FITNESS OF AMERICAN YOUTH FOR MILITARY SERVICE

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THE present analysis on the fitness of American youth for military service is based on the Korean War experience, comprising the period from July 1950 through July 1953. Three fundamental criteria—moral, mental, and medical, determine the individual's fitness for military service. These criteria, or "standards of acceptability," are promulgated in special regulations of the Armed Forces. In addition, the statutory provisions, which establish the general liability of men for military service and the broader aspects of the standards, are likewise essential factors in the selection and appraisal of youth for military service. The statutory provisions and the standards of acceptability, therefore, are briefly stated, as far as they are relevant to the analysis.

MILITARY LIABILITY

The liability of men for military service is fixed by Acts of Congress. For this period, the military liability was initially set-forth in the "Extension Act of 1950" (Public Law 599, 81st Congress) enacted in June 1950—an extension of the 1948 Selective Service Act (Public Law 759, 80th Congress). Except for certain exempt individuals, the Act required that every male citizen of the United States and every male noncitizen residing in the United States, within the age limits of 18 and 26, register with his local board.[2] The initial registration began on 30 August 1948 and continued through 18 September

[1] From the Medical Statistics Division, Office of the Surgeon General, Department of the Army.

[2] The following individuals have been exempted by the Acts from registration: foreign diplomatic representatives, technical attaches of foreign embassies and legations, consuls generals, consuls, vice consuls, and other consular agents of foreign countries who are not citizens of the United States. Individuals who, at the time of registration, are on active duty with the Armed Forces and those serving in the Coast Guard, Geodetic Survey, and Public Health Service are also exempt from registration; however, these individuals have to register upon completion of service.

of that year. It has been supplemented since then by continuous registration of those who attain 18 years of age. Under this Act, all registrants became immediately liable for military service, exclusive of the 18-year olds whose liability did not become effective until they reached age 19.

The 1950 Extension Act, which remained in effect until June 1951, was replaced by the "Universal Military Training and Service Act" (UMT&S Act, Public Law 51, 82nd Congress). The basic provisions of the preceding Acts remained intact; however, the former minimum age of liability for service was lowered from 19 to 18½ years of age. Furthermore, 17-year olds could volunteer for induction if they had a written consent from their parent(s) or guardian(s). (Of course, 17-year olds could volunteer for enlistment even before this Act was passed.)

Theoretically, each registrant liable for military service is regarded as available for such service (class I-A), until his eligibility for deferment or exemption is established. The exempt or deferred classes comprise registrants in certain essential non-agricultural and agricultural occupations—in the interest of the civilian economy; ministers of religion, or divinity students; officials deferred by law; postponed students; those deferred or exempted because of personal or family hardship, etc. Such registrants are removed from the I-A classification (1).

A registrant could discharge his military liability in several ways. He could voluntarily enlist into the Armed Forces; join the National Guard, ROTC, or other reserve units (even before he reached the age of registration); or he could wait until "drafted." The last-mentioned choice, referred to as "processing for induction," involves local board prescreening and a preinduction and induction examination at an induction station.

Available Data

Comprehensive data with respect to qualification of registrants for military service are available only with respect to those processed for induction; particularly, data related to the

preinduction and induction results (2–6). The commonly quoted disqualification data for military service relate to this segment of the total liable manpower pool. However, the fact that many youths enter the Armed Forces through channels other than induction has an important bearing on these disqualifications, as shown later. (The Navy and the Air Force fulfilled their manpower needs exclusively through enlistments and other reserve programs; the Marine Corps utilized inductions to a very limited extent, depending primarily on enlistments; the Army depended principally on inductions.)

Obviously, in order to arrive at a valid measure of fitness of youth, all segments of the liable manpower pool are to be considered (7). The basic data utilized toward this end are those dealing with registrants processed for induction, but adjusted to reflect the total liable manpower pool.

Standards of Acceptability

As stated, individuals examined for military service are evaluated from moral, mental, and medical (physical and psychiatric) standpoint. Briefly, the basic evaluative standards are as follows.

Moral Standards. According to Army regulations, the following individuals are not acceptable for military service for moral reasons: (a) Those having certain criminal records; (b) those exhibiting criminal tendencies, demonstrated by frequent difficulties with law enforcement agencies; or antisocial tendencies, involving alcoholism, drug addiction, or other traits of character rendering them unfit to associate with military personnel; and (c) those who have been previously separated from the Armed Forces under conditions other than honorable, or for the good of the service (8). Individuals disqualified for military service for moral reasons are classified as "administrative" disqualifications. (These disqualifications include negligible numbers of individuals forwarded erroneously for examination.)

Mental Standards. For evaluating the examinee's mental

qualification for military service, the Armed Forces Qualification Tests (AFQT) have been used. These mental tests are the result of the joint efforts of all military services. Initially, AFQT 1 or 2 were applied. These equivalent versions of the test consisted of 90 questions, equally divided among items of the following content areas: vocabulary, arithmetic, and spatial relationship. In 1953, they were replaced by AFQT 3 and 4 which added a fourth content area, designed to test the examinee's mechanical ability. The later tests consisted of 100 questions equally divided among their four content areas.

It is a spiral omnibus type of test, that is, the test is arranged in cycles of increasing difficulty, and each cycle contains an equal number of questions of comparable levels of difficulty in each content area. AFQT 1 and 2 consisted of three cycles containing six questions plus four cycles with three questions; AFQT 3 and 4 consisted of three cycles with four questions; three cycles with three questions, and two cycles with two questions—in each of the content areas.

With the introduction of the AFQT 3 and 4, the formula for scoring the test was modified. Formerly, the score was based on the number of questions answered correctly. To compensate for potential correct guessing, the new formula provided for subtracting a fraction (one-third) of the number of questions answered wrong from the number of questions answered right. Omitted questions are not counted.

The test was administered to each registrant forwarded for examination, irrespective of his educational attainment. The passing score, based on multiple choice answers, varied during the Korean War period. From July 1950 to July 1951, the minimum requirement, regardless of the type of items answered successfully, was equivalent to 39 correct answers on AFQT 1 and 2; from July 1951 through December 1951 the minimum was equivalent to 34 correct answers; from December 1951, the passing score was established by the 1951 UMT&S Act as 10 percentile, equivalent to 27 correct answers on AFQT 1 and 2, and 25 correct answers on the AFQT 3 and 4.

Since AFQT 3 and 4 were in effect only during the last seven months of the period under study, the disqualifications for mental reasons during the Korean War period reflect mainly failures to meet the 10 percentile requirement on AFQT 1 and 2. (Examinees who failed the mental test prior to January 1952 were reexamined during 1952 on the basis of the minimum established by the 1951 UMT&S Act.) The minimum requirement was devised to have the effect of eliminating 10 per cent of the total male population of the lowest aptitude.

Operationally, the test was to fulfill a dual function: (a) To measure the examinee's ability to absorb military training within reasonable limit of time, in order to eliminate those who do not possess such ability, and (b) to provide a uniform measure of the general usefulness for the service of those who qualified on the test. On the basis of their scores on the AFQT, the examinees are divided into the following five mental groups representing a regressive range in mental ability, from very rapid learners (Group I) to very slow learners (Group V):

Mental Group	*Percentile Score*	*Equivalent Correct Answers*	
		AFQT 1 and 2	*AFQT 3 and 4**
I	93–100	81–90	89–100
II	65– 92	65–80	74– 88
III	31– 64	47–64	53– 73
IV	10– 30	27–46	25– 52
V	9 and Below	1–26	1– 24

Examinees classified as mental group V are regarded as mental test failures. However, a "terminal screening" has been prescribed for those whose educational or occupational background indicate that they should not have failed the test. If the findings are in variance with their score attained on the

* The number of correct answers on these versions of the test is computed by subtracting from the number of correct answers one-third of the number of wrong answers. (See text.)

mental test, the examinees are declared as "administrative acceptees."

The mental test results bear no direct relationship to such concepts as "IQ" (intelligence quotient), or "MA" (mental age). They are not to be interpreted, therefore, in terms of those concepts. (For details on the structure and development of the test, its history and standards, *see* (8–15); for the results of the mental testing by year and state, *see* (2–6).)

Medical Standards. Congress provided under the 1951 UMT&S Act that the minimum standards of physical acceptability shall not be higher than those which were applied in World War II (since January 1945) to persons between the ages 18 and 26. Actually, changes were introduced after World War II that led toward lower medical requirements. Foremost was the change in policy with respect to psychiatric standards, which resulted during World War II in a large number of disqualifications for medical reasons. A series of follow-up studies on psychiatric cases within the Army brought about a growing recognition that the psychiatric standards of World War II were obviously overcautious and hence caused a considerable loss of potential military manpower. The present underlying working hypothesis has been that greater proficiency can be accomplished in identifying individuals with psychiatric difficulties when they are observed while living under military conditions, rather than at the time of their examination. As a result, psychoneurosis of any degree is now considered acceptable, if it has not incapacitated the individual in civilian life; also, history of transient psychotic reactions is considered acceptable, if the individual has otherwise clearly demonstrated stability. Only a coarse psychiatric screening for the purpose of eliminating gross psychiatric conditions has been employed at the examining stations.

The medical standards were lowered since World War II in regard to perforated eardrums and moderate deformities of the extremities which were previously disqualifying. Furthermore, the concept of "successful treatment" was introduced in

evaluating certain defects and diseases which were formerly considered unacceptable. Though these changes may be regarded as fundamental to the particular diagnoses, they are of little significance from the overall standpoint of manpower procurement, because of the small number of individuals involved in such cases.

An important change, though indirectly connected with medical standards, was the elimination of the "limited service" classification. Persons so classified in World War II were at various times either not inducted at all, inducted on a quota basis (usually 5 per cent of all inductees), or had their eligibility for induction restricted by certain additional educational or occupational requirements, not applicable to other registrants. The term "limited service" is no longer in use; such registrants are now ordinarily classified as Physical Category C, acceptable without any quantitative restrictions (16–23).

Examination Procedures

The examination procedures for registrants processed for induction have been essentially the same as in World War II (since 1944). After a certain preliminary screening by the local boards, discussed in subsequent section, registrants classified as available for military service (I-A) are forwarded to the examining stations, ordinarily for a preinduction examination. Only the acceptability of the examinee for military service is determined on this examination.

Registrants found acceptable for military service on the preinduction examination are subsequently ordered to report for induction, but in not less than 21 days after their preinduction examination. At the time of induction such resgistrants ordinarily undergo only a medical check-up ("physical inspection") for any diseases or injuries that could have been incurred since their preinduction examination. However, if more than 120 days have elapsed since their preinduction examination, these examinees are given a complete medical examination due to "lapse of time." In some instances, registrants are for-

warded for induction without a preinduction examination ("direct induction"). In these cases, the registrant is completely examined from a moral, mental and medical viewpoint, as on a preinduction examination.

Until September 1951, both the preinduction and induction examinations were accomplished at the "Joint Examining and Induction Stations." Since that date, this function has been performed by the "Armed Forces Examining Station" (AFES). The term "induction stations" will be used in referring to both the "Joint Examining and Induction Stations" and the AFES.

Preinduction and Induction Examination Results

Preinduction Examination Results. 3.7 million Selective Service registrants underwent a preinduction examination during the Korean War. Evaluated in terms of the prevailing moral, mental, and medical standards, 2.5 million of the examined registrants (67.8 per cent) were found acceptable, and 1.2 million (32.2 per cent) were disqualified. The reasons for

Table 1. Results of preinduction examinations, Korean War (July 1950 through July 1953).[1]

Result of Examination	All Examined Registrants[2]		Not-Previously Examined Registrants	
	Number (1)	Per Cent (2)	Number (3)	Per Cent (4)
Examined	3,685,293	100.0	3,492,308	100.0
Found Acceptable	2,496,683	67.8	2,380,610	68.2
Disqualified	1,188,610	32.2	1,111,698	31.8
Administrative Reasons	30,633	0.8	27,550	0.8
Failed Mental Test, Only	488,848	13.3	465,849	13.3
Failed Mental Test and Medically Disqualified	119,045	3.2	113,581	3.3
Medical Reasons, Only	550,084	14.9	504,718	14.4

[1] The data were corrected for registrants who were disqualified prior to January 1952 for failing the mental tests and later reexamined and found acceptable under modified mental testing procedures.

[2] These data include both not-previously and previously examined registrants.

Source: "Summary of Registrant Examinations for Induction," DA Form 316 (Reports Control Symbol MED-66).

the disqualifications were: 0.8 per cent, administrative (nearly, all moral); 13.3 per cent, mental (failure to pass the required mental test), only; 3.2 per cent, combined mental and medical; and 14.9 per cent, medical, only (Table 1, Columns 1 and 2). (Analogous data by year and state are published in (2–6).)

These examinees include registrants forwarded by the local boards for a preinduction examination for the first time ("not-previously" examined) and reexaminees, namely, registrants who had been previously examined and disqualified. Even though the disqualification rates of all examined registrants were about the same as those of the not-previously examined registrants alone (compare Columns 2 and 4, Table 1), it is obviously more appropriate for a more precise evaluation to confine the analysis to the latter examinees.

3.5 million registrants were given a preinduction examination during this period for the first time. The total disqualification rate of these examinees was 31.8 per cent, distributed as follows by disqualifying cause: 0.8 per cent, administrative reasons; 13.3 per cent, mental reasons, only; 3.3 per cent, combined mental and medical reasons; and 14.4 per cent, medical reasons only (Table 1, Columns 3 and 4).

The Korean War experience thus indicates that 16.6 per cent (13.3 per cent plus 3.3 per cent) of the registrants who were given a preinduction examination could not pass the mental test; 17.7 per cent (14.4 per cent plus 3.3 per cent) could not meet the medical standards.

Induction Examination Results. In response to the monthly calls for inductees by the Department of Defense, 1.6 million registrants were forwarded by the local boards during this period for induction (Table 2, Column 1). Except for some 8 per cent (127,000 registrants), who were forwarded for "direct induction" (without preinduction examination), these were registrants who had qualified on preinduction examination. Of the latter examinees (Table 2, Column 3) 1,371,000 were given a physical inspection and some 142,000 examinees underwent a complete medical examination due to "lapse of time."

As indicated in Table 2 (Column 4), 2.7 per cent of the examinees, who had qualified on preinduction examination, were disqualified at the time of induction, primarily for medical reasons. These additional disqualifications represent the final results of those who were examined at the induction stations. Therefore, they were taken into account in this general analysis, as explained later.

Of the total number of registrants who were inducted during this period (Table 2, Column 1), 1,473,000 were assigned to the Army, and 85,000 to the Marine Corps. No inductees were allocated during this period to the Navy or the Air Force, as they had met their manpower needs through enlistments and reserve programs.

Local Board Screening

Although the determination of acceptability for military serv-

Table 2. Results of inspection and induction examinations, Korean War (August 1950 through July 1953).

Results of Examination	Induction and Induction Examinations, Total[1]		Physical Inspection or Complete Medical Examination[2]	
	Number (1)	Per Cent (2)	Number (3)	Per Cent (4)
Total Examined	1,639,721	100.0	1,512,825	100.0
Inducted	1,557,948	95.0	1,471,443	97.3
Disqualified	81,773	5.0	41,382	2.7
Administrative Reasons	11,398	0.7	10,383	0.7
Failed Mental Test, Only	18,097	1.1	—	—
Failed Mental Test and Medically Disqualified	2,955	0.2	—	—
Medical Reasons, Only	49,323	3.0	30,999	2.0

[1] Refers to registrants who qualified on preinduction examination, as well as registrants forwarded for "direct" induction, without a preinduction examination, e.g., volunteers, delinquents, parolees, etc.

[2] Includes registrants, qualified on preinduction examination, who were given a physical inspection and those who have undergone a required complete medical examination (instead of a physical inspection) at the time of induction because of "lapse of time" (more than 120 days since their preinduction examination).

Source: "Summary of Registrant Examinations for Induction," DA Form 316 (Reports Control Symbol MED-66).

ice is primarily a function of the induction stations, considerable number of registrants, classified as available for service (I-A), are screened out by the local board without being referred to the induction stations. Those disqualified by the local boards are registrants found morally unfit, as previously defined and registrants with manifestly disqualifying defects (25).

It has been determined that out of 1,000 registrants available for service (I-A), 68 were disqualified by the local boards during this period: 30 for administrative (moral) reasons; 3 for mental reasons, though no provision was made for such disqualifications by the local boards; and 35 for manifestly disqualifying defects (Table 3, Column 1). (*See* "Appendix, Technical Notes," Section I, for the derivation of these rates.)

Combined Results of Examination of Registrants for Induction

From the separate analyses of the disqualifications at the

Table 3. Combined disqualification rates of selective service registrants processed for induction and overall disqualification rate, by disqualifying cause, Korean War (July 1950 through July 1953).[1]

Disqualifying Cause	Combined Disqualification Rates Per 1,000 Registrants Processed for Induction				Overall Disqualification Rates Per 1,000 Youths[3]
	Local Board Screening	Preinduction or Direct Induction[2]	Induction	Total	
	(1)	(2)	(3)	(4)	(5)
Administrative	30.2	7.4	4.4	42.0	25.9
Failed Mental Test, Only	3.2[a]	124.2	—	127.4	78.7
Failed Mental Test and Medically Disqualified	—	30.3	—	30.3	18.7
Medical, Only	35.2	134.6	13.0	182.8	112.9
Total	68.6	296.5	17.4	382.5	236.2

[1] For the derivation of the data given in this table, see "Appendix: Technical Notes."

[2] "Direct Induction" refers to registrants inducted without a preinduction examination, e.g., volunteers, delinquents, etc.

[3] Data in Column 4, adjusted for sources of procurement, outside induction; e.g., enlistments, National Guard, ROTC, and other reserve programs.

[a] There was no provision for mental testing at the local boards. However, some local boards disqualified illiterates, as well as registrants who, they thought, will not be able to pass the Armed Forces mental test.

local boards, at the induction stations at the time of preinduction or direct induction, and at the induction stations at the time of induction, the following combined results of the examinations were derived: Out of 1,000 registrants available for service (I-A), 618 qualified and 382 were disqualified for military service. The latter registrants are distributed as follows by disqualifying cause: 42, administrative reasons; 127, mental reasons, only; 30, mental and medical reasons; and 183 medical reasons, only (Table 3, Column 4).

Thus, out of 1,000 registrants processed in the Korean War for induction, 158 (128 plus 30) could not pass the mental test; 213 (183 plus 30) could not meet the medical standards. (*See* "Appendix, Technical Notes," Section II, for computation of the combined results.)

No adjustment was made thus far in these data for enlistments and related sources of manpower procurement, apart from inductions.

Overall Disqualification Rates of Youth for Military Service

It has been previously indicated that a large proportion of individuals enter military service prior to being processed through the Selective Service system for induction. The prevailing procedures were that individuals who applied, but could not qualify for enlistment or for the other procurement programs (outside inductions), were continued as I-A (available for service) in the Selective Service system. As a result, the registrants processed for induction were disproportionally "weighted" by those who were disqualified under the other procurement programs, inflating hence the disqualification rates of the former group.

It has been established that 38 per cent of the liable manpower pool fulfilled their liability for military service during the Korean War through channels other than induction. The disqualification data (Table 3, Column 4), adjusted for these other sources of manpower procurement, are shown in Table 3, Column 5.

The adjusted data indicate that 23.6 per cent of the youths (236 out of 1,000 youths) could not qualify for military service during the Korean War under the prevailing moral, mental, and medical standards. (For the manner in which the data were adjusted, *see* "Appendix, Technical Notes," Section III.)

Physical Categories of Youths Qualified for Military Service

Certain medical defects found at the time of examination are not considered disqualifying for military service. Such defects, however, are likely to impose certain functional limitations with respect to job assignments in the military service. (They are referred to as "limiting defects.") The registrant's functional capacity is currently assessed in terms of PULHES factors symbolizing the following:

P—Physical capacity or stamina: General physical capacity or stamina, and organic defects or diseases which affect general physical capacity and which do not fall under the other specific factors of the profile system.

U—Upper extremities: Functional use of hands, arms, shoulder girdle, and spine (cervical, thoracic, and upper lumbar) in regard to strength, range of motion, and general efficiency.

L—Lower extremities: Functional use of the feet, legs, pelvic girdle, lower back musculature, and lower spine (lower lumbar and sacral) in regard to strength, range of motion, and general efficiency.

H—Hearing and ear defects: Auditory acuity and diseases and defects of the ear.

E—Eyes: Visual acuity and diseases and defects of the eye.

S—Psychiatric: Personality, emotional stability, and psychiatric diseases, including history of such.

Each of the PULHES factors of a qualified examinee is graded (profiled) on a numerical regressive scale from 1 to 3. Generally, profile 1 represents functional efficiency above the average, signifying no physical defect(s) or only minimal

physical defect(s); profile 2 represents average functional efficiency, with mild, nonprogressive physical defect(s); profile 3 represents functional efficiency below the average, with moderate physical defect(s) (borderline cases).

On the basis of this profiling system, a qualified examinee is assigned one of the following three physical categories: A, B, or C. Category A denotes no factor in the profile system is graded lower than 1; B—at least one factor is graded 2, but no factor is graded lower than 2; C—at least one factor is graded 3, but no factor is graded lower than 3.

The inductees and enlistees of this period were distributed by physical category as follows: A—77.2 per cent; B—15.0 per cent, and Category C—7.8 per cent (Table 4, Column 1).

Table 4. Distribution of qualified examinees and of total examinees, by physical category.

Physical Category	Per Cent of Examinees by Physical Category	
	Qualified[1] (1)	Total[2] (2)
Total	100.0	76.4
A	77.2	58.9
B	15.0	11.5
C	7.8	6.0

[1] Based on "Qualitative Distribution of Military Manpower" (26).
[2] Computed by multiplying each physical category (Column 1) by .764, which is the proportion of total examinees qualified (764 per 1,000 examinees, derived from Table 3, Column 5.)

Table 5. Distribution of youths by fitness for military service, Korean War* (July 1950 through July 1953).

Qualification	Per Cent
Total	100.0
Qualified	76.4
Physical Category A	58.9
Physical Category B	11.5
Physical Category C	6.0
Disqualified	23.6
Administrative Reasons	2.6
Mental Test Failure, Only	7.9
Mental Test Failure and Medical Reasons	1.8
Medical Reasons, Only	11.3

* Based on Tables 3 and 4.

Since our data indicate that the expected number of qualified is 764 per 1,000 youth (1,000 minus 236; Table 3, Column 5), the expected percentages of youths to be qualified in each physical category are: A—58.9, B—11.5, and

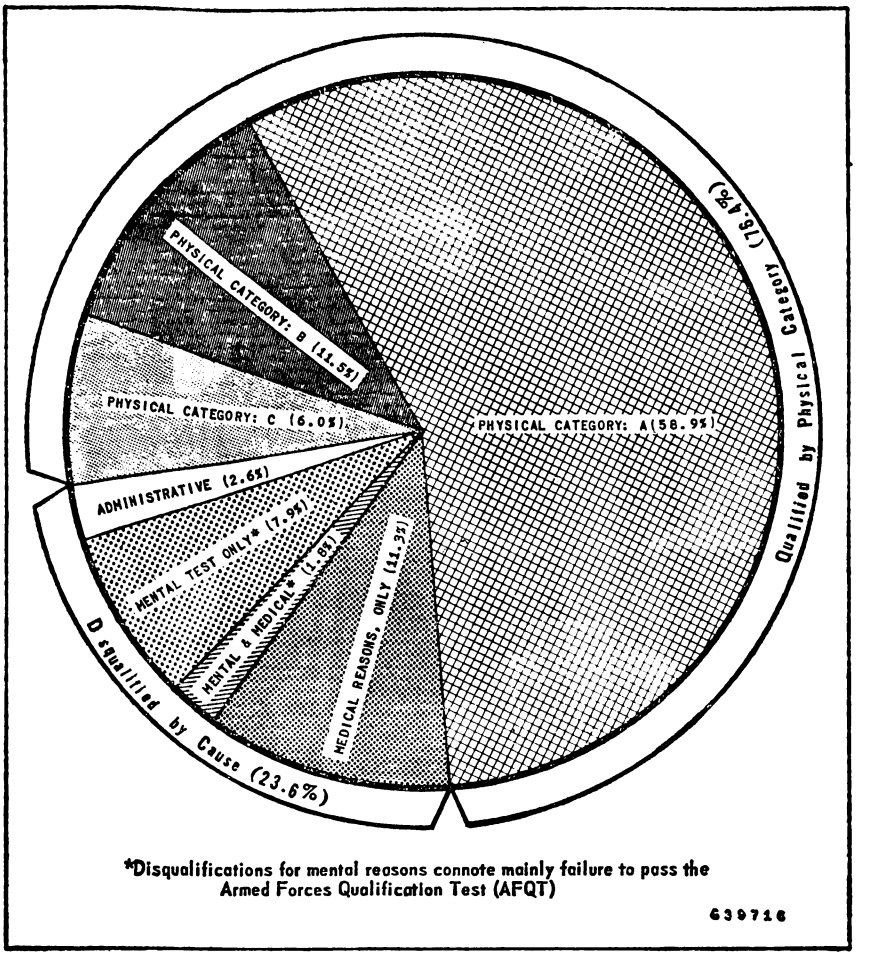

Fig. 1. Fitness of American youth for military service, Korean War.

C—6.0 (Table 4, Column 2). (*See* (27) for a diagnostic evaluation of the limiting defects in physical categories B and C.)

General Fitness of Youth for Military Service

Summing up, the Korean War experience with respect to fitness of American youth for military service thus indicates:

(a) *Qualified:* 76.4 per cent, distributed as follows by physical category: A—58.9; B—11.5; C—6.0 per cent;

(b) *Disqualified:* 23.6 per cent, distributed as follows by disqualifying cause: administrative 2.6; mental test failure,

only—7.9; combined mental test and medical—1.8; medical, only—11.3 per cent.

Hence, 9.7 (7.9 plus 1.8) per cent of the youths could not pass the Armed Forces Qualification Test; 13.1 (11.3 plus 1.8) per cent could not qualify medically. (*See* Table 5 and Fig. 1.)

By mental group, the inductees and enlistees were distributed as follows: Mental Group I—6.8 per cent; II—23.1 per cent; III—32.0 per cent; IV—33.3 per cent, and administrative acceptees—4.8 per cent (26).

Evaluation of the Medical Disqualifications

General. In evaluating the fitness of youth for military service it is important to know not only what proportion could not qualify for medical reasons, but what particular defects or conditions were responsible for the disqualifications. Such knowledge is pertinent with respect to any rehabilitation or reconditioning program—in the general problem of physical fitness of youth that has caused of late much public concern (28–30).

Medical Disqualifications at the Induction Stations. Each registrant forwarded by his local board to the induction station for a preinduction examination or direct induction (without a preinduction examination) is ordinarily given a complete medical examination. (Although prior to 1953, a chest x-ray was required only when the examinee was found otherwise medically qualified, it was accomplished in most cases.)

The medical examinations have been mostly performed by military medical officers. Currently, neither dental officers, nor psychiatrists, nor other medical specialists are assigned to the induction stations. However, provisions are made for the utilization of military hospitals, as well as civilian hospitals and civilian medical specialists, in cases requiring consultation.

The findings of the medical examinations are reported on Standard Form 88 ("Report of Medical Examination"). Each abnormality, whether disqualifying or not, is noted on the form. A copy of this form of each disqualified examinee and of each qualified examinee, inducted into the Army, is submitted to the

office of The Surgeon General, Army. From the forms of disqualified registrants received during this period the following randomly selected samples were coded:

Period Covered	*Sample Used (Per Cent)*	*Manner of Selection*
July 1950 through June 1951	20	Using two of the last odd digits in the Selective Service number assigned to the registrant by his local board
July 1951 through December 1951	100	All forms used
January 1952 through July 1953	50	Using all last odd digits of the registrant's Selective Service number.

Altogether, 284,000 copies of Standard Form 88 were coded.

In tabulating the coded data for the entire period, the samples of the first and last periods were "blown-up" proportionately to 100 per cent to provide uniform "weight" for all periods. The data were tabulated separately for: (a) Disqualified on preinduction or direct induction for medical reasons, only; (b) disqualified on preinduction or direct induction for both medical and mental reasons, and (c) disqualified at the time of induction. As expected, the separate tabulations revealed marked variations by diagnosis.

Local Board Medical Disqualifications. The manifestly disqualifying defects of registrants eliminated by the local boards were coded from DD Form 47 ("Record of Induction"). This form, which is initiated by the local board, carries the registrant's personal data, e.g., age, occupation, education, prior service, etc. This form is submitted to the induction station at the time the registrant is forwarded for induction processing. However, in case of registrants medically disqualified by the local boards—not forwarded to the induction stations, the dis-

qualifying defects are specified on the form under Section II: Local Board Medical Interview. The Selective Service regulations require that a copy of DD Form 47 of such registrants be forwarded by the local boards to the office of The Surgeon General, Army.

Table 6. Distribution of medically disqualified examinees by number of disqualifying defects, Korean War (July 1950 through July 1953).

Number of Disqualifying Defects	Number per 1,000 Examinees	
	Disqualified (1)	Disqualifying Defects (2)
Total	131.6	155.0
One	110.8	110.8
Two	18.2	36.4
Minimum Three	2.6	7.8

For the first year of the Korean War, all received forms were coded; a fifty per cent randomly selected sample was coded for the remainder of the period. Altogether, 75,000 copies of DD Form 47 were coded. The same "weighting" procedures, as applied to Standard Form 88, were used in tabulating the medical data from DD Form 47.

Overall Diagnostic Distributions. In order to present an overall diagnostic distribution of all medically disqualified examinees, the separate distributions of the various medically disqualified groups (disqualified by the local boards; disqualified on preinduction or direct induction for medical reasons, only; disqualified on preinduction or direct induction for mental and medical reasons; disqualified on induction) were combined on a proportional basis, in accordance with their respective disqualification rates.[3] The separate distributions were therefore weighted by the following ratios: 17:63:14:6, respectively.

Prevalence of Disqualifying Defects. Three disqualifying defects or conditions were the maximum coded for each examinee. Based on the combined distributions by diagnosis, it was found that 84.2 per cent of the registrants disqualified for med-

[3] The respective disqualification rates per 1,000 registrants in the overall evaluation were: 35.2; 134.6; 30.3; and 13.0 (Table 3).

ical reasons had one disqualifying defect or condition; 13.8 per cent had two; and 2.0 per cent had a minimum of three. Judging from the last percentage, we may presume that the per cent of these with more than three defects was very small.

The total prevalence of disqualifying defects among 1,000 youths was thus computed as 155.0 (Table 6, Column 2).

Disqualification Rates and Prevalence Rates of Disqualifying Defects, by Diagnostic Category. Both the disqualification and the prevalence rates of disqualifying defects are shown in Table 7 by broad diagnostic categories. The first column (Table

Table 7. Disqualification rates for medical reasons and prevalence of disqualifying defects, by diagnostic category, Korean War (July 1950 through July 1953).*

Diagnostic Category	Number per 1,000 Examinees	
	Disqualified for Medical Reasons (1)	Prevalence of Disqualifying Defects (2)
Total	131.6	155.0
Bones and Organs of Movement Diseases and Defects	20.0	23.3
Psychiatric Disorders	18.6	22.7
Circulatory System Diseases	17.8	20.0
Digestive System Diseases	11.2	12.4
Eye Diseases and Defects	9.8	14.1
Ear and Mastoid Process Diseases and Defects	8.3	10.4
Allergic Disorders	7.4	7.8
Infective and Parasitic Diseases	6.7	7.0
Neurological Diseases	5.4	5.9
Congenital Malformations	5.3	5.9
Failure to Meet the Anthropometric Standards	3.6	4.6
Neoplastic Diseases	2.6	2.9
Endocrine System Diseases	2.5	2.7
Skin and Cellular Tissue Diseases	2.5	3.1
Genitourinary System and Breast Diseases	1.6	2.0
Respiratory System Diseases (Nontuberculous)	1.5	1.8
Blood and Blood-Forming Organ Diseases	0.3	0.3
Metabolic Diseases and Avitaminoses	0.1	0.2
Miscellaneous Diseases and Defects	6.4	7.9

* The diagnostic categories (except "Miscellaneous diseases and defects") have been arranged in descending order of the disqualification rates. The diagnostic classification is in accordance with "Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death," 1955 Edition.

7, Column 1) indicates the number of individuals disqualified for the particular diagnostic category, among 1,000 youths. The various diagnoses included in the particular diagnostic category were in these cases either the sole, or the primary medical cause of disqualification when more than one defect was present. The most serious defect was ordinarily recorded as the primary cause of disqualification, though in some instances the more readily diagnosed condition could have been so selected.

The other column (Table 7, Column 2) indicates the total prevalence of disqualifying defects. This column shows the total number of disqualifying defects: sole (or primary) and secondary, among 1,000 youths. Thus, for instance 20.0 per 1,000 youths were disqualified because of disease or defects of the bones and organs of movement. However, additional 3.3 (23.3 minus 20.0) per 1,000 youths were also afflicted with these disqualifying defects, but their primary medical disqualifying cause was some other defect, presumably of a more serious nature.

Diseases and defects of the bones and organs of movement were obviously the main cause of the medical disqualifications, followed by psychiatric disorders, diseases of the circulatory system, etc. The distribution by diagnostic category (Table 7) was arranged in descending order of the medical disqualification rates, except for "miscellaneous diseases and defects," which include laboratory findings of unspecified cause and ill-defined conditions.

Specific Diagnoses. Because of the small numbers involved, the data by specific diagnoses (Table 8) were related to the medically disqualified youths, rather than to the total youth population. Thus, Column 1 (Table 8) shows the number of individuals disqualified for a particular diagnosis among 10,000 medically disqualified youths, while Column 2 (Table 8) presents the prevalence of the particular diagnosis among them.[4]

[4] When desired, the disqualification and prevalence rates of any particular diagnosis, similar to the rates given in Table 8 by diagnostic category, can obviously be obtained by multiplying the numbers presented in Table 8 for the particular diag-

(Continued on page 233)

The specific diagnoses were ordinarily chosen on the basis of their frequency but in some cases general interest in the particular diagnosis was the determining factor. The term "other," within a diagnostic category or subcategory, includes related diagnoses, usually of negligible frequency.

The following will be noted with respect to some specific diagnoses: (a) Ulcers, neoplasms, and rheumatic fever are primarily cases with history of such conditions, as new cases are seldom discovered or so diagnosed at the induction stations; (b) blindness indicates central distant visual acuity of 20/200 or less with the best correcting lens, or absence of eye; (c) deafness means auditory acuity of less than 8/15 by the whispered voice test; (d) venereal disease data do not reflect prevalence, since syphilis is acceptable for induction into military service, except for cardiovascular, visceral, or symptomatic cerebrospinal cases, or cases causing destructive lesions; likewise, uncomplicated acute or chronic gonorrhea and uncomplicated chancroid are acceptable for military service; and (e) active tuberculosis (all forms), pulmonary tuberculosis—active within the past 5 years; and spontaneous pneumothorax of tuberculous origin are not acceptable (17). (For a detailed study on the current prevalence of tuberculosis, *see* (31).

In this connection, the dental requirements should also be mentioned. During the first two and a half months of the Korean War, the dental requirements, established by a special directive, were four serviceable vital masticating teeth (bicuspids and molars) above and four below, serviceably opposed, plus four serviceable vital incisor teeth (incisors and cuspids) above, and four below, serviceably opposed. Teeth replaced by artificial dentures or bridges, and teeth with satisfactory fillings in the root canals were to be considered as serviceably vital teeth, when the history and clinical appearance clearly warranted such an assumption. Since the middle of September

nosis by .01316. The obtained products will be the disqualification and prevalence rates for the particular diagnosis, respectively, per 1,000 youths. For instance, the disqualification and prevalence rates of psychosis would be 1.7 (132 × .01316) and 1.8 (140 × .01316), respectively, per 1,000 youths.

Table 8. Distribution of medically disqualified registrants by disqualifying diagnosis, and prevalence of disqualifying defects, Korean War (July 1950 through July 1953).

Diagnosis	Base: 10,000 Medically Disqualified Registrants	
	Distribution by Disqualifying Diagnosis (1)	Prevalence of Disqualifying Defects (2)
Total	10,000	11,776
Psychiatric Disorders	1,412	1,721
Psychoses	132	140
Psychoneuroses	483	576
Character and Behavior Disorders	608	777
Mental Deficiency	189	228
Neurological Diseases	412	451
Cerebral Paralysis	80	84
Epilepsy	197	210
Peripheral Nerve Diseases	41	48
Other	94	109
Infective and Parasitic Diseases	506	532
Tuberculosis	233	246
Respiratory	208	219
Other	25	27
Venereal Diseases	20	22
Syphilis	15	17
Other	5	5
Late Effects of Acute Poliomyelitis	229	236
Other Infective and Parasitic Diseases	24	28
Neoplastic Diseases	197	220
Malignant Neoplasms	9	10
Neoplasms of the Lymphatic and Hematopoietic Tissues	6	7
Benign Neoplasms	164	182
Pilonidal Cyst or Sinus	135	147
Other	29	35
Unspecified Neoplasms	18	21
Allergic Disorders	565	594
Asthma	533	557
Other	32	37
Endocrine System Diseases	188	208
Diabetes Mellitus	114	118
Frohlich's Syndrome	19	22
Other	55	68

Table 8. (*Continued*).

Diagnosis	Base: 10,000 Medically Disqualified Registrants	
	Distribution by Disqualifying Diagnosis (1)	Prevalence of Disqualifying Defects (2)
Metabolic Diseases and Avitaminoses	8	11
Blood and Blood-Forming Organ Diseases	20	24
Eye Diseases and Defects	747	1,075
Inflammatory Diseases	22	30
Refractive Errors	154	185
Strabismus	156	188
Blindness, Bilateral	23	50
Blindness, Unilateral	169	327
Defective or Insufficient Vision, Not Specifically Defined	106	128
Other	117	167
Ear and Mastoid Process Diseases and Defects	627	793
Otitis Media	443	462
Tympanic Membrane Defects	22	129
Deafness, Bilateral	73	86
Deafness, Unilateral	27	36
Defective Hearing, Not Specifically Defined	32	42
Other	30	38
Circulatory System Diseases	1,353	1,518
Rheumatic Fever	41	44
Chronic Rheumatic Heart Disease	521	536
Arteriosclerotic and Degenerative Heart Diseases	121	127
Other Heart Diseases	176	197
Hypertensive Disease	417	518
Varicose Veins, Including Varicocele	39	45
Other Diseases of the Circulatory System	38	51
Respiratory System Diseases (Nontuberculous)	114	138
Digestive System Diseases	849	942
Ulcer of the Stomach, Duodenum, or Jejunum	161	172
Hernia of the Abdominal Cavity	459	490
Mouth and Adnexa Diseases, Including Teeth and Supporting Structures	172	209
Other	57	71

Table 8. (*Continued*).

Diagnosis	Base: 10,000 Medically Disqualified Registrants	
	Distribution by Disqualifying Diagnosis (1)	Prevalence of Disqualifying Defects (2)
Genitourinary System and Breast Diseases	123	154
Nephritis and Nephrosis	34	37
Kidney, Absence (Acquired)	26	28
Other Diseases of the Urinary System	29	36
Hydrocele	14	20
Other Male Genital Organ Diseases (Non-Venereal) and Diseases of the Breast	20	33
Skin and Cellular Tissue Diseases	189	237
Warts	26	34
Acne Vulgaris	21	24
Other	142	179
Bones and Organs of Movement Diseases and Defects	1,521	1,770
Arthritis	74	86
Spine (Including Neck)	21	25
Upper Extremities	8	9
Lower Extremities	28	32
Other Sites, or Generalized	17	20
Rheumatism	4	5
Osteomyelitis and Other Diseases of the Bone	178	191
Knee, Internal Derangement	126	139
Intervertebral Disc Displacement	36	39
Sacro-Iliac Joint, Affection	15	17
Ankylosis of Joint	46	57
Spine (Including Neck, But Excluding Sacro-Iliac Joint)	10	11
Upper Extremities	16	20
Lower Extremities	17	22
Other and Multiple Sites	3	4
Other Diseases of the Joints	71	80
Curvature of the Spine	101	119
Flatfoot	185	225
Clubfoot	80	89
Shortening of Lower Extremities	73	91
Other Musculoskeletal Diseases and Defects	108	144
Amputation of Extremities	141	152
Fingers	78	86
Other Upper Extremities	24	25
Toes	9	10
Other Lower Extremities	30	31

Table 8. (*Continued*).

Diagnosis	Base: 10,000 Medically Disqualified Registrants	
	Distribution by Disqualifying Diagnosis (1)	Prevalence of Disqualifying Defects (2)
Bones and Organs of Movement Diseases and Defects, Continued		
Limitation of Motion	104	125
Spine (Including Neck)	7	8
Upper Extremities	55	66
Lower Extremities	31	38
Other and Multiple Sites	11	13
Deformities and Impairments	179	211
Spine (Including Neck)	18	20
Upper Extremities	40	47
Lower Extremities	70	81
Other and Multiple Sites	51	63
Congenital Malformations	402	445
Nervous System and Sense Organs	52	59
Circulatory System	86	90
Digestive System	34	38
Cleft Palate and Harelip	29	32
Other	5	6
Genitourinary System	124	140
Undescended Testicles	107	120
Other	17	20
Bones and Joints	69	76
Lumbosacral Region	22	25
Other	47	51
Other Congenital Malformations	37	42
Failure to Meet the Anthropometric Standards	276	348
Underheight	41	47
Underweight (Except Malnutrition)	160	203
Overweight	58	80
Overheight	17	18
Miscellaneous Diseases and Defects	491	595
Symptoms Referable to Systems or Organs	203	263
Abnormal Urinary Constituents of Unspecified Cause	98	119
Other Diseases and Ill-Defined Conditions	190	213

1950, the dental standards were those specified in the Army Regulations, namely, that well-nourished individuals of good

musculature are acceptable, if they are free from gross dental infections, and have a minimum of an endentulous upper jaw and/or an edentulous lower jaw, corrected or correctible by a full denture or dentures. These requirements are the same as those which prevailed during World War II, after 1942 (2).

The distributions by specific diagnoses (Table 8) indicate the following main cause of disqualification within the diagnostic categories: Character and behavior disorders among the psychiatric disorders; epilepsy among the neurological diseases; pilonidal cyst among the neoplastic diseases; asthma among the allergic disorders; chronic rheumatic heart disease, followed closely by hypertensive disease, among the circulatory system diseases; hernia of the abdominal cavity among the digestive system diseases; undescended testicles among the congenital malformations; underweight among failure to meet the anthropometric standards, etc.

Appraisal of the Medical Data. The Armed Forces medical examinations have a specific end in view; namely, selection of men fit for the rigors of military service. They are intended to eliminate individuals with medical conditions or defects that are likely to cause any one or a combination of the following circumstances: endanger the health of other personnel; require excessive loss of time from duty by reason of treatment or hospitalization for conditions that may eventually result in separation from the service for medical unfitness; preclude satisfactory completion of required training; require excessive amount of geographic or other assignment restrictions; or become aggravated through the performance of military duty. The Army regulations specifically emphasize in this connection the likelihood of compensation claims against the government that may arise from separations from the service for medical disability (17, 32).

Although some disqualifying defects may not prevent an individual from pursuing his civilian occupation successfully (through selection of occupation or other adjustment), it must be recognized that even these defects constitute definite health

impairments. Of course, for proper evaluation, the specific defect or condition is to be judged in terms of its standards provided by the Army regulations (17). (*See* (33) on the general relationship of physical fitness to medical disqualifications for military service.)

Summary

1. The presented evaluation of the fitness of American youth for military service is based on the Korean War experience, from July 1951 through July 1953.

2. The prevailing basic statutory provisions and the moral, mental, and medical (physical and psychiatric) standards which determined the acceptability of men for military service during this period are briefly discussed.

3. Under the existing statutory provisions, generally all men between the ages 18 and 26 were liable for military service.

4. These individuals could discharge their military liability in several ways: they could voluntarily enlist into the Armed Forces, or enroll in the National Guard or other reserve programs (even before reaching the age of liability); or they could wait until drafted and forwarded by their local boards for induction. Outside inductions, voluntary enlistments has been a major source of manpower procurement by the Armed Forces.

5. Comprehensive data relating to the qualifications of youth for military service are available only with respect to the segment of the total liable manpower-pool that was processed by the examining stations for induction. (These are the commonly quoted disqualification data.) These data, however, are disproportionally weighted by youths who could not qualify for voluntary enlistment or the other reserve programs (apart from inductions), but were subsequently examined for induction.

6. In order to arrive at an overall evaluation of the fitness of youth for military service, the basic data dealing with the induction results of youths are presented first, and then adjusted for: (a) youths disqualified by the local boards, prior to the

induction processing; and (b) those who entered the military service through channels other than induction.

7. The adjusted data indicate the following results of the fitness of American youth for military service:

(a) 76.4 per cent qualified, distributed as follows by physical category A—58.9, B—11.5, and C—6.0 per cent. (The physical categories present a functional evaluation of fitness, from A—the highest, to C—the lowest).

(b) 23.6 per cent disqualified, distributed as follows by cause of disqualification: Administrative (essentially moral)—2.6; mental test failure, only—7.9; combined mental test failure and medical—1.8; medical, only—11.3 per cent. These rates indicate that 9.7 (7.9 plus 1.8) per cent of the youth could not meet the prevailing mental standards, as determined by the Armed Forces Qualification Test (AFQT); 13.1 (11.3 plus 1.8) could not qualify medically.

(c) By mental group, the qualified are distributed as follows: Mental Group I—6.8 per cent; II—23.1 per cent; III—32.0 per cent; IV—33.3 per cent, and administrative acceptees—4.8 per cent.

8. Detailed diagnostic distributions of the disqualifying defects and a general appraisal of these defects are presented.

APPENDIX

Technical Notes

I. Determination of Local Board Disqualifications

(a) *General.* 1. Asume the following probabilities:

d_1—probability that a registrant available for service (classified I-A) will be disqualified by his local board; hence, $(1-d_1)$ is the probability that he will not be disqualified by the local board;

d_2—probability that a registrant, not disqualified by the local board, will be disqualified at the induction station on prein-induction examination, or on direct induction (without a pre-induction examination);

d_3—probability that a registrant, found acceptable on the preinduction examination, will be disqualified by the induction station at the time of induction.

2. Denote by R the proportion of registrants who were given a preinduction examination, and by (1-R) the corresponding proportion of registrants who were processed for direct induction (without a preinduction examination).

3. $R(1-d_1)d_2$ represents, therefore, the probability that a registrant, not disqualified by the local board, will be disqualified on preinduction examination, and $(1-R)(1-d_1)d_2$ is the probability that such a registrant will be disqualified on direct induction. Obviously, the probability that a registrant will be disqualified either on preinduction examination or on direct induction is:

$$(1-d_1)d_2 \qquad [1].$$

4. Since $R(1-d_1)d_2$ is the probability that a registrant will be disqualified on preinduction examination (3, above), the corresponding probability that the registrant will be qualified is:

$$R(1-d_1)(1-d_2) \qquad [2],$$

and the probability that the latter will be disqualified at the time of induction is:

$$R(1-d_1)(1-d_2)d_3 \qquad [3].$$

5. On the basis of [1] plus [3], the combined probability that a registrant will be disqualified by the induction station either on the preinduction examination (or direct induction) or at the time of induction is:

$$(1-d_1)d_2+R(1-d_1)(1-d_2)d_3 \qquad [4].$$

6. Assume that N represents the number of registrants processed for induction during a certain period of time. Therefore, Nd_1 is the number of registrants expected to be disqualified by the local boards, and, on the basis of [4], $N\ [(1-d_1)d_2+R(1-d_1)(1-d_2)d_3]$ is the number of registrants expected to be disqualified by the induction stations.

7. Let K signify the ratio of the number of registrants disqualified by local boards to the number of registrants disqualified by the induction stations. Consequently, from 6, above:

$$K = d_1/(1-d_1)d_2+R(1-d_1)(1-d_2)d_3 \qquad [5].$$

(b) *Specific.* 1. The preinduction and induction data for the Korean War (July 1950 through July 1953), indicate the following specific values: $d_2 = .3183$, the disqualification rate (to a base of 1) for not-previously examined registrants (Table 1, Column 4), which is also taken as the disqualification rate on direct induction; $d_3 = .0274$, the disqualification rate (to a base of 1) at the time of induction (Table 2, Column 4).

2. The proportion of registrants forwarded by the local boards who were given a preinduction examination during this period was determined as .965. Hence, $R = .965$, and $(1\text{-}R) = .035$, the latter figure is the proportion of registrants processed for direct induction.

3. It was calculated from data published by the Selective Service Headquarters (34), that 261,394 registrants were rejected by the local boards in relation to registrants who were processed for induction during this period. The number of registrants who were disqualified by the induction stations during this period was 1,193,471—on preinduction (not-previously examined registrants) and induction examinations. Thus:

$$K = 261{,}394/1{,}193{,}471 = .2190 \qquad [6].$$

(Approximately the same ratio (.211) of disqualifications by local boards to those by the induction stations is indicated in the One-Percent Sample-Inventory carried out by the Selective Service Headquarters on the distribution of IV-F Class as of April 1953 (35), p. 1.)

4. Substituting in [5] the specific values of K, d_2, d_3, and R, given above:

$$d_1 = .0686 \qquad [7]$$

which is the specific probability that a registrant will be disqualified by the local board.

II. Combined Results

(a) *General.* 1. Expressing the specific prohabilities (I(b), above) as disqualification rates to a base of 1,000, the following number of registrants are expected to be disqualified at the various stages of examination: 68.6 ($= 1000\ d_1$), by the local boards; 296.5 ($= 1000\ (1\text{-}d_1)d_2$) on preinduction examination or direct induction, and 17.4 ($= 1000\ d(1\text{-}d_1)(1\text{-}d_2)d_3$) at the time of induction (Table 3).

2. The combined disqualification rate per 1,000 registrants examined for induction, designated as D, is thus:

$$D = 382.5 \quad [8].$$

the corresponding qualification rate, denoted as Q, is

$$Q = 1{,}000 - 382.5 = 617.5 \quad [9],$$

and the probability of being qualified (base = 1), denoted as q, is:

$$q = .6175 \quad [10].$$

(b) *Distribution of Disqualifying Rates by Broad Disqualifying Cause.* 1. The local board data (34) indicate that 44 per cent of the disqualifications were for administrative (moral) reason, and 56 per cent for medical reasons. The latter disqualifications include a certain number of registrants who were disqualified by some local boards for mental reasons, though no provision was made for mental testing by the local boards. These disqualified registrants are "illiterates," and individuals who, in the opinion of the local boards, would not pass the Armed Forces mental test. The disqualification rates at the local boards by disqualifying cause were thus determined as: 30.2 for administrative reasons; 3.2 for mental reasons, and 35.2 for medical reasons (Table 3, Column 1).

2. The disqualification rate (296.5) on preinduction examination, or direct induction examination (*a,* above), by disqualifying cause was distributed proportionally on the basis of the distribution by disqualifying cause as shown in Table 1 (Column 4). This distribution is shown in Table 3 (Column 2).

3. The distribution of the disqualification rate (17.4) at the time of induction by disqualifying cause, as shown in Table 3 (Column 3), was computed on the basis of the distribution by disqualifying cause presented in Table 2 (Column 4).

4. The distribution of the combined disqualification rate by disqualifying cause (Table 3, Column 4) presents a summation of the individual distributions (Columns 1, 2, and 3, line by line).

III. Overall Disqualification Rate

(a) As pointed out in the text, the Armed Forces procure their manpower through inductions and other sources—enlistments, Reserves, ROTC, etc. Assume E to represent the proportion of liable

manpower pool procured by the Armed Forces through sources other than inductions. Consequently, (1-E) is the proportion of the liable manpower pool processed for induction, and (1-E)q is the proportion qualified from the latter group.

(b) Denote by S the ratio of E to (1-E)q:

$$S = E/(1-E)q \qquad [11]$$

(c) It was computed that 2,521,949 men were procured by Armed Forces through sources other than inductions in relation to the 2,514,779 registrants who were qualified for service during this period through induction processing. The former number was derived from the distributions of enlistees, without previous service (or first enlistments), by year of birth, and other sources. Thus:

$$S = 2{,}521{,}949/2{,}514{,}779 = 1.0029 \qquad [12]$$

In other words, for each 1,000 qualified registrants, 1,003 youths were procured through sources other than induction.

(d) Substituting in [11] the values of q (= .6175), as shown in [10], and S (= 1.0029), as shown in [12], and solving for E:

$$E = .3824$$
$$\text{and } (1-E) = .6176 \qquad [13]$$

the former being the proportion of manpower procured through sources other than inductions, the other the proportion processed for induction.

(e) Thus, of each 1,000 men in the manpower pool, 382.4 men were procured for military service through sources other than induction, and 617.6 men were processed for induction. Since the disqualification (D) for the latter group was 382.5 per 1,000 registrants examined for induction [8], the overall disqualification rate (T) adjusted for the acquisition of manpower through sources other than by induction is:

$$T = (.6176)(382.5) = 236.2 \qquad [14]$$

(The Department of Labor (36) computed on the basis of the One-Per Cent Sample-Inventory of the Selective Service the per cent of IV-F class as 22 for the 22–24 age group. Our data include, of course, a wider age range.)

(f) The distribution of the overall disqualification rate by disqualifying cause is presented in Table 3, Column 5. It was derived by multiplying each of the disqualification rates by cause (Table 3, Col-

umn 4) by .6176 [13]. It will be noted (Tables 3 and 5), that our disqualifiation rate for mental reasons is 9.7 per cent (7.9 per cent for failing mental test, only, plus 1.8 per cent for failing the mental test and being medically disqualified)—practically the same as the minimum requirements of 10 percentile, established for the purpose of eliminating 10 per cent of the population of the lowest aptitude. (Merck and McMahan (37), using a different approach to the problem, arrived at a disqualification rate of 10.9 per cent as of 1956, in estimating from the induction data AFQT failures for the total male population.)

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