

REPORT ON C.A.A.-NATIONAL TESTING SERVICE
(First Phase: June 20, 1942 - August 2, 1942)

Prepared

by

National Research Council
Committee on Selection and
Training of Aircraft Pilots

January 1943

CIVIL AERONAUTICS ADMINISTRATION

Division of Research

Report No. 9

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LETTER OF TRANSMITTAL

NATIONAL RESEARCH COUNCIL

2101 Constitution Avenue, Washington, D. C.
Division of Anthropology and Psychology

Committee on Selection and Training of Aircraft Pilots

January 25, 1943

Dr. Dean R. Brimhall
Director of Research
Civil Aeronautics Administration
Washington, D. C.

Dear Dr. Brimhall:

Attached is a report on the activities of the C.A.A.-National Testing Service in screening candidates for Civilian Pilot Training during the period June 20 to August 2, 1942, inclusive.

The report is a non-technical summary of the screening test program. This will be supplemented by an analysis of the results obtained during all phases of the testing program. It is the recommendation of the Committee on Selection and Training of Aircraft Pilots that the attached be published in the Civil Aeronautics Administration Division of Research series as an ad interim report.

Very truly yours,



Morris S. Viteles, Chairman
Committee on Selection and
Training of Aircraft Pilots
National Research Council

MSV:rm

FOREWORD

The report which follows represents a description and final summary of the examinations conducted by the National Research Council Committee on Selection and Training of Aircraft Pilots for Civilian Pilot Training, Civil Aeronautics Administration, under Contract No. Cca 18082, between the National Research Council and the Civil Aeronautics Administration.

The details of the program were planned in cooperation with Dr. Dean R. Brimhall, Director of Research, Civil Aeronautics Administration. The program was administered by Dr. Jack W. Dunlap as Director of Research for the Committee on Selection and Training of Aircraft Pilots with the Assistance of Morey J. Wantman, now acting as Director of Testing for the Committee, through the office of the C.A.A.-National Testing Service, located at the University of Rochester. Members of the staff who contributed to the success of the program as well as to the preparation of this report included: Robert C. Rogers, David V. Tiedeman, Leonard S. Kogan, and Glenn E. Taylor, Jr.

Morey J. Wantman, Director of Testing, and Dr. Henry S. Odbert, Editorial Assistant, National Research Council Committee on Selection and Training of Aircraft Pilots, were largely responsible for the preparation of this report.

Morris S. Viteles, Chairman
Committee on Selection and
Training of Aircraft Pilots
National Research Council
Washington, D. C.

PROGRAM AND ADMINISTRATION OF THE
C.A.A.-NATIONAL TESTING SERVICE (FIRST PHASE)

1. In June 1942, the Committee on Selection and Training of Aircraft Pilots was asked by the Civil Aeronautics Administration to recommend and administer a testing program for screening candidates for training in the Army phase of the Civilian Pilot Training Program.

2. On the basis of its findings during three years of research conducted by the Committee, with funds provided through the Division of Research of the Civil Aeronautics Administration, the Committee recommended that three tests be used as basic material in screening candidates for training at all levels of flight instruction:-

- (1) Inventory of Personal Data for Prospective Pilots (Biographical Inventory).
- (2) Mental Alertness Test.
- (3) Mechanical Comprehension Test.

3. In addition to these three basic tests the Committee on Selection and Training of Aircraft Pilots recommended the use of the Test of Aviation Information (Form P) as an additional aid in screening candidates for secondary training.

4. (a) The passing score on each of the three basic tests was selected on the basis of an analysis of results obtained by the Committee on Selection and Training of Aircraft Pilots in earlier research and on the basis of data furnished by the Bureau of Aeronautics of the United States Navy.

(b) It was agreed that a candidate who failed to obtain a passing score on any one of these three tests would not be accepted by Civilian Pilot Training for flight instruction at any level, with the exception that applicants for Civilian Pilot Training secondary training with considerable hours of flight instruction could be accepted by a local coordinator if the latter felt that the candidate represented promising material for advanced flight instruction.

(c) Applicants for Civilian Pilot Training secondary training were required to obtain a passing score on the Test of Aviation Information as well as to meet the standards on the three basic tests applying to all candidates for flight instruction.

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5. (a) The program described above was initiated by the Committee on Selection and Training of Aircraft Pilots on June 20, 1942, under a contract (No. Cca-18082) with the Civil Aeronautics Administration.

(b) Under the contract the Committee on Selection and Training of Aircraft Pilots was to be reimbursed for expenses incurred in the administration of this program, plus the cost of materials. Examiners' fees were to be paid by the coordinators operating under the Civilian Pilot Training program.

6. For the administration of the program there was established a C.A.A.-National Testing Service, centered at the University of Rochester, and operated under the direction of the Committee on Selection and Training of Aircraft Pilots of the National Research Council. The responsibility for the direct supervision of this Service was assigned to Dr. Jack W. Dunlap, Director of Research, who administered this program with the aid of Morey J. Fantman, now functioning as Director of Testing for the Committee on Selection and Training of Aircraft Pilots.

7. The screening program was designed to provide uniform administration and scoring of the tests on a nation-wide basis without the sacrifice of speed in making results known to coordinators. All test materials were shipped by the C.A.A.-National Testing Service to various test centers where the screening tests were administered by competent psychologists designated by the C.A.A.-National Testing Service. Answer sheets were returned to the C.A.A.-National Testing Service at the University of Rochester for machine scoring. Results were generally reported within 24 hours to the coordinators in the form of telegrams giving the names of candidates who had failed on the screening tests. Typed lists giving results for all candidates were forwarded by air-mail.

SCOPE OF
THE
C.A.A.-NATIONAL TESTING SERVICE
(FIRST PHASE)

Between June 20 and August 2, 1942, screening tests were given by the C.A.A.-National Testing Service to 16,379 candidates for flight instruction. Of these, 73 per cent passed the screening tests and 27 per cent failed. Details on the distribution of passers and failers in relation to education, geographical location, previous flight training, etc., are presented on the pages which follow.*

*Records which were incomplete because of the failure of candidates to supply adequate information have been discarded in this statistical analysis so that the total number of cases treated in the tables and figures which follow will fall somewhat below the total of 16,379 candidates.

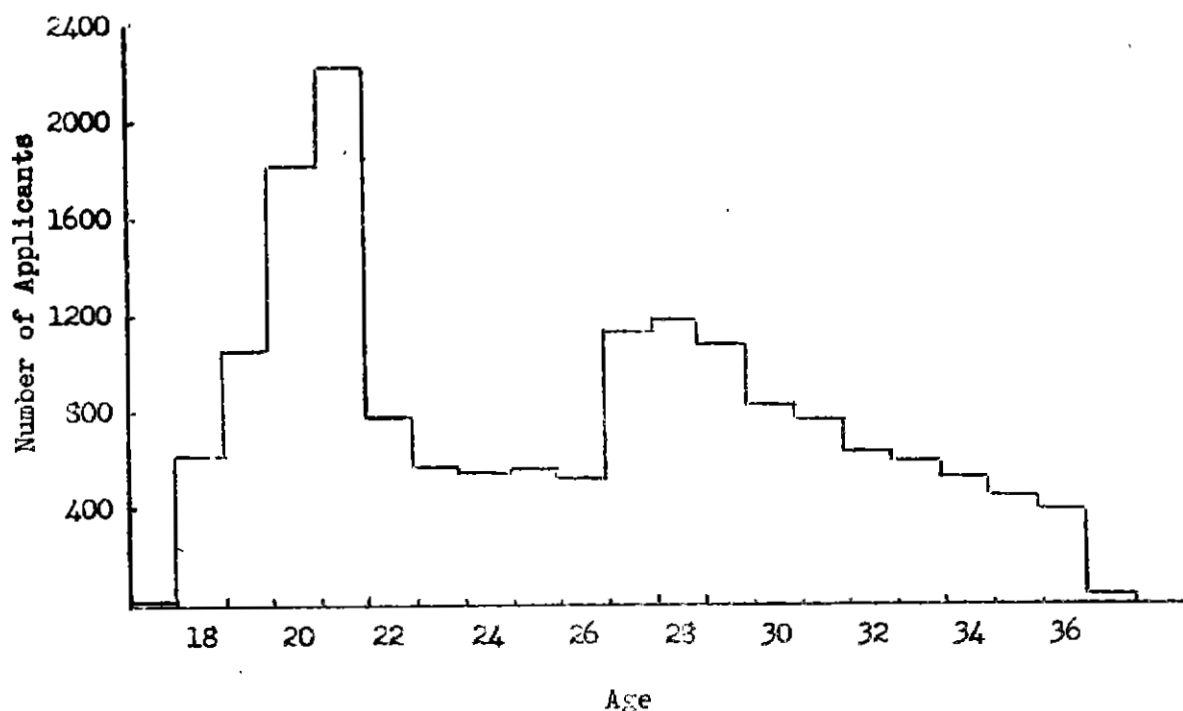


FIGURE I

Distribution of applicants according to age.

Candidates tested in Program I ranged in age from 17 to 37, the median age being 25. The bulk of the candidates was between ages 18-22 and 27-36, respectively, approximately 40 per cent being between the ages of 18 and 22, and 46 per cent between the ages of 27 and 36.

TABLE I

MEN PASSING AND FAILING THE SCREENING

TESTS AT EACH AGE

<u>Age</u>	<u>Pass</u>	<u>Fail</u>	<u>Total</u>	<u>Percent Passing</u>
17	6	6	12	(50)*
18	458	150	608	75
19	809	240	1049	77
20	1395	416	1811	77
21	1695	534	2229	76
22	600	179	779	77
23	458	121	579	79
24	430	127	557	77
25	417	143	560	74
26	364	153	537	72
27	829	292	1121	74
28	874	310	1184	74
29	762	319	1081	70
30	595	238	833	71
31	533	246	779	68
32	438	198	636	69
33	393	196	589	67
34	336	186	522	64
35	292	153	445	66
36	243	153	396	61
37	23	12	35	(66)

Table I shows the actual number of candidates tested at each age level, and the percentage of each age group passing the screening tests. It is to be noted in general that there is a larger percentage of failures among the older than among the younger candidates for flight training.

*Percentages enclosed in parentheses are based upon less than 100 cases.

TABLE II

MEN PASSING AND FAILING THE SCREENING TESTS
ACCORDING TO THE LAST SCHOOL YEAR THEY HAD COMPLETED

COLLEGE

<u>LAST SCHOOL YEAR COMPLETED</u>	<u>PASS</u>	<u>FAIL</u>	<u>TOTAL</u>	<u>PERCENT PASSING</u>
8	6	1	7	(86%)*
7	31	8	39	(79)
6	163	45	208	78
5	229	54	283	81
4	913	246	1159	79
3	641	169	810	79
2	1754	437	2191	80
1	1741	527	2268	77
Other	1	-	1	
Total	5419	1487	6966	79

HIGH SCHOOL

	<u>PASS</u>	<u>FAIL</u>	<u>TOTAL</u>	<u>PERCENT PASSING</u>
5	4	2	6	
4	5066	1595	6661	76%
3	639	372	1011	63
2	391	350	741	53
1	176	184	360	49
Other	2	-	2	
Total	6278	2503	8781	71

GRADE SCHOOL

	<u>PASS</u>	<u>FAIL</u>	<u>TOTAL</u>	<u>PERCENT PASSING</u>
1	157	304	461	34%
2	3	67	75	(11)
3	-	2	2	
4	-	1	1	
5	-	-	1	
Other	-	1	1	
Total	160	375	541	31

*Percentages enclosed in parentheses are based upon less than 100 cases.

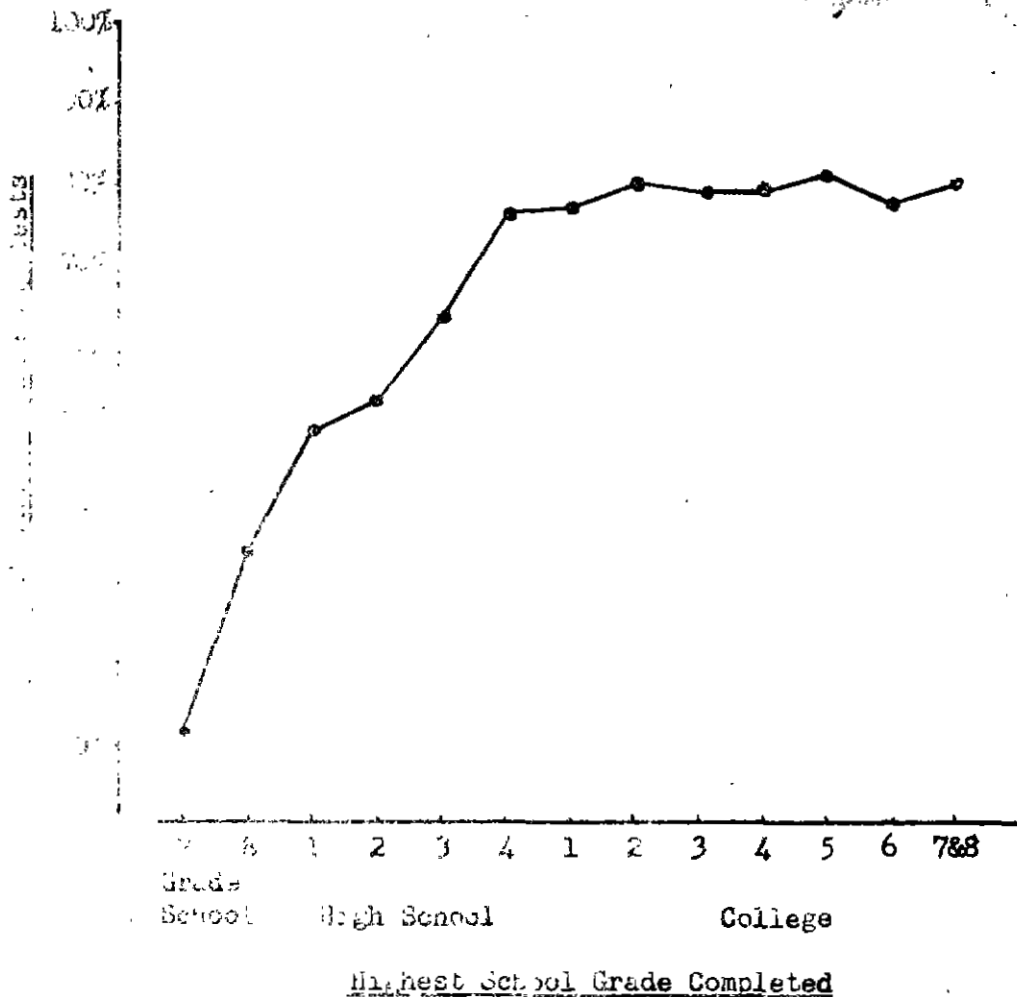


FIGURE 2

Relationship between amount of education and
success in the tests.

On the cards which the applicants filled out before taking the tests, they indicated the last school year they had completed. Table II and Figure 2 show the relationship between the amount of education and success in the tests. Both Table II and Figure 2 show clearly a higher failure rate among men with less than a high-school education. This does not mean that the screening tests place a premium on education. Failures in the case of men with little education occurred largely because of low scores on the Mental Alertness Test. This test was actually intended to screen out men who would have difficulty in meeting the requirements of the ground-school course for the same reason which created difficulty in continuing formal education.

The United States is divided into seven C.A.A. regions, as indicated in Figure 3 and Table III. (In a few cases the regions do not conform exactly to the state boundaries as here shown.)

1	2	3
Delaware	Alabama	Illinois
Washington, D. C.	Florida	Minnesota
Maine	Georgia	Michigan
Maryland	Mississippi	Kentucky
Massachusetts	North Carolina	Indiana
New Hampshire	South Carolina	North Dakota
New Jersey	Tennessee	Ohio
New York		Wisconsin
Pennsylvania		
Rhode Island		
Vermont		
Virginia		
West Virginia		
Connecticut		
4	5	6
Montana	Colorado	Arizona
Idaho	Iowa	California
Wyoming	Kansas	Nevada
	Missouri	Utah
	Nebraska	
	South Dakota	
	Wyoming	
7		
Hawaii		
Montana		
Oregon		
Washington		

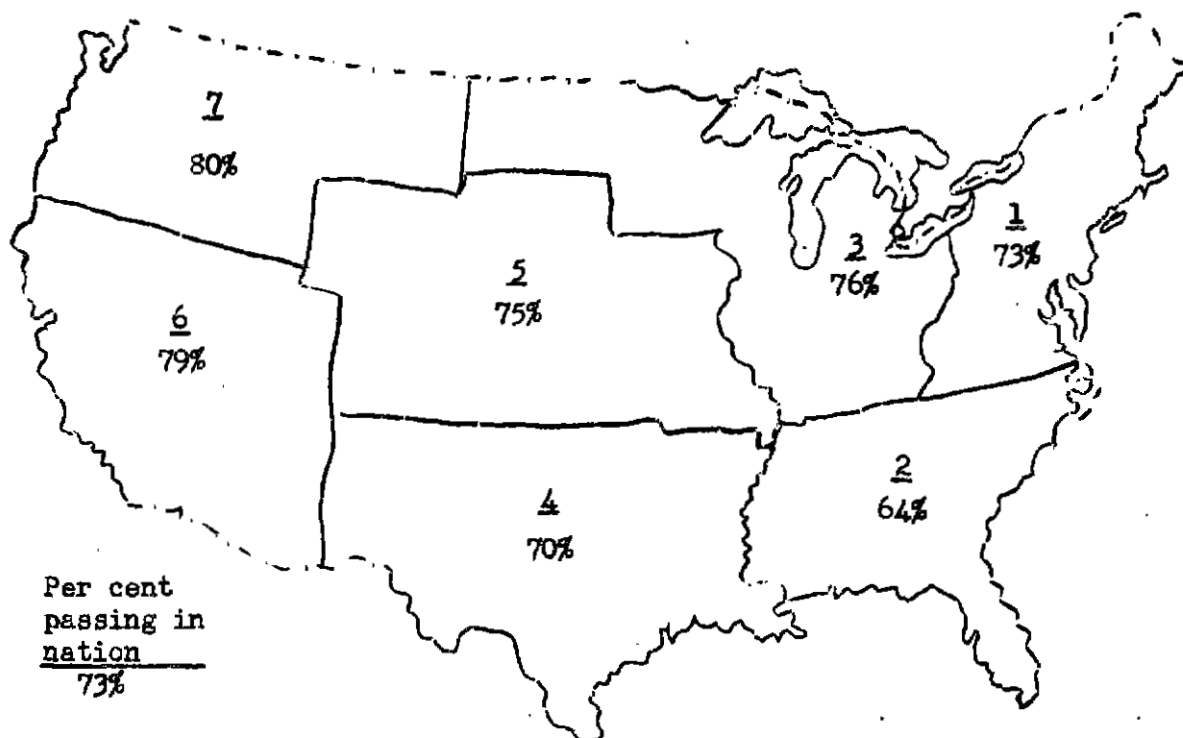


FIGURE 3

Percentage of men passing the screening tests in each C.A.A. region.

Figure 3 shows differences among geographical regions with respect to the percentage of candidates passing the screening tests. The highest percentage of passers is found in the Northwestern area and the lowest in the Southeastern area of the United States. In general, the figure indicates a tendency for the percentage to decrease as a line is drawn from the Northwestern portion to the Southwestern portion of the United States.

TABLE III

APPLICANTS PASSING AND FAILING THE SCREENING TESTS, BY C.A.A. REGIONS
AND AMOUNT OF EDUCATION*

<u>COLLEGE GROUP</u>				<u>PERCENT PASSING</u>
<u>C.A.A. REGION</u>	<u>PASS</u>	<u>FAIL</u>	<u>TOTAL</u>	
1	956	276	1232	78%
2	616	241	857	72
3	897	213	1110	81
4	1075	344	1419	76
5	991	240	1231	81
6	515	103	618	83
7	429	70	499	86
Total	5479	1487	6966	79
<u>HIGH SCHOOL GROUP</u>				
1	1530	563	2093	73%
2	674	438	1112	61
3	1135	375	1510	75
4	893	463	1356	66
5	1074	378	1452	74
6	536	174	730	76
7	416	112	528	79
Total	6278	2503	8781	72
<u>GRADE SCHOOL GROUP</u>				
1	50	95	145	34%
2	10	48	58	(17)**
3	40	69	109	37
4	30	58	88	(34)
5	44	83	127	35
6	18	18	36	(50)
7	30	39	69	(43)
Total	222	410	632	35
<u>TOTAL GROUP</u>				
1	2536	934	3470	73%
2	1300	727	2027	64
3	2072	657	2729	76
4	1998	865	2863	70
5	2109	701	2810	75
6	1089	295	1384	79
7	875	221	1096	80
Total	11979	4400	16379	73

*COLLEGE = At least one year of college. HIGH SCHOOL = At least one year of high school (and no college). GRADE SCHOOL = No education beyond grade school.

**Percentages enclosed in parentheses are based upon less than 100 cases.

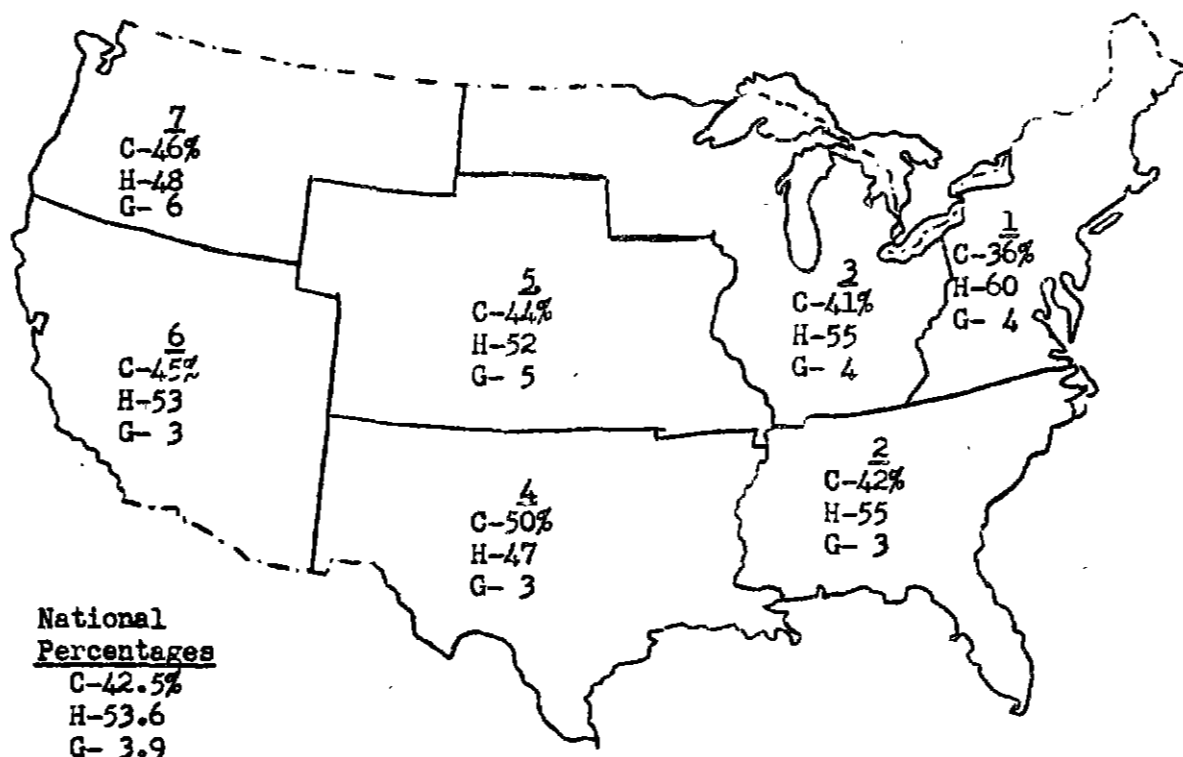


FIGURE 4

The C.A.A. regions of the United States, showing the percentage of applicants who have had at least one year of college, those who have had at least one year of high school (but no college) and those who have had no formal education beyond grade school.

Figure 4 shows a fair degree of uniformity among the geographical regions with respect to percentage of candidates with college, high-school, and grade-school education, respectively.* Table III and Figure 4 demonstrate that the regional differences in percentage of passers persist even when the educational backgrounds of the candidates are considered. The percentage of men passing the screening tests is consistently lowest in the Southeastern area of the United States for men with college education, high-school education, and grade-school education, respectively.

*With the exception of Region 1 in which the proportion of candidates with college education is particularly low.

A candidate who failed to meet the passing score on any one of three tests, namely, Biographical Inventory, Mental Alertness, and Mechanical Comprehension, was rejected for flight training. The percentage of candidates who failed to meet the passing score on each of the tests is as follows:-

Biographical Inventory	11%
Mental Alertness	22%
Mechanical Comprehension	8%

Total percentage of failers 26.79%*

Figure V shows the percentage of candidates in each educational group who passed and failed on each of the three basic tests used in screening candidates for training at all levels of flight instruction.

*A certain proportion of candidates, of course, failed on more than one test. An effort was made to use clinical judgment in passing a few candidates who scored well on two of the tests and fell only slightly below the passing score on the third. However, this treatment was discarded, partly because it could not be standardized, and partly because of the large number of candidates involved.

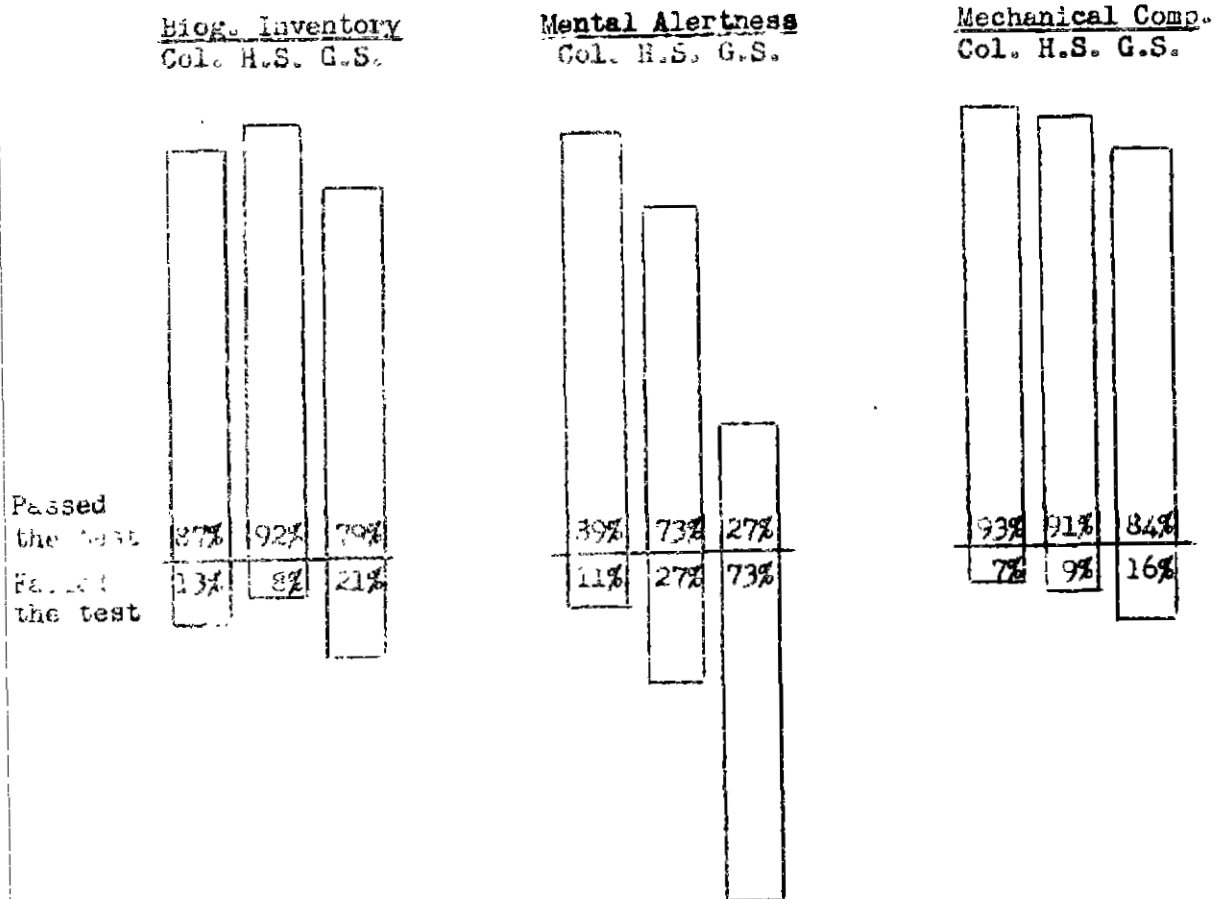


FIGURE 5

The percentage of applicants in each educational group who passed and failed each of the tests named.

TABLE IV
NATIONAL DISTRIBUTION OF HOURS OF FLIGHT TRAINING

<u>HOURS OF FLIGHT TRAINING</u>	<u>PASSED THE TESTS</u>	<u>FAILED THE TESTS</u>	<u>TOTAL NUMBER</u>
95-99	725	190	915
90-94	44	9	53
85-89	51	10	61
80-84	77	15	92
75-79	74	16	90
70-74	67	14	81
65-69	71	20	91
60-64	116	26	142
55-59	88	15	103
50-54	194	60	254
45-49	192	38	230
40-44	385	64	449
35-39	544	96	640
30-34	136	29	165
25-29	155	36	191
20-24	228	59	287
15-19	241	52	293
10-14	350	112	462
5-9	492	171	663
0-4	<u>7685</u>	<u>3329</u>	<u>11014</u>
<u>TOTAL</u>	11915	4361	16276
MEAN	16.27	10.49	14.72

Tables IV and V show the hours of previous flight training reported by candidates for primary and secondary training. In Table V these have been separated with respect to the educational background of the applicant. (Applicants showing 35 or more hours of flight training were for purposes of subsequent analysis classified as candidates for secondary flight training)

TABLE 7

DISTRIBUTION OF FLIGHT HOURS

HOURS OF FLIGHT TRAINING	COLLEGE			HIGH SCHOOL			GRADE SCHOOL		
	N _p *	N _f *	Total	N _p	N _f	Total	N _p	N _f	Total
95-Over	234	36	270	415	130	545	16	24	40
90-94	19	1	20	25	7	32	-	1	1
85-89	29	1	30	21	5	26	1	1	2
80-84	42	2	44	34	6	40	1	3	4
75-79	34	1	35	40	10	50	-	-	-
70-74	33	1	34	34	13	47	-	1	1
65-69	41	1	42	33	5	38	-	3	3
60-64	60	1	61	37	17	54	1	6	7
55-59	47	1	48	30	9	39	1	3	4
50-54	113	15	128	78	32	110	3	11	14
45-49	116	11	127	72	21	93	2	3	5
40-44	280	37	317	102	24	126	3	3	6
35-39	373	62	435	166	33	199	5	3	8
30-34	49	9	58	33	17	50	4	3	7
25-29	63	9	72	39	19	58	3	8	11
20-24	91	9	100	132	39	171	5	11	16
15-19	95	12	107	142	35	177	4	7	11
10-14	140	20	160	201	73	274	9	19	28
5-9	192	44	236	237	105	342	14	22	36
0-4	3365	1180	4545	4226	1907	6133	94	242	336
TOTAL	5477	1485	6962	6272	2901	9173	166	374	540
MEANS	17.73	8.70	13.21	23.10	10.81	13.75	15.40	15.01	16.05
σ	26.40	22.32	24.29	27.64	25.35	27.56	31.23	28.36	29.31

All applicants who had completed 99 flying hours or more were coded as 99's for this distribution.

COLLEGE = At least one year of college.

HIGH SCHOOL = At least one year of high school (and no college).

GRADE SCHOOL = No education beyond grade school.

*p and f refer to men passing and failing the screening tests.

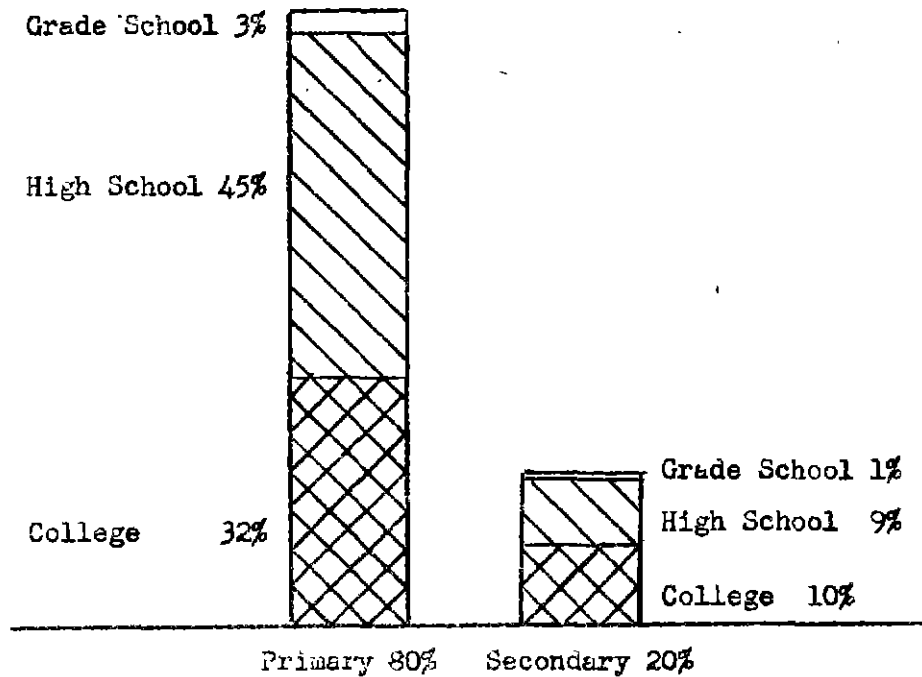


FIGURE VI

Approximately 30 per cent of candidates tested in the first phase of the C.A.A.-National Testing Service applied for primary training, and approximately 20 per cent applied for secondary training.

Figure 6 shows the percentage of men applying for primary and secondary training who had college, high school and grade school education, respectively.*

Table VI shows the percentage of each educational group applying for secondary and primary training, respectively, who passed the screening test. It is apparent that the percentage of passers is greater for secondary applicants at each educational level than for primary applicants.

*COLLEGE = At least one year of college. HIGH SCHOOL = At least one year of high school (and no college). GRADE SCHOOL = No education beyond grade school.

TABLE VI

PERCENTAGE PASSING AND FAILING
THE SCREENING TESTS

Secondary-Primary-Educational Training*

		<u>College Group</u>		<u>High School Group</u>		<u>Grade School Group</u>		<u>National</u>	
		<u>N</u>	<u>% of Sec.Col.</u>	<u>N</u>	<u>% of Sec.H.S.</u>	<u>N</u>	<u>% of Sec.G.S.</u>	<u>N</u>	<u>% of all Sec.</u>
Secondary Applicants	<u>Pass</u>	1483	88	1112	78	33	35	2628	82
	<u>Fail</u>	205	12	306	22	62	65	73	18
	<u>Total</u>	1688	-	1418	-	95	-	3201	-
Primary Applicants			<u>% of Prim.Col.</u>		<u>% of Prim.H.S.</u>		<u>% of Prim.G.S.</u>		<u>% of all Prim.</u>
	<u>Pass</u>	3994	76	5160	70	133	30	9287	71
	<u>Fail</u>	1281	24	2195	30	312	70	3788	29
	<u>Total</u>	5275	-	7355	-	445	-	13075	-
TOTAL			<u>% of College</u>		<u>% of H.S.</u>		<u>% of G.S.</u>		<u>% of Total Group</u>
	<u>Pass</u>	5477	79	6272	72	166	31	11915	73
	<u>Fail</u>	1486	21	2501	28	374	69	4361	27
	<u>Total</u>	6963	-	8773	-	540	-	16276	-

*Applicants indicating 35 or more hours of flight training are classified as candidates for secondary flight training.

On the pages which follow are tables showing the distribution of applicants who passed and failed the screening tests, respectively, by schooling and state.

TABLE VII

DISTRIBUTION OF PASS-FAIL ON SCREENING TESTS BY SCHOOLING AND STATE

STATE	COLLEGE			HIGH SCHOOL			GRADE SCHOOL		
	<u>N</u> <u>P</u>	<u>N</u> <u>F</u>	<u>N</u> <u>total</u>	<u>N</u> <u>P</u>	<u>N</u> <u>F</u>	<u>N</u> <u>total</u>	<u>N</u> <u>P</u>	<u>N</u> <u>F</u>	<u>N</u> <u>total</u>
ALABAMA	71	25	96	70	42	112	-	4	4
ARKANSAS	166	54	220	167	54	261	5	0	19
ARIZONA	53	12	65	77	17	94	3	0	-
CALIFORNIA	367	64	431	384	110	494	14	12	26
COLORADO	144	20	164	7	0	167	3	0	3
CONNECTICUT	-	-	-	NO PROGRAM	-	-	-	-	-
DELAWARE	4	6	10	4	4	8	-	-	-
DIST. of COL.	-	-	-	NO PROGRAM	-	-	-	-	-
FLORIDA	103	24	127	163	83	246	5	12	17
GEORGIA	39	24	63	60	23	83	2	2	4
IDAHO	79	10	89	43	15	63	3	5	8
ILLINOIS	171	40	211	166	89	275	9	9	18
INDIANA	92	22	114	122	43	165	-	6	3
IOWA	220	78	298	360	114	474	15	46	61
KANSAS	162	34	196	153	63	216	5	13	18
KENTUCKY	28	18	46	54	14	68	1	3	4
LOUISIANA	125	47	172	85	46	131	1	2	3
MAINE	20	8	28	47	26	73	5	1	6
MARYLAND	77	18	95	92	36	128	1	8	9
MASSACHUSETTS	99	24	123	233	90	323	4	20	24
MICHIGAN	114	22	136	168	56	224	3	7	10
MINNESOTA	143	32	175	174	43	217	11	13	24
MISSISSIPPI	42	16	58	29	22	51	-	4	4

Note: The table reads as follows: In Alabama, of the 96 who had some college training, 71 passed the screening tests, 25 failed. In Arkansas 167 applicants who had some high school training passed.

DISTRIBUTION OF PASS-FAIL ON SCREENING TESTS
BY SCHOOLING AND STATE

TABLE VII
(continued)

STATE	COLLEGE			HIGH SCHOOL			GRADE SCHOOL		
	<u>N</u> <u>p</u>	<u>N</u> <u>f</u>	<u>N</u> <u>total</u>	<u>N</u> <u>p</u>	<u>N</u> <u>f</u>	<u>N</u> <u>total</u>	<u>N</u> <u>p</u>	<u>N</u> <u>f</u>	<u>N</u> <u>tot</u>
MISSOURI	279	65	344	230	106	336	10	7	17
MONTANA	71	10	81	86	18	102	12	6	18
NEBRASKA	113	31	144	168	42	210	8	9	17
NEVADA	8	5	13	14	5	19	-	1	1
NEW HAMPSHIRE	16	2	18	43	14	57	1	2	3
NEW JERSEY	146	52	198	207	83	290	7	19	26
NEW MEXICO	39	12	51	55	36	91	4	7	11
NEW YORK	266	67	333	371	121	492	11	15	26
NORTH CAROLINA	125	70	195	131	97	228	1	9	10
NORTH DAKOTA	60	16	76	57	19	76	5	11	16
OHIO	216	47	263	269	85	354	6	11	17
OKLAHOMA	252	85	337	165	64	229	9	8	17
OREGON	99	16	115	95	22	117	7	13	20
PENNSYLVANIA	205	48	253	351	120	471	10	18	28
RHODE ISLAND	11	1	12	19	3	22	2	-	2
SOUTH CAROLINA	66	26	92	59	72	131	1	8	9
SOUTH DAKOTA	61	10	71	46	21	67	3	5	8
TENNESSEE	170	56	226	162	94	256	1	9	10
TEXAS	493	146	639	421	223	644	11	27	38
UTAH	87	22	109	81	42	123	1	3	4
VERMONT	14	5	19	28	21	49	2	3	5
VIRGINIA	24	6	30	39	10	49	4	2	6
WASHINGTON	180	34	214	187	57	244	8	15	23
WEST VIRGINIA	74	39	113	96	35	131	3	7	10
WISCONSIN	73	16	89	105	26	131	5	9	14
WYOMING	12	2	14	20	2	22	-	1	1

TABLE VIII

DISTRIBUTION OF PASS-FAIL ON SCREENING TESTS
BY SCHOOLING AND STATE

STATE	COLLEGE			HIGH SCHOOL			GRADE SCHOOL		
	<u>N</u> <u>p</u>	<u>N</u> <u>f</u>	<u>N</u> <u>total</u>	<u>N</u> <u>p</u>	<u>N</u> <u>f</u>	<u>N</u> <u>total</u>	<u>N</u> <u>p</u>	<u>N</u> <u>f</u>	<u>N</u> <u>total</u>
CONNECTICUT	-	-	-	-NO PROGRAM -			-	-	-
DELAWARE	4	6	10	4	4	8	-	-	-
DIST. of COL.	-	-	-	-NO PROGRAM -			-	-	-
MAINE	20	8	28	47	26	73	5	1	6
MARYLAND	77	18	95	92	36	128	1	8	9
MASSACHUSETTS	99	24	123	233	90	323	4	20	24
NEW HAMPSHIRE	16	2	18	43	14	57	1	2	3
NEW JERSEY	146	52	198	207	83	290	7	19	26
NEW YORK	266	67	333	371	121	492	11	15	26
PENNSYLVANIA	205	48	253	351	120	471	10	18	28
RHODE ISLAND	11	1	12	19	3	22	2	-	2
VERMONT	14	5	19	28	21	49	2	3	5
VIRGINIA	24	6	30	39	10	49	4	2	6
WEST VIRGINIA	74	39	113	96	35	131	3	7	10
ALABAMA	71	25	96	70	42	112	-	4	4
FLORIDA	103	24	127	163	83	246	5	12	17
GEORGIA	39	24	63	60	28	88	2	2	4
MISSISSIPPI	42	16	58	29	22	51	-	4	4
NORTH CAROLINA	125	70	195	131	97	228	1	9	10
SOUTH CAROLINA	66	26	92	59	72	131	1	8	9
TENNESSEE	170	56	226	162	94	256	1	9	10
ILLINOIS	171	40	211	186	89	275	9	9	18
INDIANA	92	22	114	122	43	165	-	6	6
KENTUCKY	28	18	46	54	14	68	1	3	4

Note: The table reads as follows: In Delaware, of the 10 who had some college training, 4 passed the screening tests, 6 failed. In Maine 47 applicants who had some high school training passed.

DISTRIBUTION OF PASS-FAIL ON SCREENING TESTS
BY SCHOOLING AND STATES

TABLE VIII
(continued)

STATE	COLLEGE			HIGH SCHOOL			GRADE SCHOOL		
	<u>N_p</u>	<u>N_f</u>	<u>N_{total}</u>	<u>N_p</u>	<u>N_f</u>	<u>N_{total}</u>	<u>N_p</u>	<u>N_f</u>	<u>N_{tot}</u>
MICHIGAN	114	22	136	168	56	224	3	7	10
MINNESOTA	143	32	175	174	43	217	11	13	24
NORTH DAKOTA	60	16	76	57	19	76	5	11	16
OHIO	216	47	263	269	85	354	6	11	17
WISCONSIN	75	16	89	105	26	131	5	9	14
MISSOURI	186	54	220	167	94	261	5	14	19
KENTUCKY	125	47	172	85	46	131	1	2	3
NEW MEXICO	39	12	51	55	36	91	4	7	11
OKLAHOMA	232	85	317	155	64	229	9	8	17
TEXAS	163	146	309	121	223	344	11	27	38
COLORADO	104	20	124	97	30	127	3	2	5
IOWA	220	78	298	360	114	474	15	46	61
KANSAS	162	34	196	153	63	216	5	13	18
MISSOURI	279	65	344	230	106	336	10	7	17
NEBRASKA	113	31	144	168	42	210	8	9	17
SOUTH DAKOTA	61	10	71	46	21	67	3	5	8
WYOMING	12	2	14	20	2	22	-	1	1
ARIZONA	55	12	65	77	17	94	3	2	5
CALIFORNIA	367	60	437	384	110	494	14	12	26
NEVADA	8	5	13	14	5	19	-	1	1
UTAH	87	22	109	61	42	123	1	3	4
IDAHO	79	10	89	48	15	63	3	5	8
MONTANA	71	13	84	86	13	102	12	6	18
OREGON	85	16	101	95	12	117	7	13	20
WASHINGTON	100	12	112	187	57	244	8	15	23