973, had a preponderant number of Test Administrators who worked hard to get into some of the schools which were more receptive to ASVAB testing. The Marine Corps accomplished the lowest percentage of its assigned students and schools, partly because it was the last Service to participate in the joint program so that many of its assigned schools were "leftovers."

During the first year of setting individual AFEES-IRC goals a number of data problems, such as missing school populations, necessarily led to the

use of estimating techniques. It was convenient for school year 1977-78 to issue the goals as percentage goals. They were later translated into numerical goals. MEPCOM has refined the procedure for 1978-79 by establishing numerical student goals which remain constant.

For the current school year 1978-79 the Joint Recruiting Commanders have accepted MEPCOM's recommendation for 1,150,000 students to be tested. This would be an increase of about 5 percent over the 1977-78 school year actual performance. MEPCOM again is using a formula which calls for the poorest AFEES to make the most improvement, but not as much, relatively, as in 1977-78.

Measuring Performance of Individual AFEES-IRC

This section of the report covers a number of measures of AFEES-IRC performance, including:

- the percentage of available students tested;
- the number of students tested;
- the percentage of the IRC goal accomplished;
- the number of students tested in school year 1977-78 compared to the number in school year 1976-77;
- the percentage of productive high schools tested.

The central tendencies in program performances are noted in the following sections of the report but the wide diversity in number of schools, in enrollment figures, and in counselor perceptions about the test makes for a wide diversity in individual AFEES-IRC performance.

The data are all extracted from MEPCOM's monthly computer summary of the Institutional Testing Program (MEPCT-T) so that it is evident that a considerable data base has been established to assist in overall management of the program.

As additional experience is gained in setting goals and measuring performance, the procedures will probably be refined and improved. One improvement has already been made in the establishment of goals for school year 1978-79 by lessening the relative increase expected in the poorest performing AFEES-IRC.

The table below shows a frequency distribution of the individual AFEES-IRC on the basis of the percentage of available students tested. The range is from 24 percert of available students in Jackson, Mississippi, to 4 percent in Cleveland, Fort Hamilton, New York, and Philadelphia. The median is 12 percent of available students tested. The upper third of AFEES-IRC (22 AFEES-IRC) in the percentage of students tested includes 17 AFEES-IRC located in southern states. Table 2 of the Appendix contains a list of all AFEES-IRC in rank order of the percentage of available students tested.

Distribution of AFEES-IRC by Percentage of Available Students Tested
School Year 1977-78

Percentage of Available Students Tested	Number of AFEES-IRC
20% or above	5
15-19	16
10-14	19
5-9	23
Below 5%	3
Total	66

The next table shows a frequency distribution of individual AFEES-IRC on the basis of the number of available students tested. The range is from a high of 44,300 students tested in Jacksonville, Florida (21 percent of the available students in the AFEES-IRC) to a low of 6,260 students (11 percent of the availables) in Manchester, New Hampshire. The median number is 16,300 students tested.

An AFEES-IRC may rank relatively high on the number of students tested because of a large student population, but relatively low on the percentage of students tested. There are 18 AFEES-IRC which test 20,000 or more students; ten of these are located in southern states and eight are located in non-southern states. The eight non-southern AFEES-IRC which test large numbers of students--Los Angeles, St. Louis, Chicago, Oakland, Detroit,

Pittsburgh, Boston, and Kansas City--are all, except Kansas City, located in one of the 20 largest metropolitan areas of the country. These eight AFEES-IRC, except St. Louis, are below the 12 percent median percentage of available students tested and six of them test below 9 percent of the available students.

Distribution of AFEES-IRC by Number of Students Tested
School Year 1977-78

Number of Students Tested	Number of AFEES-IRC
30,000 or above	7
22,000 - 29,999	9
15,000 - 21,999	16
8,000 - 14,999	23
Below 8,000	11
Total	66

Table 2 in the Appendix lists all AFEES-IRC both in rank order of percentage of available students tested and number of available students tested. The findings from analysis of this table suggest:

- AFEES-IRC in the southern states do better in the percentage of available students tested; all of these AFEES, except Baltimore, Md., rank in the upper half of percentage of available students tested and 19 rank in the upper third.
- AFEES-IRC's located in larger metropolitan areas outside the south furnish a large number of test takers as a result of their large number of high school students, despite the fact that these AFEES-IRCs rank comparatively low in the percentage of available students tested.

Based partly on interviews with counselors and school officials, educational specialists/coordinators and recruiters the following explanation of test taking patterns is offered. It appears that counselors or school officials in small or average size rural schools are more apt than their counterparts in large metropolitan schools to regard the high school ASVAB

as a valuable tool in guidance and counseling and to encourage most of their students to take the tests. Counselors and officials in the large metropolitan schools are more apt to encourage students interested in the military and students who do not know what they want to do to take the test. They are less likely to encourage all students. There are some rural schools in every AFEES-IRC area but rural schools constitute a larger proportion of schools in the southern areas of the country.

To the extent that this explanation is valid it would be difficult for AFEES-IRC in metropolitan areas where large urban schools are predominant to make large percentage gains in the number of students tested. These AFEES-IRC tend to rank low in the percentage of available students tested. MEPCOM goals may be unrealistic in expecting such AFEES-IRC to accomplish the larger percentage gains.

The next table gives a frequency distribution of the percentage of the IRC goals accomplished. Less than a third of the AFEES-IRC made 90 percent of their IRC goals or better.

Distribution of AFEES-IRC by Percentage of IRC Goal Accomplished for Students Tested, School Year 1977-78

Percentage of IRC Goal	Number of AFEES-IRC
Over 100%	6
90 - 99.9	14
80 - 89.9	22
70 - 79.9	16
Below 70%	8

The range in the table is from 111.1% of the IRC goals in Dallas, Texas to 57.9% in Springfield, Massachusetts. The median was 82.8% of the IRC goal.

The AFEES-IRC which tested over 100% of their student goal were Dallas; Houston; Jackson, Mississippi; Nashville, Tennessee; El Paso, Texas; and Fresno, California; except Fresno and El Paso, they were in the upper third of AFEES-IRC in percentage of available students tested. The fourteen AFEES which made 90%-99.9% of their IRC goals were above the

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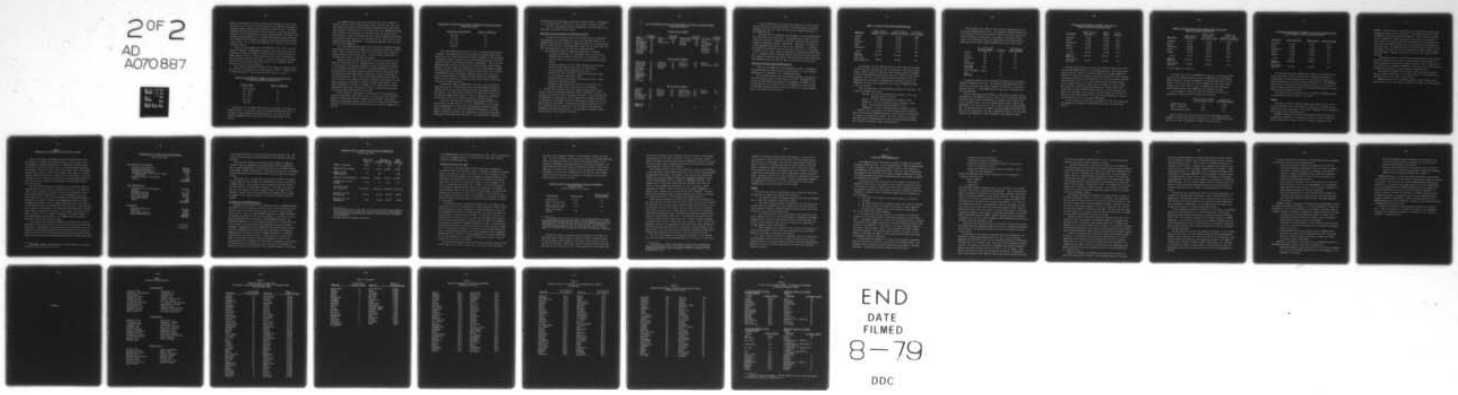

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median in percentage of available students tested except San Juan, Puerto Rico and 9 of the 14 were in the upper third of all AFEES in percentage of available students tested and were located in southern states. The eight AFEES-IRC which accomplished less than 70 percent of their goal were Philadelphia, Cleveland, Minneapolis, Chicago, Miami, Milwaukee, Des Moines and Springfield, Massachusetts; five of these (Philadelphia, Chicago, Minneapolis, Milwaukee and Cleveland) are among the 20 largest metropolitan areas of the country. All of these five AFEES-IRC test 7 percent or less of the available students.

Table 3 in the Appendix lists the AFEES-IRC in the order of the percentage of IRC goal accomplishment and Table 4 lists them in the order of percentages by which the number of students tested in 1977-78 exceeds the number tested in 1976-77. These measures are more closely interrelated than the measures previously discussed. On both of the measures the AFEES-IRC which are in the upper third on the basis of the available students tested tend to be the best performers.

The frequency distribution below gives the numbers of students tested in 1977-78 as a percentage of the number tested in 1976-77. About half of the AFEES did better in 1977-78 and about half did not do as well.

Distribution of AFEES-IRC by Number of Students Tested 1977-78 as Percentage of Number Tested 1976-77

Percent Change	Number of AFEES-IRC
120% and above	7
110 - 119.9	10
100 - 109.9	14
90 - 99.9	18
80 - 89.9	15
Below 80	2

Seventeen of the 32 AFEES that tested more than 100% of the number of students tested in the previous years were southern AFEES-IRC which test a relatively large percentage of available students. The other 15 were scattered geographically but more prevalent in the western area of the country.

The AFEES-IRC which tested more than 120 percent of the number of students tested in 1976-77 were Houston; Phoenix, Arizona; Salt Lake City, Utah; Denver; Syracuse, New York; Baltimore, Maryland and San Juan, Puerto Rico (Baltimore and Denver were in the feasibility test of MEPCOM marketing). None of them met their IRC goal, but four did better than 90 percent of their IRC goal. Except for Houston they were below the median in percentage of available students tested so that the goals set for them called for significant year-to-year improvement. The high goals apparently had a positive effect in these AFEES-IRC.

All of the AFEES-IRC which were below 70 percent in meeting IRC goals were among the lowest third of AFEES in the percentage of available students tested. None of them did better than to test 84 percent of the number of students tested for the previous year. In these cases the high goals set for them did not result in improved performance.

Numerical goals are lower for the school year 1978-79 than were the goals for school year 1977-78. MEPCOM has used a "sliding scale" method of setting goals for individual AFEES-IRC for school year 1978-79 similar to the "sliding scale" used in 1977-78. The lower AFEES-IRC in terms of the percentage of available students tested will again be expected to make the largest percentage improvement, although not as large a percentage as in the previous year. Many of these lower ranking AFEES-IRC are likely to find it difficult to increase the number of students tested because of their high proportion of large urban or affluent suburban high schools. After this year MEPCOM will be able to determine if some other method of establishing individual goals is preferred in order to maximize the percentage of available seniors and juniors to be tested.

A final measure of performance to be discussed is the percentage of available "productive" high schools tested. In the case of this table the number of schools which the IRC considers "non-productive" (for example, schools for handicapped students, Quaker schools, or other pacifist schools) have been excluded from the available schools on the basis of judgments by the IRC.

Distribution of AFEES-IRC by Percent of Productive High Schools Tested
School Year 1977-78

Percentage of High Schools	Number of AFEES-IRC
Over 90%	10
80 - 89.9	17
70 - 79.9	18
60 - 69.9	15
Below 60	6

The median AFEES-IRC tested in 75 percent of the productive schools available. Good performance in the percentage of available high schools tested is not as closely associated with good performance in the percentage of available students tested as are the other measures that have been discussed but there is nevertheless a positive relationship. Five of the ten AFEES-IRC which tested over 90 percent of productive high schools (Boise, Phoenix, San Juan, Albany, and Oakland) fall in the middle group of AFEES-IRC on the basis of percentage of available students tested; four of these ten AFEES-IRC (Atlanta, Montgomery, Nashville, Butte) are in the upper third of the percentage of available students tested; one, (Baltimore) which reported 100 percent of productive high schools tested, tested only 7 percent of available students.

A significant number of AFEES-IRC which excel in the percentage of high schools do not do particularly well in the percentage of available students tested, despite the generally positive relationship between the two measures. Many high school counselors will agree to the test but do not widely encourage their students to take it, preferring to emphasize the benefits of the test to those interested in military service.

In the next interval of the frequency distribution (80%-89.9% of the productive schools tested), 12 of the 17 AFEES-IRC are in the upper third of AFEES-IRC on the basis of the percentage of available students tested. Conversely, five of the six AFEES-IRC (Indianapolis, Columbus, Newark, Cleveland, Cincinnati, Fort Hamilton, N.Y.) which test less than 60 percent of productive high schools are in the lower third of AFEES-IRC

on the basis of the percentage of available students tested. (Indianapolis is in the middle third on the basis of the percent of students tested).

Table 5 in the Appendix lists all AFEES-IRC in the rank order of the percentage of available schools tested.

Measuring Service Performance by Individual AFEES-IRC

As noted in the first section of this chapter, when all AFEES-IRCs are aggregated, the Army markets the test in a larger percentage of its assigned high schools and achieves a larger percentage of its student goals than the other services. The Marine Corps, except for the Coast Guard, has lower percentages than the other services on these measures.

Field personnel offered a number of explanations, including:

- the Army, historically, is "positioned" better in that it was assigned more favorable schools early in the transition to the volunteer force and these schools have continued their participation.
- the Army recruiters are more widely dispersed and, therefore, travel time and travel costs are not as constraining.
- the Army supports the program more than others.
- the Navy, Air Force and Marine Corps obtain sufficient leads as it is without testing more schools.
- the Marine Corps is more likely than other Services to evoke latent "anti-Vietnam" feelings.
- the Marine Corps entered the joint program late and is not assigned as many schools that view the test favorably.

Whatever the case may be as to the weight accorded each of these factors, there are individual AFEES-IRC that are exceptions. Each of the Services performs well in some individual AFEES-IRC. In the following list an AFEES-IRC is listed under the Service which had the highest percentage of achievement in marketing the test in high schools assigned to it by the IRC ("ties" are not listed). The Army has the highest percentage in 25 of 56 AFEES-IRC that are listed but all of the Services have specific AFEES-IRC areas where they did well. The percentage of assigned schools that was tested is also shown in each case.

List of AFEES-IRC by Service Testing Largest Percentage of Assigned Schools School Year 1977-78

Eastern Sector, MEPCOM

Army	% Assigned Schools	Navy	% Assigned Schools	Marine Corps	% Assigned Schools	Air Force	% Assigned Schools
Buffalo	84	Albany	104	Springfield	144	Boston	74
Philadelphia	82	Wilkes Barre	88	Atlanta	116	Ft. Hamilton	73
Pittsburgh	75			Raleigh	100	Harrisburg	84
Portland, MI	76					Newark	86
Ft. Jackson	87					New Haven	105
Jacksonville	92					Syracuse	82
San Juan	115					Charlotte	91
Richmond	83						

Central Sector, MEPCOM

Kansas City	72	Knoxville	97	Nashville	105	Memphis	91
New Orelans	87	Louisville	98	Shreveport	91	Sioux Falls, SD	88
Cincinnati	54	Montgomery	99	Columbus	90		
Cleveland	52	Jackson	93				
Des Moines	69						
Detroit	82						
Fargo, ND	76						
Indianapolis	67						
Milwaukee	85						
Omaha	84						
St. Louis	80						

Western Sector, MEPCOM

Armarillo	87	Houston	98	Albuquerque	88	Phoenix	110
Dallas	85	Butte, MT	100	Fresno, Calif.	86	Honolulu	73
El Paso	94	Portland	86	Salt Lake City	100		
Oklahoma City	86	Seattle	106	Spokane, Wa	93		
San Antonio	86						
Los Angeles	89						
Number of AFEES-IRC	25		10		10		11

A list of AFEES-IRC by the Service that "markets" the test in high schools testing the largest percentage of available students in schools assigned by the IRC, also shows the Army with the higher percentage in more AFEES-IRC (20).

Explanation of the variations of performance at the individual AFEES-IRC level would be too conjectural. The distribution of urban and rural schools is one factor. Variations in priority accorded to the program by individual commanders also make a difference. High school testing is one of many programs which claim the time of local commanders. A commander who manages his priorities to do as well as he can on all of his programs is likely to have a good record of performance in marketing the high school test. A commander who is "crashing" against short-turn priorities may not. One commander interviewed said that he visited "problem" schools personally; most commanders would not have the time to do this to any great extent.

IRC-AFEES Performance Under MEPCOM Marketing

There are five AFEES-IRC in which personnel selected by MEPCOM performed marketing functions during the 1977-78 school year under MEPCOM supervision as a feasibility test of MEPCOM marketing.

The five AFEES selected are listed below, showing the percentage of available students tested in 1976-77 and in 1977-78. The AFEES-IRC in the list (except Miami) were selected for assignment to MEPCOM, in part, because they were in the lower third of all AFEES-IRC in the percentage of available students tested in school year 1976-77; all, except Denver were in the lower third in 1977-78.

Number of Students Tested Under MEPCOM Marketing

AFEES-IRC	Number Tested MEPCOM, SY 1977-78	Number Tested by Services, SY 1976-77	SY 1977-78 As % of 1976-77
Oakland	25,561	24,116	106%
Denver	15,308	12,608	121
Baltimore	18,378	13,472	136
Miami	10,824	13,375	81
Minneapolis	14,428	15,808	91
Total	84,449	79,379	106
Other 61 AFEES-IRC	1,014,745	1,007,628	99
Total Other Bottom one-third	309,660	296,260	96

As mentioned, the five AFEES-IRC were selected in part on the basis of their previous relatively low rank in percentage of available students tested. Three of the five AFEES-IRC tested a larger number of students in 1977-78 under MEPCOM marketing than they did in 1976-77 under Service marketing. The year to year results are quite favorable for the test AFEES-IRC when the results are compared with the lowest third of all AFEES-IRC; only three other AFEES-IRC in the lower 22 AFEES-IRC showed a year to year gain.

There was some delay in hiring marketing personnel for the test. The hiring was completed as follows:

Oakland - all four authorized hired by October 1, 1977, the starting date for the test.

Denver - all three authorized hired by October 1, 1977.

Baltimore - all three authorized hired by January 1, 1978

Miami - one authorized hired by December 3, 1978.

Minneapolis - all four authorized hired by January 1, 1978.

Because of the late hiring, the 1977=78 program only partially reflects the results from MEPCOM marketing. Seventy percent of testing, on the average, is completed by January. The test results for the school year were largely accomplished by the time the new marketing personnel were on-board in Baltimore, Miami, and Minneapolis.

Another measure--the number of schools tested--shows favorable results under MEPCOM marketing. One of the emphasis of MEPCOM personnel was to schedule new schools not previously scheduled, including schools previously considered non-productive. The number of productive schools tested, the percentage tested in the AFEES-IRC in which MEPCOM does the marketing, and the number added by MEPCOM personnel are shown below:

	No. of Productive Schools Tested	% Tested	New Schools Added by MEPCOM
Oakland	452	94	32
Denver	416	78	16
Baltimore	291	99	37
Miami	169	71	15
Minneapolis	540	71	42
Total Test IRC-AFEES	1868	83	142
Other IRC-AFEES	18,091	73	
Other One-Third		64	

A significant number of new schools were scheduled by the personnel employed by MEPCOM for the test. The AFEES-IRC under MEPCOM tested 83 percent of productive high schools compared to 74 percent of productive schools tested in all other AFEES-ICR and 64 percent in the bottom one-third of AFEES-IRC.

The next table shows the percentage of IRC goal for students tested accomplished by the MEPCOM test sites. Since the test sites were selected from the bottom one-third of AFEES-IRC the "sliding scale" formula used to set individual goals called for similar higher relative year-to-year improvement in the test sites as it did in the other low performing AFEES-IRC. As discussed earlier, the higher performing AFEES-IRC generally did better in the percentage of the goal accomplished; however, the test sites did better in comparison to other AFEES-IRC in the bottom one-third.

Percentage Accomplishment by MEPCOM - IRC Goal for Students Tested, School Year 1977-78

Test Sites	Number Students IRC Goal	Number Tested	Percent of Goal
Baltimore	18,429	18,378	99.7
Miami	17,530	10,824	61.7
Minneapolis	20,981	14,424	68.7
Denver	17,802	15,308	85.9
Oakland	32,756	25,561	78.0
Total	107,498	84,449	78.6
Other 61 AFEES-IRC	1,195,249	1,005,733	84.1
Other Bottom One-Third	403,236	296,264	73.4

Considering the delays in hiring, the results for School Year 1977-78 indicate that MEPCOM marketing is a promising concept. The results would have been better except for unfavorable results in the Miami AFEES-IRC because of a "special situation" in that area. Mandatory literacy testing was initiated in schools in the Miami area and the test saturation adversly affected ASVAB testing. Also, Dade County, the most populous Florida county, required a parental consent form for students to take the ASVAB. The county has reversed this requirement for the current school year, through the efforts of MEPCOM liaison personnel, so that a parental slip not to take the ASVAB is now required. But the results were adversly affected in school year 1977-78. The 15 new schools scheduled for testing in the Miami area were all outside of Dade County.

For the School Year 1978-79 (as of November 27, 1978) the comparisons are somewhat more favorable for MEPCOM than they were for School Year 1977-78.

Number of Students Tested in Test AFEES, School Year 1978-79 Compared to School Year 1976-77*

Test Sites	Number Tested SY 1976-77	Number Tested SY 1978-79 as of Nov 27, 1978	Number as of Nov 27, 1978 Percent of SY 1976-77
Baltimore	13,472	10,449	44.5%
Miami	13,375	5,339	39.9
Minneapolis	15,808	10,835	68.5
Denver	12,608	11,250	89.2
Oakland	24,116	10,439	60.8
Total	79,379	48,310	60.8
Other 61 AFEES-IRC	1,014,745	533,502	52.6
Other Bottom One-Third	309,660	129,996	41.9

* As of November 27, each year

In School Year 1977-78 the MEPCOM Test Sites were 7 percentage points better on this comparison than the other 61 AFEES-IRC and 10 percentage points better than the other AFEES-IRC in the bottom one-third; as of November 27, 1978, in School Year 1978-79, MEPCOM Test Sites were 8.3 percentage points better than the other 61 AFEES-IRC and 18.9 percentage points better than the other AFEES-IRC in the bottom one-third.

As of November 27, 1978, of School Year 1978-79, the number and percentage of productive schools tested was as follows:

	Number of Schools Tested as of Nov 27, 1978	Percent of Productive Schools
MEPCOM Test Sites	913	48.5%
Other 61 AFEES-IRC	7,559	42.3
Other Bottom One-Third	2,229	32.1

For the first time the percentage of IRC Goal Achievement through November 27, School Year 1978-79, is higher for the five MEPCOM Test Sites than for the other 61 AFEES-IRC, as shown in the table below.

Percentage Accomplishment by MEPCOM of IRC Goal for Students Tested As Of November 27, 1978, School Year 1978-79

Test Sites	Student IRC Goal	Number Tested	Percent of Goal
Baltimore	17,566	10,447	59.5
Miami	13,085	5,337	40.5
Minneapolis	16,730	10,385	64.8
Denver	15,361	11,250	73.2
Oakland	27,460	10,439	38.0
Total	90,202	48,310	53.6
Other 61 AFEES-IRC	1,059,801	533,502	50.3
Other Bottom One-Third	332,956	129,996	39.0

The personnel employed by MEPCOM have excellent qualifications, generally comparable to those of Navy and Army Educational Specialists/Coordinators. Most have advanced degrees in education or guidance and previous experience in school teaching or administration. The MEPCOM personnel have the advantage of being assigned full-time to the High School Testing Program, whereas the Education Specialists/Coordinators have other duties and are assigned part-time.

The estimated costs associated with an expansion of MEPCOM marketing are discussed in the next chapter of the report.

Summary

The goal of testing 1,250,000 students established by the Joint Recruiting Commanders for 1977-78 proved too high; about 87 percent of the student goals were accomplished. There were 6 AFEES-IRC which accomplished 100 percent of their individual goals.

MEPCOM's initiative in establishing individual AFEES-IRC goals and in measuring performance is an important step but the task is difficult and more experience is needed. One of the difficult aspects is that

MEPCOM's "sliding scale" of establishing goals expected the previous poor performers to make the most improvement. This method has been described by MEPCOM as not penalizing "good management." Many of the poor performers were AFEES-IRC in large metropolitan areas where the percentage of urban schools is relatively high; with few exceptions the best performers were located in southern states where the percentage of rural schools is relatively high. The AFEES-IRC located in southern states tended to test the largest percentage of available students and to make the most year-to-year improvement, although their goals did not call for as much relative increase.

Considering the totals of all Services in marketing the test, the Army had the best record of the Services in accomplishing its percentage of schools assigned and percentage of students tested. There is wide variation, however, on an indivdual AFEES-IRC "break out" and the other services performed relatively well in many individual AFEES-IRC areas.

The capability probably exists within existing levels of support to meet the reduced 1978-79 goal of 1,150,000 students by according the program more priority and effort at local levels.

MEPCOM marketing in five AFEES-IRC appears to have promise in both adding schools to be tested and in increasing the number of students tested.

CHAPTER 7
MEASURING COSTS AND BENEFITS OF HIGH SCHOOL TESTING

There is an element of judgment involved in discussing the costs and benefits of the High School Testing Program. Most of the costs of the program are readily identifiable but a significant portion consist of a share of the time and travel costs of recruiting service personnel who allocate a fraction of their time to the program. Most of the computations in this study are based on the readily identifiable costs which would be avoided if there were no high school testing program. The study considers the list of contacts, prospects and leads generated by the program to be the major benefits of the program, although other benefits are also discussed.

The FY 1978 costs directly attributable to the High School Testing Program, shown in the next table, are about $4.2 million. The table consists of the identifiable costs which would have been avoided if there were no high school testing program. The table understates the costs which would be shown if the time of Educational Specialists/Coordinators, Recruiters, Test Control officers, Non-Commissioned Officers in charge at AFEES and supervisory staff at higher Headquarters were costed and allocated proportionally to the High School Testing Program. Their positions are not directly attributable to the High School Testing Program, although some of their activities are allocable to the program. The costs in this table are actual costs. An element of judgment is involved, however, in the determination of what positions in Hq, MEPCOM would be avoided if there were no high school testing program.

It is likely that an additional $400,000 in allocable costs could be identified, if the pro-rata share of pay and travel costs of proctors were identified.[1] Approximately the same amount may be attributable to the cost of Educational Specialists/Coordinators and Recruiters for the portion of their pay and travel costs associated with marketing the high school tests; however the Educational Specialists/Coordinators and Recruiters would travel

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[1] This rough estimate is derived from a one-time report on proctoring costs submitted by the Services in 1976.

Estimated Costs of High School Testing Program

(Fiscal Year 1978)

TEST MATERIALS AND RESEARCH:	
Contracts and Publications	$406,600
Printing of Materials	602,000
Printing of Test Materials	140,000
Shipment/Mailing of Tests, Score Cards, and Products	4,802
Purchase Services, Test Related	505
Supplies	10,222
	$1,164,129
TEST ADMINISTRATION:	
Purchase Services (CSC Examiners)	$142,939
Training	121
Military Tester Pay	1,957,438
GSA Vehicle Leasing	182,441
Travel/Per Diem/TDY	173,847
Vehicle Maintenance	787
Gas/Oil	3,881
	$2,461,454
HQ USMEPCOM:	
Military/Civilian Pay	$262,720
TDY/Travel	36,900
Test Scoring Computer	58,900
Market Feasibility Test	210,000
	$568,520
	$4,194,103

to the high schools even if no high school testing program existed. The total costs would probably exceed $5,000,000 if all allocable costs were included.

The next table displays selected data which compares the administration of mental examinations in the high schools with the administration of mental examinations to applicants at MET sites and AFEES stations. Except where otherwise indicated, the computations are based on the estimate of $4,194,803 which would be avoided if there were no high school testing program.

The average cost of a high school test session of $276.36 is significantly higher than the average cost of MEPCOM test sessions at MET sites or AFEES stations. The average costs per examination of $3.83, however, are much lower for the high school examination. The lower unit costs in each case are largely the result of higher volume: the number of test sessions is larger in the case of MET testing and AFEES station testing; the number of test takers is larger in the case of the high school test program.

Estimated Costs of MEPCOM Marketing

Although the FY 1978 costs of the feasibility test of MEPCOM marketing ($210,000) could be excluded as a one-time cost of the trial stage of this program, this cost has been included in the total direct costs of high school testing. The full costs of MEPCOM marketing, if adapted nationally, are presently estimated to be $4 million annually. On the order of an additional $500,000 would be required to extend MEPCOM marketing to ten additional AFEES-IRC. It is not apparent that there is a "trade off" within the budget for the High School Testing Program to off-set the costs increment. Assuming that the ten AFEES-IRC were selected from the bottom one-third of AFEES-IRC an initial 10 percent increment in the number of students tested previously in these ten AFEES-IRC would be a reasonable expectation for the next test cycle. A small increase in overall unit costs of the program from about $3.83 per examination to about $4.26 would probably occur. Evidence is not available to demonstrate conclusively that there would be continuing year to year increases in the number of students tested but this also would be the expectation based on the results

Comparative Data on Administration of Mental Examinations

(Fiscal Year 1978)

	High School Test	MET Site		AFEES Stations
		Military	Civilian	
Number of Locations	14,817	572	239[1]	68[2]
Number of Test Sessions	15,176	44,170	16,248	25,260
Number of Test Administrators	161	397		184
Number of People Examined	1,092,415	295,680	61,116	249,108
Average Size of Test Session	71.98	6.7	3.8	9.9
Total Direct Cost (In $ estimate)	$4,194,103	$5,407,513	$812,400	$2,237,072
Average $ Cost Per Test Session	$276.36	$122.43	$50.00	$88.56
Average $ Cost Per Examination	$3.83	$18.29	$13.29	$8.98

[1] Active CSC sites as of 1 June 1978. FY 1979 costs of this program, budgeted for $3 million would be largely off-set by the military pay and allowances of 230 military test administrators planned for release when the program is fully implemented.

[2] Includes Guam and Anchorage substations.

of the MEPCOM marketing test through November 27, 1978. After an additional test cycle of MEPCOM marketing a decision could be made about further extension of MEPCOM marketing.

Evaluations of Costs Per "Lead"

The costs of the High School Testing Program may be regarded as incremental costs of the accession system. Although the number of enlistees who use the high school test as an entry test is about 10 percent of the number of applicants examined, entry testing is a secondary purpose of the high school testing program. For this group of enlistees who use their high school test scores as entry scores there is a cost avoidance of the costs of taking the test at MET sites or AFEES. This cost avoidance is in the order of $800,000 annually and may be considered as an "offset" to the incremental costs of the high school testing program. To evaluate the benefits of the program as a part of the accession system, however, one must primarily evaluate the benefits of information on contacts, prospects, and leads furnished by the program to recruiters in relation to the costs of the program.

The evaluation task is complicated because most of the names on the high school lists are not considered to be good prospects or leads. Under Defense policies the test is offered for civilian counseling, as well as for furnishing information to recruiters; thus, all of the test takers are not expected to be good prospects or leads. If they were, it would be a simple matter to equate the cost of a lead with the average unit cost of $3.83 per individual examined. A third of the test takers are sophomores and cannot be considered as immediate prospects or leads. Of the seniors and juniors who take the test 30 percent plan to enter a four-year college; most of this group do not expect to be available for enlisted service and are not considered prime prospects from the standpoint of their immediate availability for enlistment. A basic judgment has to be made in measuring the cost and benefits of the high school program which names to count as a lead, if all are not to be counted.

The list below computes a cost per lead using the data on Future Plans of test takers in the 1976-77 school year. The costs are FY 1978 costs.

The table also estimates the number of leads needed to obtain an enlistment. If only the names of those juniors and seniors who indicated Military Plans were counted as leads the costs per lead would be high, but the chances of obtaining an enlistment would be exceptionally favorable. As other names of juniors and seniors are added on the basis of their Future Plans the costs per lead are lowered as are the chances of obtaining an enlistment. In each of the computations in the table the total program costs of over $4.1 million are considered in obtaining a cost per lead from the names in each set of plans.

Estimated Costs Per Lead and Number of Leads Per Enlistment by Future Plans[1]

(Junior and Senior Test Takers)

Future Plans	Cost Per Lead	Number of Leads Per Enlistment
Military Plans	$70.30	1.5
Above, plus Undecided	14.65	4.1
Above, plus Voc. Tech., 2-Year College, Work	8.50	5.6
Above, plus 4-Year College	5.81	7.4

[1]The computations for the table assume that the distribution of Future Plans among all accessions are the same as the distribution for the 61,153 accessions (61%) for whom matching social security numbers between the high school test file and the accession file are available. The estimates in the table are approximations. Also the costs per lead would be 10-15% higher if all of the costs allocable to high school testing were considered.

Viewed as a program to generate contacts, prospects, and leads, the High School Test Program appears to provide relatively favorable results for the incremental costs incurred. The names of test takers are not all new leads because many students have contacted recruiters before they take the test; the recruiter may, in fact, have suggested that the student take

the test (in the sample survey discussed earlier 9 percent of the students learned about the test from a recruiter). For most recruiters, however, most of the names are new prospects and the information on their test scores and future plans is new information which materially assists the recruiter in deciding how to approach the prospects.

The costs per lead, as well as the conversion of leads into enlistment of the high school testing compare favorably to the costs of leads generated through media advertising. For example, a low cost per lead advertising campaign was the joint magazine advertising campaign conducted by the Services in January-March, 1977, in response to ASD(MRA&L) guidance. The average cost of a "multiple" lead, which was furnished two or more services, in this campaign was $10.20 and the cost of lead from a single respondent was $18.00. Single Service media advertising campaigns, in general, have a higher cost per lead than this joint campaign.[1] The High School Testing Program generates enough prospects and leads at a relatively low cost per lead to be a cost-effective lead producing program.

While names and addresses of high school students can be obtained at far less cost than the high school test lists such a list does not facilitate the efficient use of the recruiter's time; the high school lists do. It is not practical to "price" the value of the two lists in terms of efficient use of the recruiter's time. Before the end of the draft, the recruiters used names and addresses of men reporting for pre-induction physical examinations as their primary contact list. The usual practice was for the recruiter to contact all the names on the list. Because of draft motivated enlistments this list was a prime source of accessions. Even with this list available, the Services considered the benefits of high school testing sufficient to warrant their initiation of unilateral testing programs in the high schools. It is not likely that the names and addresses of high school students would substitute effectively for the high school test lists.

The cost-effectiveness of the program would diminish if the average size of a test session declined significantly or if the mix of seniors and

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[1] Advertising not only produces leads but also creates awareness of Service opportunities; hence, advertising campaigns, in some instances, stimulated the awareness which occassioned a student's decision to take the high school test.

juniors in the average session declined significantly. The costs of a test session are largely "fixed" costs; they do not vary significantly with the size of the session. The costs per session would be about the same for 40 as for 20 students and about the same for 80 as for 40 students. Assuming the typical distribution of test scores and of Future Plans among the test takers, an average session of 72 students consisting of about two-thirds seniors and juniors would usually contain some good leads. Because of the low unit costs of additional examinations, the costs of testing underclassmen are acceptable. Testing underclassmen enhances the marketing of the test but it is not cost-effective to test underclassmen unless seniors and juniors are also tested.

Summary

Several factors, most of them inherent in the concept of high school testing, help to explain the program's effectiveness:

1. The program "screens" a preferred segment of the military manpower pool -- high school students, particularly seniors.

2. The high school lists furnish information to the recruiting organization about the availability (Future Plans) as well as the eligibility (test scores) of students, thereby facilitating more efficient use of the recruiter's contact and interviewing time.

3. The tentative nature of the occupational choice among many high school students results in a significant number of enlistments from among students who do not plan to enter military service at the time they take the test; thus promotion of the test on the basis of its usefulness in civilian guidance yields a good return.

4. Wide coverage of the "productive" high schools of the country enhances the likelihood of there being some good prospects for enlistment among the test takers of an average test session.

As a result of these factors the incremental costs of the High School Testing Program, which are less than 1 percent of total costs of the accession system, is a relatively small incremental cost that has significant benefits in terms of providing information to recruiters on contacting prospects and leads.

CHAPTER 8
CONCLUSIONS AND RECOMMENDATIONS

The paramount issue of this study is whether the High School Testing Program is worth the costs. If not, extraordinary or radical changes would be necessary to make it worth the associated costs or the question of discontinuance of the program would arise. Since the study concludes that the program is cost-effective, this chapter primarily summarizes the basis for this conclusion and discusses improvements which may be made to enhance the program's effectiveness.

In assessing the cost effectiveness of the program, the benefit emphasized in this study is the benefit of the program in furnishing a list of pre-screened contacts, prospects and leads to the recruiting services. The measures considered are the costs per lead and the number of leads per enlistment. Among the other criteria which might also be considered are the following:

1. The effect of the program on the public image of the military services.
2. The number and quality of accessions which result from the program.
3. The extent to which the program contributes to career awareness of high school students and to career education and guidance.

All of the criteria have some relevance.

It is assumed that the major purpose of the program is its military purpose, not the civilian purpose of enhancing awareness and career education. A reasonable argument can be made that the program should be evaluated on the basis of the number and quality of accessions obtained through it but it would be too difficult to prove that the High School Testing Program is the cause of the accessions. Many of the accessions would have occurred without the program. The accession yield is taken into account in this study by considering the number of leads needed from the High School Testing Program to obtain an enlistment.

The preference for emphasis on the uses of the program in furnishing leads to recruiters is related to its place in the accession system. The accession system consists of several sub-systems which support recruiting operations. Recruiting operations involve such activities as:

- locating contacts and prospects;
- interviewing contacts and prospects;
- presenting information to prospects about the service so as to obtain a decision to enlist;
- making a preliminary selection decision on whether to refer an applicant for examination.

Among the sub-systems which assist recruiters in the performance of recruiting operations are:

- market analysis
- advertising
- examination

The High School Testing Program has some of the attributes of the market analysis, advertising, and examination sub-systems. From a marketing viewpoint, the program is designed to reach high school students, particularly seniors, through counselors and other school officials. The program has some of the attributes of advertising in that it creates awareness of the military services and helps locate contacts and prospects. As a part of the examining sub-system, the program also furnishes information on mental test scores at an earlier stage than the normal applicant stage; the program also furnishes entry test scores for a significant number of enlistees, although its purpose in this respect is modified considerably by retesting with a production version of ASVAB. Equally important the lists furnish information on the Future Plans of students; this information can facilitate efficient use of the recruiter's time.

While this brief explanation does not prove that the High School Testing Program should be regarded primarily as a list of contacts and prospects for recruiters, this may help explain the place of the program in the accession system.

As discussed in the chapter on Measuring the Costs and Benefits, the High School Testing Program generates at low cost, a list of contacts, prospects and leads which can be used in recruiting operations to facilitate efficient use of a recruiter's time. The unit cost per individual examined is $3.83. The chances of obtaining an enlistment from among the names of seniors and juniors who take the test are about 1 out of 7 names. (Only names of seniors and juniors are furnished to recruiters). Dividing the costs of the program by the number of seniors and juniors who take the test,

the cost per individual examined would be $5.81. This estimate may be used as the cost per contact, prospect, or lead.

A general explanation of the favorable results of the program is that the population of test takers has attributes which are more conducive to military enlistments than are found in the high school population as a whole: there is a significantly higher population of seniors among test takers; there is a slightly higher population of males; the population of test takers who plan to enter military service is significantly higher than the general high school population; the percentage of students who plan to enter college is significantly lower. The composition of the test takers pool is suitable, although not ideal, for screening for military service at an earlier stage than screening normally occurs in the application and enlistment process.

The ASVAB is marketed and promoted in the high schools as useful in civilian counseling as well as in military counseling. This usefulness can be inferred from the validity of the test in military selection. Most of the test takers do not have an immediate interest in military service. The pool of test takers, therefore, could not be expected to be an ideal one from the standpoint of military recruiting. The best prospects among the test takers are, of course, those who check Military Plans in response to the request for information about Future Plans.

Nearly a third of the seniors and juniors indicate that they are undecided on their Future Plans; a significant number of enlistments come from this group. In addition, many students who plan to continue their education in a four-year college, 2-year college, or a vocational technical school and many who plan to go to work are quite tentative in their choice; many of them subsequently change their minds and enlist in military service.

Because of these patterns of tentative choice and subsequent changes in choice, it is desirable from a military recruiting point of view to market the test as useful in civilian counseling, as well as military counseling. The list of contacts, prospects and leads furnished to recruiters will be larger if the test is perceived by the educational community as useful in civilian counseling then if it is viewed primarily as a military test.

There is a tendency for counselors and other school officials in large urban schools and in large, affluent suburban schools to perceive

the test as useful primarily to students interested in military service and to additional students who the counselors think may benefit from considering military service. There is more of a tendency on the part of counselors and officials in average size or smaller rural schools to perceive the test as useful in civilian counseling for all students. These varying perceptions to a large degree help to explain wide differences in performance by individual AFEES-IRC in the percentage of students tested in the high schools in their areas. There is latitude for "tailoring" the marketing of the test to such variations in perceptions in individual AFEES-IRC areas. Such perceptions change slowly in the enducational community so that large-scale incremental increases in the percentages of available students tested are likely to take several years of concerted effort.

Because the test is marketed as useful in civilian counseling, it is necessary for the Department of Defense to make a reasonable effort to support this claim through studies of the relation of test scores to civilian jobs and to provide assistance to counselors in understanding the test (including its limitations), and in interpreting test scores, particularly in relation to civilian occupational choices.

A need frequently expressed by counselors is for simple, non technical material on using ASVAB scores in civilian counseling. The Education Specialists and Coordinators represent an important resource in meeting such a need. The existing resources would be further enhanced by MEPCOM marketing. It is preferable to maintain a professional approach so as to avoid "overselling" the test. A small minority of counselors allege that some recruiters sell the test by overstating what the test can accomplish for civilian counseling.

The OSD needs to be a source of stability and support for the program. There is little doubt that the frequent changes in the program impacted adversely on the test cycle for School Year 1976-77 and on subsequent test cycles, thereby contributing to the significant decline in the number of schools and the number of students tested. The program is too important to recruiting to become a football which is kicked around by test and measurement experts and others both within and outside the Department of Defense.

The major purposes and functions of the program should be reclarified in the DoD Directive along the following lines:

- state that the major purpose of the program is to assist recruiting operations by furnishing a list of contacts, prospects and leads; a secondary purpose is to provide a test which is useful in civilian counseling as well as military counseling, inasmuch as marketing the test for civilian use results in a large pool of pre-screened prospects.
- state that the preference is for testing seniors and juniors but that the policy is also to test underclassmen, if requested by a high school which tests seniors, in order to make information on underclassmen available for civilian counseling.
- state that the policy is to offer the test free of charge on a voluntary basis; however, school officials may decide the basis for student participation in their school, including mandatory participation.

MEPCOM has taken an important initiative in the establishment of goals for individual AFEES-IRC performance. It would be desirable to refine the procedures so that the effectiveness of the program in producing names of contacts, prospects, and leads is emphasized. Modifications would include:

- stating objectives and measuring performance in terms of the percentage of seniors and juniors tested; a goal of testing at least 50 percent seniors should be established.
- "tracking" the characteristics of test takers at the end of each test cycle so that the information can be considered in planning future test cycles.
- establish goals so that as a general rule all AFEES-IRC would make about the same relative improvement instead of stating objectives so that the poorest performers are expected to make the largest relative improvement.

Additional constructive actions which can be accomplished within the existing organization structure and levels of support are:

- Recruiting Commanders assure themselves that recruiters are making such full use of the high school lists as in the judgment of the Commanders is warranted.

- Recruiting Commanders assure themselves that the volume of re-testing is warranted from the standpoint of existing re-test policies and operational considerations.
- Amend the Joint Regulations to assure year-to-year continuity in support of the Interservice Recruitment Committees by tasking AFEES to furnish continuing administrative support.

MEPCOM marketing in the five test AFEES-IRC appears to have promise in both adding schools to be tested and in increasing the number of students to be tested. The full costs of extending MEPCOM marketing nationally, estimated to be $4 million would nearly double the directly identifiable costs of the program; however, MEPCOM marketing could be extended to 10 additional AFEES-IRC at an annual cost on the order of $500,000. An initial 10 percent increment in the number of students tested would be a reasonable expectation, although the unit costs per examination would probably increase correspondingly. After an additional test cycle of MEPCOM marketing at about 10 AFEES-IRC a decision on the further extension of MEPCOM marketing could be made.

Although the estimates are necessarily conjectural, it is likely that a three year program of concerted effort based on the recommended actions, could accomplish an increase in the number of test takers to 1,200,000 - 1,250,000 annually.

APPENDIX

Table 1
Location of AFEES Stations

Eastern Sector

Portland, Maine
Manchester, New Hampshire
Boston, Mass.
Springfield, Mass.
New Haven, Conn.
Albany, New York
Ft. Hamilton, New York
Newark, New Jersey
Philadelphia, Pa.
Syracuse, New York
Buffalo, New York
Wilkes Barre, Pa.
Harrisburg, Pa.
Pittsburgh, Pa.
Baltimore, Md.
Richmond, Va.
Beckley, West Virginia
Atlanta, Georgia
Ft. Jackson, South Carolina
Jacksonville, Florida
Miami, Florida
Charlotte, North Carolina
Raleigh, North Carolina
San Juan, Puerto Rico

Central Sector

Knoxville, Tenn.
Louisville, Tenn.
Cincinnati, Ohio
Columbus, Ohio
Cleveland, Ohio
Detroit, Michigan
Milwaukee, Wisconsin
Chicago, Illinois
Indianapolis, Indiana
St. Louis, Missouri
Memphis, Tenn.
Jackson, Miss.
New Orleans, La.
Montgomery, Alabama
Shreveport, La.
Little Rock, Arkansas
Kansas City, Missouri
Des Moines, Iowa
Minneapolis, Minn.
Fargo, North Dakota
Sioux Falls, South Dakota
Omaha, Nebraska
Denver, Colorado

Western Sector

Houston, Texas
San Antonio, Texas
Oklahoma City, Okla.
Amarillo, Texas
Albuquerque, New Mexico
El Paso, Texas
Phoenix, Arizona
Salt Lake City, Utah
Butte, Montana
Spokane, Washington
Boise, Idaho
Seattle, Washington
Portland, Oregon
Oakland, Calif.
Fresno, Calif.
Los Angeles, Calif.
Honolulu, Hawaii

Table 2

AFEES-IRC Listed in Rank Order
Percentage of Available Students and Number of Students Tested
(1977-78 School Year)

AFEES-IRC	% of Available Students Tested	AFEES-IRC	Number of Students Tested
Jackson	24	Jacksonville	44,317
Amarillo	23	Los Angeles	40,966
Atlanta	21	Atlanta	35,121
Jacksonville	21	St. Louis	34,489
Beckley	20	Montgomery	34,299
Knoxville	19	Dallas	32,655
Montgomery	19	Chicago	31,654
Dallas	18	Detroit	25,795
Nashville	18	Houston	25,763
Shreveport	18	Oakland	25,561
Honolulu	18	Ft. Jackson	24,739
San Antonio	17	San Antonio	24,232
New Orleans	17	Pittsburgh	23,417
Memphis	17	Boston	23,253
Little Rock	17	New Orleans	22,251
Sioux Falls	17	Kansas City	21,903
Oklahoma City	16	Louisville	21,420
Albuquerque	16	Oklahoma City	20,667
Raleigh	15	Memphis	19,114
Houston	15	Raleigh	18,961
Butte	15	Baltimore	18,878
Fort Jackson	14	Indianapolis	18,868
Louisville	14	Richmond	18,679
St. Louis	14	Fort Hamilton	18,307
Boise	14	Knoxville	17,760
Fresno	14	Jackson	17,737
Spokane	14	Charlotte	17,555
El Paso	13	Nashville	17,541
Charlotte	12	Phoenix	16,851
Richmond	12	Milwaukee	16,361
Omaha	12	Denver	15,308
Phoenix	12	Newark	14,905
Salt Lake City	12	Minneapolis	14,428
Manchester	11	Beckley	14,379
Portland	11	Little Rock	13,482
San Juan	11	Shreveport	13,244
Fargo	11	Seattle	12,547
Indianapolis	11	Philadelphia	12,367
Kansas City	10	Omaha	12,229
Denver	10	Syracuse	12,202
Albany	9	Fresno	11,914
Harrisburg	9	Buffalo	11,769
New Haven	9	San Juan	11,157
Pittsburgh	9	Columbus	11,091
Syracuse	9	Harrisburg	11,081

Table 2 (Continued)

AFEES-IRC	% of Available Students Tested	AFEES-IRC	Number of Students Tested
Wilkes Barre	9	Salt Lake City	11,000
Seattle	8	Miami	10,824
Oakland	8	Cleveland	11,093
Boston	8	New Haven	9,899
Buffalo	7	Amarillo	9,795
Springfield	7	Honolulu	9,490
Columbus	7	Sioux Falls	9,380
Milwaukee	7	Albany	9,250
Portland	7	Wilkes Barre	9,149
Baltimore	7	Albuquerque	7,854
Miami	7	Portland, Oregon	7,576
Chicago	6	Portland, Maine	7,571
Des Moines	6	Spokane	7,501
Detroit	6	Cincinnati	7,358
Los Angeles	6	Des Moines	7,147
Minneapolis	6	Fargo	6,990
Newark	5	Springfield	6,512
Cincinnati	5	El Paso	6,494
Cleveland	4	Manchester	6,260
Fort Hamilton	4	Butte	5,956
Philadelphia	4		

Table 3

AFEES-IRC Percentage of IRC Goal Accomplished
(School Year 1977-78)

Dallas	111.1	Sioux Falls	83.4
Houston	106.7	Kansas City	83.3
Nashville	106.4	Charlotte	82.8
Jackson	105.9	Pittsburgh	82.7
El Paso	105.0	Raleigh	82.5
Fresno	104.2	Butte	82.4
Atlanta	99.9	St. Louis	80.6
San Juan	99.6	Omaha	80.3
New Orleans	99.4	New Haven	80.2
Louisville	99.4	Cincinnati	79.0
Phoenix	97.9	Baltimore	78.0
Beckley	96.0	Albany	78.0
Little Rock	95.3	Oakland	78.0
Honolulu	95.1	Manchester	77.0
Knoxville	94.7	Spokane	76.5
Salt Lake City	94.1	Columbus	75.9
Ft. Jackson	93.9	Newark	75.4
Boston	92.7	Los Angeles	74.9
Montgomery	90.8	Fargo	73.3
Oklahoma City	90.3	Portland, Oregon	73.1
Shreveport	89.5	Indianapolis	72.5
Richmond	89.4	Wilkes Barre	72.5
Boise	89.2	Detroit	72.3
Portland, Maine	88.8	Ft. Hamilton	71.5
Jacksonville	88.3	Harrisburg	71.5
Memphis	88.3	Minneapolis	68.8
San Antonio	86.9	Milwaukee	66.8
Buffalo	86.9	Des Moines	66.2
Amarillo	86.3	Miami	61.7
Denver	86.0	Chicago	60.8
Albuquerque	84.4	Philadelphia	59.4
Syracuse	84.1	Cleveland	58.3
Seattle	83.6	Springfield	57.5

Table 4

Students Tested in SY 1977-78 as a Percentage of SY 1976-77
by AFEES-IRC

AFEES-IRC	SY 1977-78 as % of 1976-77	AFEES-IRC	SY 1977-78 as % of 1977-77
San Juan	195.4	Newark	99.8
Baltimore	136.4	Memphis	97.8
Salt Lake City	123.6	Boise	97.8
Syracuse	122.5	Jacksonville	97.7
Phoenix	121.7	Oklahoma City	96.4
Denver	121.5	Charlotte	96.4
Houston	121.2	Raleigh	95.3
Boston	118.9	Shreveport	94.8
Honolulu	117.9	Columbus	94.1
Shreveport	117.8	San Antonio	93.9
Nashville	117.8	Albuquerque	93.8
Dallas	115.6	Harrisburg	92.2
Jackson	113.9	Ft. Hamilton	92.2
Amarillo	113.3	St. Louis	91.4
Louisville	112.9	Detroit	91.2
El Paso	112.9	Portland, Oregon	90.9
Portland, Maine	111.9	Sioux Falls	89.9
Ft. Jackson	111.4	Omaha	89.9
Buffalo	111.0	Minneapolis	89.9
Atlanta	109.9	Butte	89.3
Beckley	109.5	Manchester	86.9
Pittsburgh	106.1	Seattle	85.5
Syracuse	106.1	Wilkes Barre	84.9
Oakland	105.9	Des Moines	84.6
Montgomery	105.5	Philadelphia	82.5
Los Angeles	105.1	Spokane	82.2
Kansas City	105.0	Fargo	82.1
New Haven	104.7	Miami	80.9
Little Rock	104.2	Indianapolis	80.5
Knoxville	103.6	Chicago	80.4
Richmond	102.4	Milwaukee	80.1
Albany	100.6	Cleveland	76.0
Cincinnati	99.8	Springfield	72.3

Table 5

AFEES-IRC Percentage of Productive High Schools Tested
(School Year 1977-78)

San Juan	114%	Beckley	75%
Baltimore	100	Syracuse	75
Phoenix	96	Dallas	75
Nashville	95	Houston	75
Oakland	95	Portland, Oregon	75
Albany	92	Milwaukee	74
Montgomery	92	Miami	74
Boise	91	Minneapolis	72
Butte	91	Fresno	72
Atlanta	91	Richmond	71
Ft. Jackson	91	Louisville	70
Jacksonville	88	Ft. Jackson	69
Jackson	85	Los Angeles	69
New Orleans	85	Detroit	69
Albuquerque	85	Buffalo	69
Raleigh	83	Manchester	69
Spokane	85	Portland, Maine	68
Seattle	84	Fargo	68
Knoxville	84	Pittsburgh	68
Salt Lake City	83	Harrisburg	67
Shreveport	83	Knasas City	66
San Antonio	83	Chicago	66
Amarillo	82	Wilkes Barre	66
Springfield	80	Philadelphia	66
Little Rock	80	Boston	64
Sioux Falls	80	Des Moines	62
Oklahoma City	80	Indianapolis	58
Charlotte	79	Cleveland	57
Denver	78	Honolulu	55
Memphis	78	Newark	55
Omaha	77	Ft. Hamilton	54
New Haven	77	Cincinnati	46
St. Louis	76	Columbus	42

Table 6

Percent Rural and Urban Schools in Relation to Percentage of Available Students Tested[1]

States With Highest Percent of Rural Schools		AFEES-IRC Percent of Students Tested	
State	% Rural Schools	AFEES-IRC	% Students Tested
Wyoming	100.0%	Butte	15%
Vermont	100.0	Manchester	11
New Mexico	98.8	Albuquerque	16
South Dakota	96.9	Sioux Falls	17
Nebraska	96.6	Omaha	12
Maine	96.4	Portland	11
North Dakota	95.6	Fargo	11
New Hampshire	95.2	Manchester	11
Mississippi	93.5	Jackson	24
Georgia	90.4	Atlanta	21
Arkansas	89.4	Little Rock	17
Tennessee	88.3	Nashville, 18; Knoxville,	17
West Virginia	87.3	Beckley	20
Kentucky	86.2	Louisville	14
South Carolina	85.3	Ft. Jackson	14

States With Highest Percent of Urban Schools		AFEES-IRC Percent of Students Tested	
State	% Urban Schools	AFEES-IRC	% Students Tested
Hawaii	100.0%	Honolulu	18%
New Jersey	62.3	Newark	5
California	57.2	Los Angeles, 8; Oakland, 8; Fresno, 14	
Pennsylvania	56.0	Philadelphia, 4; Harrisburg, 9; Wilkes Barre, 9	
New York	53.2	Ft. Hamilton, 4; Syracuse, 9; Albany, 9	
Ohio	50.0	Columbus, 7; Cleveland, 4; Cincinnati, 5	
Rhode Island	48.7	Springfield	7
Illinois	44.5	Chicago	6
Connecticut	43.6	New Haven	9
Michigan	37.4	Detroit	6
Massachusetts	36.3	Springfield, 7; Boston,	8
Indiana	33.4	Indianapolis	5
Maryland	35.3	Baltimore	7
Oregon	32.5	Portland	7
Arizona	29.9	Phoenix	12

[1]Source of school percentages - 1973-74, ELSEGIS II Survey, National Center for Educational Statistics, Washington, D.C.