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Appropriate Use of Armed Services Vocational Aptitude Battery (ASVAB) Scores

Executive Summary

The Armed Services Vocational Aptitude Battery (ASVAB) is a collection of tests used to qualify military applicants for entrance into the U.S. Military and into training programs for military occupations. Each year, the ASVAB is administered to more than one million military applicants, high school, and postsecondary students. The ten tests that currently make up the ASVAB measure aptitude in four domains—Verbal, Math, Science and Technical, and Spatial. Verbal tests consist of Word Knowledge (WK) and Paragraph Comprehension (PC). Math tests consist of Mathematics Knowledge (MK) and Arithmetic Reasoning (AR). Science and Technical tests consist of General Science (GS), Electronics Information (EI), Auto Information (AI), Shop Information (SI), and Mechanical Comprehension (MC). Assembling Objects (AO) is the test used to assess the Spatial domain.

There are three validated and approved uses for ASVAB scores, and they include the following:

1. Selection: Determine whether an applicant is qualified to enlist in the military (using Armed Forces Qualification Test [AFQT] scores)

2. Classification: Assign applicants to jobs in the military (using Service-specific ASVAB composite scores)

3. Career Exploration: Facilitate career exploration for high school and postsecondary students (using ASVAB Career Exploration Program composite scores)

The purpose of this information paper is to elaborate on these three approved uses and strongly advise against any alternative uses for ASVAB scores. Before doing so, it is important to orient the reader to an essential measurement practice—validation. The principles of validation provide the foundation for defining the appropriate uses of ASVAB scores.

Validation

It is a well-established concept within the assessment community that a test can neither be valid nor invalid. That is, validity is not a property of a test. Rather, the *Principles for the Validation and Use of Personnel Selection Procedures* (Society for Industrial and Organizational Psychology [SIOP], 2018, p. 4) endorse the *Standards for Educational and Psychological Testing*'s definition of validity as "the degree to which evidence and theory support the interpretations of test scores for proposed uses of tests" (American Educational Research Association [AERA], American Psychological Association [APA], National Council on Measurement in Education [NCME], 2014, p. 11). Thus, validation is the process of collecting evidence to evaluate the appropriateness of interpretations, uses, and decisions made based on test score results. Each new proposed use must undergo its own validation. That is, a test that is meaningful for one objective (e.g., military selection) may be less meaningful (or even misleading) in another context (e.g., to predict SAT scores).

The contemporary validation process takes place in two stages (Kane, 2013). The first stage provides the interpretation/use argument: the internal logic for gathering information and making inferences that guide the user from test development to score *use*. Once the assertions in the interpretation/use argument are organized such that they hold together logically, the second stage then builds a validity argument by gathering evidence to determine how well the assertions in the interpretation/use argument are factually supported by existing theories, standards for test development practice, and collected data. While the validity argument approach is the current accepted practice for gathering evidence to support test score uses, there are a variety of strategies that have historically been used to gather evidence to support desired uses. In fact, there is substantial evidence collected across many decades that supports the three aforementioned uses for ASVAB scores (e.g., Campbell & Zook, 1991; Campbell & Knapp, 2001; Welsh, Kucinkas, & Curran, 1990). Currently, the validity argument approach is being implemented to support uses of ASVAB scores as a way to best organize the existing evidence and uncover areas for improving ASVAB usefulness/appropriateness for our current military applicant population.

Appropriate Uses of ASVAB Scores

The ASVAB was designed to predict success in military training and military job performance. It has been validated extensively against military training performance and found to be a good predictor of training grades. It has also been validated against job performance for a broad range of military occupations and has been found to be a good predictor of job knowledge and on-the-job performance. In addition to providing a screen for military enlistment, applicant and recruit scores are tracked over time and used as one indicator of recruit quality and for factoring into measures of military readiness.

There are three validated and approved uses for ASVAB scores, where "ASVAB scores" refers to both the scores that are provided for each subtest in the battery as well as Service-specific composites computed from different combinations of the subtest scores. The appropriate uses of specific ASVAB scores are described here:

1. ***Selection.*** For military applicant selection purposes, examinees receive a score on the Armed Forces Qualification Test (AFQT). The AFQT is a composite score calculated using the Standard Scores from four ASVAB subtests: AR, MK, PC, and WK. AFQT scores are reported as percentiles from 1–99. An AFQT percentile score indicates the percentage of examinees in a reference group who scored at or below that particular score. For current AFQT scores, the reference group is a sample of 18- to 23-year-old youth who took the ASVAB as part of a national norming study conducted in 1997 (Segall, 2004).[1] Thus, an AFQT score of 50 indicates that the examinee scored as well as or better than 50% of the nationally representative sample.

   Percentile score ranges are attributed to one of six AFQT categories for reporting purposes. Each Service identifies a minimum AFQT score required to qualify for enlistment and may have different distributional targets across the AFQT categories for selecting applicants. In accordance with Department of Defense Instruction (DoDI) 1145.01, "Qualitative Distribution of Military Manpower," the AFQT category benchmark for accessions within a

[1] The relevance of existing norms is continually monitored. Recent evaluations indicate that the 1997 reference group and the 2004 norms are still representative of the current ASVAB population.

given fiscal year is 60 percent with AFQT percentile scores of 50 (AFQT Category IIIA) or better. Also, no more than 4 percent of an accession cohort with AFQT percentile scores between 10 and 30 (AFQT Category IV) may be enlisted, and no one with a score below 10 (AFQT Category V) may be inducted or enlisted (Department of Defense Instruction, 2013). Additionally, Services utilize AFQT categories for program qualifications. For instance, the IIIA category is used to identify applicants for enlistment incentives. More information about ASVAB, AFQT, and enlistment requirements can be found at www.officialasvab.com.

2. ***Classification.*** Military applicants are assigned to jobs through a procedure called *classification*. Composite scores computed from ASVAB subtest standard scores are used to help classify new recruits into military occupations. Like percentile scores, standard scores are scores that have a meaning relative to a national sample of youth aged 18 to 23 (Segall, 2004). About half the population score at or above a standard score of 50, and about 16% score at or above 60. Each Service develops and validates its own set of composites based on the combination of subtests that are most highly correlated with on-the-job performance for clusters of occupations (based on criterion-related validity evidence). Applicants' scores on these Service-specific composites are used to help determine the military occupations for which an applicant is best suited.[2] More information about composite scores and classification can be found at www.officialasvab.com.

3. ***Career Exploration***. The ASVAB Career Exploration Program (CEP) has four components: the ASVAB, the FYI (an interest inventory that highlights work-related interest areas where students are most likely to succeed), the Occu-Find (a catalog of careers with relevant occupational data and a full suite of future-oriented planning tools to help students develop an action plan to share with parents and educators), and the Work Values Assessment (an assessment that helps students identify what is most important to them in a work environment). It is an extensive program of career exploration tools that offers students the chance to assess, explore, and keep a record of their skills, interests, aspirations, and opportunities for postsecondary education, civilian, and military occupational opportunities. ASVAB scores are only one piece of information considered when exploring future career paths. Specific to the ASVAB CEP, three composite scores are calculated that represent skill strength in Verbal, Math, and Science and Technical domains. These composite scores are included on a student's ASVAB Summary Results score report along with the subtest standard scores and AFQT score. The scores are provided with career exploration tools to 1) assist students in exploring career paths that emphasize the skills they scored well on, and 2) provide feedback on skill areas that might need to be enhanced to meet the skill demands of their desired career paths.

[2] Note that it is recommended that Services administer the Armed Forces Classification Test (AFCT) to make in-service reclassification decisions when ASVAB scores of record obtained during the applicant process are more than two years old. This recommendation stems from the lack of direct validity evidence to either support or discredit the use of ASVAB scores older than two years. With regard to selection decisions, DoDI 1304.12E, sections 3.1.6 and 3.2.12, specifies that ASVAB scores are considered valid for enlistment purposes for a maximum of two years from the date of ASVAB administration (Department of Defense Instruction, 2005). The AFCT was introduced for the purpose of making accurate in-service decisions, such as reassigning enlisted personnel to alternative military occupations. Therefore, unless explicit validity evidence is available to support the use of ASVAB scores older than two years for making in-service reclassification decisions, Services are advised to use their discretion and proceed with caution in using ASVAB scores for such purposes.

Since the inception of the Every Student Succeeds Act (ESSA, 2015), which requires states to establish college- and career-ready standards and maintain high expectations when assessing all students against those standards, some states have created a Military Readiness Pathway. The Pentagon's guidance to states that are considering the ASVAB as a measure of postsecondary military readiness declares that

> . . . students will need at least a minimum AFQT score for consideration by one of the branches of the military. However, because the minimum score fluctuates based on various Service requirements and other factors, states should check with the military services for the most up-to-date information. The ASVAB CEP does not make recommendations for minimum ASVAB score requirements (Salyer, 2017).

More information about the ASVAB CEP can be found at www.asvabprogram.com.

Inappropriate Uses of ASVAB Scores

Oftentimes, after the development and implementation of an informative assessment, creative uses for that assessment are imagined for which the test was never designed. In striving for efficiency and cost savings, this is not a surprising phenomenon. However, per the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), all *uses* of tests must be validated, and therefore, it is the Office of People Analytics' duty to warn against any non-validated *uses* of ASVAB scores, particularly those that are commonly encountered. More specifically, the Office of People Analytics does not endorse the *use* of ASVAB scores for purposes other than those for which the test was designed (i.e., for military service selection, classification, or career exploration).

Some common misuses of ASVAB scores are described here:

1. ***Evaluating educational outcomes.*** Although there is some overlap between ASVAB content and secondary school curricula, the ASVAB is not designed to measure system-level educational outcomes (e.g., state accountability requirements, school performance) or student-level educational outcomes (e.g., educational attainment, high-school achievement, or college preparedness). Likewise, ASVAB scores should not be used as predictors of college success. ASVAB scores are routinely collected from both military applicants and students participating in the ASVAB CEP. Since participation in these ASVAB-related programs is generally voluntary (i.e., there is an element of self-selection among applicants, students, and/or schools taking the ASVAB), a comparison of scores across select subpopulations is likely to be non-representative of true subpopulation differences. For example, a comparison of ASVAB score distributions across schools or states is likely to give a distorted picture of true differences because of differential test participation rates caused by selection factors. Further, the Office of People Analytics finds that many students, if they decide to consider military opportunities, will retake the ASVAB after graduation. This suggests that their initial scores may not reflect their best efforts. Since the Office of People Analytics does not have an independent measure of student motivation, the nature of the ASVAB Testing Program along with anecdotal evidence suggest that non-applicant ASVAB scores should not be used as proxy measures of

educational outcomes or student abilities, in the absence of validity evidence to support these particular *uses*.

2. ***Predicting performance on college entrance exams such as the ACT or SAT.***[3] ASVAB scores cannot be used for predicting performance on college entrance exams such as the American College Testing (ACT) or Scholastic Aptitude Test (SAT). Doing so would require concordance tables aligning scores across the different test batteries, and there are several issues with the use of such tables identified in the peer reviewed literature (e.g., Pommerich & Dorans, 2004; Pommerich, Hanson, Harris, & Sconing, 2004; Pommerich, 2007; Pommerich, 2016). More specifically, there are issues with aligning ACT/SAT scores to ASVAB score concordance tables (ACT, personal communication, 2006). For example, college entrance exams and the ASVAB are developed for different purposes, and their content is practically non-overlapping. Additionally, each test battery is designed for differently skilled subsets of the population—hence, the differing content. Using ASVAB scores as a proxy for ACT/SAT scores (or vice versa) based on concordance tables is a use of the ASVAB scores that has not been validated. For more information on the construction of concordance tables and their potential uses and misuses, refer to the Office of People Analytics' (2025) executive note/information paper, "Perspectives on Linking ASVAB's AFQT Scores to Scores from College Entrance Exams."

3. ***Using ASVAB scores for postsecondary program decisions (e.g., school application or entrance requirements, awarding college scholarships).*** College readiness and military readiness are not synonymous. While they may partially overlap, each type of readiness is defined by different cognitive skills, personality traits, and other characteristics. Therefore, the ASVAB does not specifically measure college readiness, and scores are unlikely to predict performance in college coursework. As such, ASVAB scores should not be used in lieu of SAT/ACT scores for making application requirement, admittance, or scholarship award decisions—even when those scholarships are for admittance to Reserve Officer Training Corps (ROTC) academies within U.S. colleges and universities or to United States military academies. Such uses of ASVAB scores have not been validated by the Department of War.

Conclusion

Validity evidence has been collected and organized to support only three central uses of ASVAB scores: for military selection, military job classification, and career exploration through the ASVAB CEP. Any other use is not supported by the. Service branches, states, schools, or individuals that wish to use ASVAB scores for any unsupported purposes are advised to conduct data collections and analyses in order to provide the necessary validity evidence to support the desired uses (see information under "Validation" beginning on page 1 of this information paper).

[3] Note that it is a misuse of ACT/SAT scores to predict ASVAB scores. That is, using one set of scores on either the ACT/SAT or ASVAB to predict the other set of scores is inadvisable as validity evidence to support such uses does not exist.

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