
THE AFQT AND ITS ROLE IN ENLISTMENT

AFQT scores have two important roles in the enlistment process. First, they indicate which individuals are eligible for enlistment. Eligibility for military enlistment is based on a combination of high school graduation status and test scores, age, citizenship, and dependency status, along with minimum health and moral requirements (see more detailed discussion in Kirby and Thie, 1996). The test score standards are mandated by law: Congress has stipulated that no recruits can come from the lowest 10 percent of the population distribution of AFQT scores and that only a quarter of recruits can come from the 10th to 30th percentiles (10 U.S.C. 520 and DoD Directive 1145.1). In fact, operational recruiting standards are typically much more stringent than these minimum congressional standards (see Eitelberg et al., 1984).

Second, as shown in Hosek and Peterson (1985, 1990), AFQT scores are an important determinant of individual enlistment decisions. Hosek and Peterson found a strong relationship between AFQT and enlistment probability: the probability that an individual enlisted dropped with rising AFQT scores.

Therefore, in order to estimate a model of the individual enlistment decision using more recent data, we also need to include AFQT or some close approximation to AFQT. AFQT scores are not available in any recent representative samples of potential recruits. We chose to use the NELS to estimate individual enlistment models for more recent cohorts for several reasons. First, the NELS contains demographic variables similar to those used as covariates by Hosek and Peterson. Second, the NELS reports which sample members en-

listed. Finally, the NELS contains cognitive test scores, which can be used to approximate AFQT scores. We now describe the AFQT in more detail.

THE ARMED FORCES QUALIFICATION TEST

The primary measure of aptitude for determining eligibility for admission into the Armed Services is an individual's score on the AFQT. The AFQT is designed to measure the trainability of potential recruits—more specifically, to identify individuals who are at high risk of not completing the initial training program (Eitelberg et al., 1984). The AFQT is a combination of scores from tests that are included in the Armed Service Vocational Aptitude Battery (ASVAB). The ASVAB is a ten-subtest battery administered to all military applicants. The test is designed to identify applicants who exceed minimum entry requirements and to match recruits to military occupations for which they are well suited. Since 1989, the AFQT has consisted of the sum of the standard scores¹ from the Arithmetic Reasoning and Math Knowledge subtests plus twice the sum of the standard scores on the Paragraph Comprehension and Word Knowledge subtests.²

The military divides AFQT percentiles into five categories that indicate subsets of the test score distribution (see Table 2.1). High school graduates in the top half of the AFQT distribution—CAT I–III—are often referred to as the “high-quality” market, and individuals with these scores and educational status are considered the most desirable recruits, for their ability to succeed in and complete training.

As mentioned earlier, Congress mandates that no enlistees may come from the lowest 10 percentiles—CAT V—and that no more than 25 percent of enlistees can have scores between the 9th and 31st percentiles—CAT IV. Operational standards for recruiting often differ but do not fall below these legal standards for recruiting. Operational standards vary over time to reflect the needs of the service, the

¹The ASVAB subtests are standardized to have a mean of 50 and standard deviation of 10 in the 1980 youth population.

²Before 1989, the AFQT score was equal to the sum of raw scores on the Word Knowledge, Paragraph Comprehension, and Arithmetic Reasoning subtests plus one-half the raw score on the Numerical Operations subtest.

Table 2.1
AFQT Percentiles and Categories

AFQT Percentile	AFQT Category
93–99	I
65–92	II
50–64	III-A
31–49	III-B
10–30	IV
1–9	V

ease or difficulty of recruiting due to labor market conditions, or other factors. For example, operational standards might require that all enlistees have a high school diploma or that recruits be restricted to CAT I–IIIB. In addition, recruiter incentives are designed in a way that will influence the mix of recruits. For instance, the incentives are often designed to encourage recruiters to enlist “high-quality” recruits.

THE NATIONAL LONGITUDINAL SURVEY OF YOUTH: THE CURRENT BASIS FOR AFQT

In 1980, the Department of Defense (DoD) administered the ASVAB to a nationally representative sample of youth as part of the NLSY. This effort—called the “Profile of American Youth” study (Bock and Moore, 1984, Office of the Assistant Secretary of Defense, 1982, and Maier and Sims, 1986)—is the only time that the ASVAB has been administered to a random sample of youths. Prior to the Profiles study, norms for the AFQT were based on the population of males on active duty on December 1, 1944, including both officers and enlisted personnel (Waters and Lindsley, 1996).

The original NLSY consists of a random sample of 6,111 youths who were age 13–20 in 1978 plus an oversample of 5,295 black, Hispanic, and economically disadvantaged youths who were not black or Hispanic as part of the National Longitudinal Survey of Youth (NLSY). The survey also included an oversample of 1,280 people who were enlisted in the military in 1979, but it dropped these individuals after

1985. In addition to taking the ASVAB, each respondent answered a broad range of questions in each year between 1979 and 1994.

Sponsored by both the Department of Labor (DoL) and DoD, the NLSY Profiles study had several purposes. First, it would allow DoD to identify percentile scores on the AFQT that were normed against a contemporary representative sample of the youth population. Second, it would permit DoD to measure the fraction of the youth population that would satisfy eligibility requirements and to examine differences in eligibility across demographic characteristics, geographic regions, or other factors. Third, it would facilitate the investigation of the relationship between vocational aptitudes and a large number of labor force and other outcomes (see, for example, O'Neill, 1990, Herrnstein and Murray, 1994, Cameron and Heckman, 1993, Currie and Thomas, 1995, and others). A new, nationally representative sample of youth will be included in a second Profiles study as part of an NLSY study slated to begin in 1997. DoD and DoL will again jointly sponsor this survey and will administer the ASVAB as part of the study. The revised norms should be available sometime around the turn of the century.