

Air Force Enlisted Accessions: Determining the Relationship between Applicant Characteristics and United States Air Force Standardized Testing

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ABSTRACT: The United States military is the largest employer of high school graduates, with about 180,000 new applicants joining each year. The United States Department of Defense and its service-specific recruiting services are tasked with recruiting the next generation of military personnel to fill in their ranks. In a competitive job market, understanding the background of a diverse market pool is vital to recruiting the right people for the right job. This study examines the relationship between applicant characteristics and initial qualification testing scores for United States Air Force applicants in South Texas and Eastern Louisiana. Applicant characteristics are defined as race, gender, age, and family income. This study aims to evaluate the Armed Services Vocational Aptitude Battery (ASVAB) test scores for applicants who successfully shipped to Basic Military Training in the fiscal year 2019. Adjusted gross income (AGI) or income levels were gathered from irs.gov, and applicant data was obtained from the Air Force Recruiting Service 341st Recruiting Squadron headquartered in San Antonio, Texas. No personal identifying information is used in this study. Independent variables included in the study are gender, age, race, and socioeconomic status, as well as by family income. The dependent variable is the standardized ASVAB test scores for Southern Texas and Southeastern Louisiana Air Force applicants. This study addresses gaps in the literature by focusing on the impact of applicant characteristics and their effects on the ability to become prospective applicants to serve in the United States Air Force.

KEYWORDS: ASVAB, Air Force, recruitment, applicants, standardized testing, success

Introduction

High school students around the United States face the difficult decision of which path to take after graduation. Enrolling at a university, taking courses at a community college, joining the workforce, or serving in the military are all viable options for today's youth; however, not every young adult has the same level of educational readiness and life experiences to take on their next challenge after high school. Roberts (2019) states that high schools around the country are tasked with providing students with the development that will help them mature and transition into adulthood; however, factors outside of the school environment can also lead to the lack of skills development that leads to a successful path after graduation.

Factors outside the classroom and outside the student's control can play a role in student development and success as a young adult. Not all racial and demographic groups are equally prepared for post-high school life. Some groups are at a disadvantage for even completing high school. Balfanz and Legters (2004) stated that between 1993 and 2002, almost 50% of African American students, nearly 40% of Latino students, and only 11% of white students attended high schools where high graduation rates were not the norm.

Educational and life experiences for high school students across the nation are not always standardized; however, there has been a movement to measure academic success through standardized testing. Jennings and Rentner (2006) stated that the 2002 passage of the

No Child Left Behind Act (NCLB) has resulted in pressure for schools to perform well on standardized testing. Reimer Rothmeyer (2020) states that standardized testing has become a regular part of the American education experience and can be crucial to future life opportunities. Success on standardized tests, which a student may take as a teenager, can have lasting effects throughout adulthood.

Shaver (2013) posits that underperforming on standardized tests can have extreme consequences based on the outcome. Shaver (2013) further asserts that test-taking strategies and academic skills must be taught to ensure students are adequately prepared for the test topics and the testing process. Students who perform poorly on standardized tests have limited career and college opportunities and are at a higher risk of dropping out of high school altogether (Carter et al. 2005). The standardized testing effect leaves students around the country preparing for an exam versus increasing their knowledge and competency in a particular academic subject.

Multiple tests have been instituted nationwide at high schools to gauge a student's career path after graduation. The American College Test or ACT is the most widely accepted college entrance exam in the United States (Strauss 2012), with over 2 million students taking the exam in 2015 (ACT 2015). The Scholastic Aptitude Test or SAT Reasoning standardized test is the second most used test for college admissions (Korbin and Michel 2006). While the ACT and SAT are used to determine qualifications for college admissions, the Armed Services Vocational Aptitude Battery, or ASVAB, is used to determine military enlistment qualifications. First introduced in 1968, the ASVAB is a multiple-aptitude battery that has been the primary tool for military enlistment qualification and career placement in the United States Armed Services (Schiano 2018). The test is administered to over one million prospective applicants each year through local high schools or one of the 65 Military Entrance Processing Stations (MEPS) across the country as their first step towards a career in military service (Rodgers 1996).

Air Force Recruiting and the ASVAB

The United States military is the nation's largest employer of high school graduates, with about 180,000 new applicants joining each year (Wall 2018). The United States Department of Defense is tasked with recruiting the next generation of military personnel to fill their ranks in support of national defense. Air Force recruiters compete with local industry, community colleges, universities, and even other military branches to recruit the population that is qualified to serve. To be eligible for military service, applicants must be between the ages of 17 and 39, be a United States citizen or legal resident, have a high school diploma, pass a medical exam, pass a criminal background check, and have a qualifying score on the Armed Services Vocational Aptitude Battery (ASVAB) Test. Each respective military branch has its own organization focused on recruiting the highest quality applicant.

The United States Air Force Recruiting Service (AFRS) oversees the Air Force's recruiting operations and is headquartered at Joint Base San Antonio Randolph, Texas. The Air Force Recruiting Service is led by a Major General and has over 2,800 personnel across 1,040 recruiting offices stationed around the world. The men and women assigned to AFRS are tasked with inspiring, engaging, and recruiting prospective applicants worldwide. Applicants are assigned to recruiters in their local area based on their high school or residence. Recruiters work one-on-one with applicants to schedule a physical examination, their ASVAB test, and medical and criminal background appointments at their closest Military Entrance Processing Stations (MEPS). Military Entrance Processing Stations are joint commands that consist of personnel from the Army, Air Force, Marines, Navy, and Coast Guard, all working together to process applicants through a complete records review to qualify personnel for military service successfully.

Standardized testing is an important factor in the military accession process. A key component of military accessions is successfully completing the Armed Services Vocational Aptitude Battery (ASVAB) exam. The ASVAB was first introduced in 1968 to predict future academic and occupational success in the military. Since then, it has been used to qualify prospective applicants for military service and job placement (Shiano 2018). The test is taken by prospective applicants from the Army, Air Force, Navy, Coast Guard, and the newly created Space Force. The test has ten subtests, about 200 items, and takes more than two hours to complete (Wall 2018). The ten subtests consist of General Science, Arithmetic Reasoning, Word Knowledge, Paragraph Comprehension, Mathematics Knowledge, Electronics Information, Automotive Information, Shop Information, Mechanical Comprehension, and Assembling Objects sections (Defense Manpower Data Center 2012). The Air Force utilizes the following four subcategories, General, Administrative, Mechanical, and Electrical, to place its personnel into their Air Force Specialties (Schiano 2018). The Armed Forces Qualification Test, a subset score taken from the ASVAB, is used as a baseline for qualification.

The ASVAB is offered at high schools around the nation through coordination with their local recruiters as well as through local processing stations. Military recruiters generally experience open access to high schools in their area of responsibility to recruit and offer the ASVAB; however, that does not always lead to a qualified applicant pool. Dibner (2013) stated that the recruiting mission of the military is thoroughly integrated into American public schools, and federal legislation ensures that public institutions receiving government funding open their doors to the Armed Forces or risk losing federal funds. Even with federal legislation opening high schools' doors to military recruiters, the list of qualified applicants remains limited. Mercado (2014) posits that up to 25% of students that begin high school do not graduate, and the numbers grow to 40% for African American and Hispanic students. Military applicants are diverse individuals with different life experiences, socioeconomic backgrounds, and academic levels; however, all applicants must meet standardized academic requirements for service regardless of their background. Colleges, universities, the local workforce, and the military are all routes for high school graduates; however, the military adds additional qualifications to serve that are not attached to the alternate routes available to potential recruits.

Prospective Applicants

Maclean and Kleykamp (2016) analyzed factors associated with high school students joining the military after graduation versus entering the workforce or attending college; Maclean and Kleykamp identified the following factors in their study: educational goals, the presence of military institutions within the vicinity, socioeconomic status, and race. A study by Cowan (2018) shows how young students have inflated expectations regarding their likelihood of attending college after high school. Many students feel that the next progressive step after high school is to enroll in college; however, they may lack the resources and educational background to be accepted into a university. Cowan (2018) further added that there might be a bias regarding college expectations for students based on their socioeconomic status and where they grow up. All students are not equally prepared to enter the workforce, educational setting, or the military after high school. The results may vary greatly depending on their school and other socioeconomic factors. Cowan (2018) concluded that many students do not comprehend the role of academic preparation when it comes to post-high school success.

While the ASVAB test is a standardized assessment, prospective recruits' education and development levels are not always equal. Lee (2014) conducted a qualitative study that included military leaders and focused on diversity in leadership positions. The study found that 29.3% of participants believed that students in low-skilled high schools were at a disadvantage when taking the ASVAB; students from low-income areas were also found to be at a disadvantage. Lee (2014) concurs that schools have programs to prepare students for the ACT and SAT

college admissions tests; however, there are no programs to prepare military applicants for the ASVAB. Lee (2014) further stated that over 40% of respondents were unaware of any programs available to prepare students to take the ASVAB and join the Armed Services. Lee's study (2014) also delved further into the disparities among African American applicants and found that military leaders of all races agreed that the ASVAB is not equitable among all applicants.

Outlining shortfalls in recruiting practices can allow the Department of Defense to reallocate resources to help recruit qualified men and women to fill tomorrow's military ranks. It is essential to understand applicant premilitary capabilities and their demographics to ensure the military meets its end-strength requirements to support global operations. Current research focuses on qualified applicants and best practices for recruiters but not on the impact of an applicant's demographics and how these may determine standardized testing outcomes (Lee 2014; McMullen 2016; Schiano 2018). The lack of established research regarding Air Force applicant demographics and the potential to identify effective procedures in recruiting applicants with varying backgrounds led to the exploration of this topic.

Minority Representation

Research by Armor and Gilroy (2010) found that enlistment standards can considerably impact minority representation because educational attainment and aptitude differ by race and ethnicity. What is not known is to what extent family income influences an applicant's ASVAB test scores. This research will focus on the applicant's family income and other demographic data to determine whether there is a correlation between income and ASVAB test scores. Tajalli (2018) stated that since the early 1990s, social scientists, educators, and lawmakers had debated the unequal distribution of resources among public school districts where most states, such as Texas, link school finances to local property tax. Property taxes can vary widely across school districts, creating a significant disparity in educational opportunities for students in low-property tax areas. In 2015, Boles Independent School District, located 60 miles east of Dallas, had \$33,641 in taxable property tax per student, while Westhoff Independent School District, located 80 miles east of San Antonio, had over \$27 million in taxable property tax. Boles ISD was able to raise \$505 per student, while Westhoff was able to raise over \$409,000 per student (Tajalli 2018). Educational opportunities, readiness, and resourcing levels vary greatly depending on where students attend school. Students from districts like Boles and Westhoff are both potential Air Force applicants.

Almost 40 percent of active-duty Air Force personnel are between 17-24 years old (Cfr.org 2020). The military has been an important institution for disadvantaged populations, especially younger populations. It provides steady employment, benefits, and compensation that exceeds equivalent civilian opportunities, such as healthcare and the GI Bill to fund education (Maclean and Kleykamp 2016). Recruiters focus on this demographic for most of their recruits and target many of their efforts between a walk-in market and local high schools. In 2019, 17-25-year-olds accounted for 89 percent of new accessions. Recruiters have access to high schools around the country to recruit prospective applicants based on the National Defense Authorization Act of 2002 and the NCLB Act of 2001 (Hagopian and Barker 2011); however, the qualified applicant pool continues to decrease.

Research

This quantitative correlational study aims to determine the relationships between gender, age, race, and socioeconomic family status (family income) as independent variables and ASVAB standardized testing scores as the dependent variable for Southern Texas and Southeastern Louisiana Air Force applicants. This study aims to evaluate how the variables of age, race, gender, and family income correlate with an applicant's standardized qualification testing scores

captured on the Armed Services Vocational Aptitude Battery (ASVAB) test. Gaining a better understanding of the applicant's family income and demographics will provide a better selection process for the United States Department of Defense to reallocate resources to enhance its recruiting methods. There were no physical participants in this study; data was extracted from personnel records for the fiscal year 2019.

While high school institutions provide preparation for college entrance exams like the ACT and SAT, there is limited test preparation for the ASVAB and a career in military service (Lee 2014). Limited resources, limited education, and a lack of test preparation for the ASVAB for specific demographic groups can lead to a lack of qualified candidates based on the current screening and qualification processes for military service (Wall 2018). To better understand the relationship between participant demographic data and ASVAB scores, this study uses secondary data to show whether significant findings exist. The information presented in this study will provide the Department of Defense and the Department of the Air Force with a better understanding of the applicants they are competing for in a dynamic competitive job market. Gaining a better understanding of the challenges prospective applicants face will help decision-makers in recruiting to tailor their efforts and resources to meet the needs of these individuals and man the Air Force to support its national defense mission.

Research Question

The following research questions will guide this study:

RQ1. What relationship, if any, exists between ASVAB general scores and an applicant's gender?

RQ2. What relationship, if any, exists between ASVAB general scores and an applicant's age?

RQ3. What relationship, if any, exists between ASVAB general scores and an applicant's race?

RQ4. What relationship, if any, exists between ASVAB general scores and an applicant's socioeconomic status outlined through adjusted gross income?

H_0 There is not a significant correlation between ASVAB general scores and applicant demographics.

H_1 There is a significant correlation between ASVAB general scores and applicant demographics.

Methodology

This study aims to identify a relationship between ASVAB standardized test scores and demographic factors such as age, race, gender, and family-adjusted gross income for applicants that joined the United States Air Force from South Texas and Eastern Louisiana in the fiscal year 2019. Applicant data was provided by the 341st Recruiting Squadron, headquartered in San Antonio, Texas. Data included the applicant's age, race, gender, and zip code. All applicant personal identifiable information such as name, address, or social security number was removed before collection to protect applicant privacy. Family-adjusted gross income was collected from the IRS.gov website for tax returns completed in 2017.

Significance of the Study

The United States military is one of the largest employers in the world. It is essential to understand applicants and their demographic background's impact on their ability to achieve a passing score on the ASVAB. ASVAB scores are important for the application process and have lasting effects on the recruit's career. The higher applicants score on the ASVAB, the more opportunities they have to serve in various career fields. Applicants are matched to jobs based on their mechanical, administrative, general, and electric scores. Specific scores are required to

serve in multiple career fields. For example, to serve as an Air Traffic Controller, an applicant would have to score a 55 in the general portion of the test, and to serve as a Weather Specialist, an applicant would have to score a 66 on the general section and a 50 in the electrical section (Military.com 2021). Given the lack of research regarding applicant demographic and background data, this study will aim to outline if age, race, gender, or family income play a role in standardized testing scores. Based on the results of this study, the Department of Defense will gain a better understanding of what leads to a successful score on the ASVAB. It can then decide how to allocate recruiting resources to such defense priorities.

Results

A total of 1,657 observations were reviewed. The variables presented in the table below include mean test scores based on age, race, and gender, as well as ASVAB scores categorized by mechanical, administrative, general, electrical, and overall or QT scores. ASVAB scores were analyzed on a percentile scale ranging from 31 to 99. The applicant's characteristic variables were categorized on an ordinal scale. Applicant gender was categorized as a 1 for Female and a 2 for Male. Applicant age was broken into the following five categories: 1 for ages 18-21, 2 for ages 22-25, 3 for ages 26-30, 4 for ages 31-35, and 5 for ages 36-41. Lastly, race was broken into the following five categories. 1 for American Indian/Alaskan, 2 for Asian, 3 for African American, 4 for Pacific Islander, and 5 for White. Total ASVAB scores were further analyzed in Tables 2-6.

Table 1: Descriptive Statistics

	Mean	Std Dev	Min	Max
agi	66322.35	33627.15	19310	490224.4
asvabt	66.526	16.721	31.000	99.000
asvabe	67.368	19.153	14.000	99.000
asvabg	65.909	17.902	24.000	99.000
asvaba	67.373	16.180	27.000	99.000
asvabm	58.098	20.705	9.000	99.000
age	1.537	0.789	1.000	5.000
race	4.419	1.004	1.000	5.000
gender	0.261	0.439	0.000	1.000
N	1657	1657	1657	1657

The following table outlines the regression of the data with ASVAB total scores listed as the dependent variable. As you can see, zip-code-based adjusted gross incomes are statistically significantly related to ASVAB scores, with a slope coefficient equal to approximately .0000657. So, for a \$100,000 increase in income, ASVAB scores would increase by approximately 6.57 points, creating more work-based opportunities for high-income recruits, and vice-versa. The high F-value for the model as a whole signifies that it is statistically significant and explains about 10% of the variability in ASVAB scores as determined by the adjusted coefficient of determination.

Table 2: Regression Table

	DV ASVAB Total
agi	0.000*** (0.000)
gender	-3.559*** (0.893)
native	-8.910** (4.133)
Asian	1.970 (1.993)
black	-7.625*** (0.980)
islander	-1.187 (3.501)
a18a21	-4.402 (4.283)
a22a25	-0.018 (4.315)
a26a30	3.309 (4.460)
a31a35	2.184 (5.176)
_cons	61.686*** (4.680)
N	1657
r2	0.103
ar2	0.097
Prob > F	0.000

Standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01

Gender

A series of two-sample t-tests and ANOVA models were used to examine the degree to which ASVAB scores varied by group. The data in table 3 below are statistically significant at below the 5% significance level; this test included 1,224 males (67.43 mean score) and 433 females (63.96 mean score). The mean of the male applicants was 3.47 higher than female applicants. The results can possibly exist due to the heavy mechanical and electrical test components that female applicants may not have extensive exposure to at an early age.

Table 3: ASVAB Scores (Mean) by Applicant Gender

	Observations	Mean	Std Dev
Male	1224	67.431	16.87
Female	433	63.965	16.02

Age

Applicant age was reviewed to determine statistically significant differences between categories. Applicant age is outlined in table 4 below and was broken into five categories. Of the 1,657 applicants, 1,475 fell in categories 1 and 2. A variance was identified as applicants ages 26-30 reflected the highest mean score of 72.561, and applicants ages 18-21 reflected the lowest mean score of 64.453. Older applicants bring life experience, additional advanced education, and work experience, which can lead to higher test scores.

Table 4: ASVAB Scores (Mean) by Applicant Age

	Observations	Mean	Std Dev	Min	Max
Cat 1 (18-21)	1006	64.453	16.06	32.000	99.000
Cat 2 (22-25)	469	68.884	16.97	32.000	99.000
Cat 3 (26-30)	139	72.561	17.53	31.000	99.000
Cat 4 (31-35)	29	70.103	18.39	35.000	99.000
Cat 5 (36-41)	14	69.074	19.01	35.000	98.000

Race

Applicant race is outlined in table 5 below and is sectioned into five categories: American Indian/Alaskan, Asian, African American, Pacific Islander, and White, for a total of 1,657 applicants. Race varied from a low of 15 American Indian applicants to a high of 1,214 White applicants. A variance was identified in scores as American Indian applicants reflected the lowest mean test score of 58.866, and Asian applicants reflected the highest mean test score at 71.779.

Table 5: ASVAB Scores (Mean) by Applicant Race

	Observations	Mean	Std Dev	Min	Max
American Indian	15	58.866	11.36	41.000	78.000
Asian	68	71.779	18.14	31.000	99.000
African American	339	60.023	15.42	32.000	97.000
Pacific Islander	21	67.857	15.75	48.000	96.000
White	1214	68.118	16.58	32.000	99.000

Income

Adjusted gross income, outlined in table 6 below, is statistically significant and affects test scores. For every \$100,000 in family income, ASVAB scores increase by 6.57 points. An increase of just a few points can make a difference in what occupations are open to applicants, affecting recruiting, retention, and the overall job satisfaction of the applicant. Applicants in lower-income areas are not as qualified as those from higher-income areas.

Table 6: ASVAB Scores by Applicant Socioeconomic Status (Adjusted Gross Income)

	Obs	Coefficient	Std Error	t value	P> t
AGI	1657	.0000657	.0000117	5.62	0.000

Discussion and Implications

Young adults worldwide take standardized tests throughout the year that could significantly impact their future direction. This research has outlined how backgrounds vary widely and how gender, age, race, and income all play an important factor on a standardized test like the

ASVAB. Males score almost 3.5 points higher than females, applicants aged 26-30 score over 8 points higher than those straight out of high school in the 18-21 range, Asian applicants score almost 13 points higher than American Indian applicants, and for every \$100,000 a person makes, their score increased by 6.57 points. Life experiences, family backgrounds, and educational settings play a key role in a student's growth, development, and readiness for their post-high school careers.

The Air Force needs to focus on increasing their applicant pool's preparedness, which continues to decrease due to unqualified applicants. McMullen (2016) stated that the total qualified military available (QMA) or applicants aged 17-24 that were in the target recruiting population in 2011 was 33.1 million; however, 41.6 percent were disqualified due to a medical condition or criminal history, 20.2% were disqualified due to a lack of education or a low ASVAB score, and 14.8% did not meet the weight standard. This left 7.7 million, or 23.4% of the entire population in the United States, eligible for recruitment into the armed services. In a scarce job market that competes with industry, education, and even other military branches, the Air Force should look to invest in test preparation programs for applicants around the country.

The results of this study demonstrate how applicants between the ages of 17 to 25 accounted for 89 percent of new accessions in 2019; however, these applicants scored the lowest on the ASVAB. Based on these findings, there is a need for a centralized test preparation program to target applicants who have not been exposed to technical and mechanical fields, applicants from less wealthy school districts, applicants with a disadvantaged socio-economic background, or applicants with different life experiences that have not been able to prepare for the ASVAB test. A test preparation program and additional resources can help students prepare for a test for which they have little background or knowledge. Such a program will increase the limited applicant pool that is not qualified for military service and will improve the qualifications of current applicants to be qualified for additional jobs and opportunities in the Air Force.

Conclusion

Literature has provided insight into the lack of equal levels of student preparedness regarding standardized testing. A high stakes testing environment leaves students faced with difficult decisions as teenagers that can affect the trajectory of their life. A high school diploma does not equal a baseline education for students based on when and where they completed their education. The applicant pool in the United States Air Force and the United States Military is shrinking as fewer young adults have family ties to the military, and disqualifying factors such as medical, criminal, physical, and a strong educational background are present. Increasing an applicant's ASVAB score through additional test preparation programs and added resources will increase their opportunities to serve in various roles within the Air Force.

References

- Armor, D. J., and C. L. Gilroy. 2010. "Changing Minority Representation in the U.S. Military. *Armed Forces & Society*. *Armed Forces & Society* 36 (2): 223-246.
- "ASVAB Scores and Air Force Jobs." Military.Com. January 1, 2023. <https://www.military.com/join-armed-forces/asvab/asvab-and-air-force-jobs.html>.
- Balfanz, R., and N. Legters. 2004. "Locating the Dropout Crisis: Which High Schools Produce the Nation's Dropouts? Where Are They Located? Who Attends Them?" *Institute of Education Sciences*, no. 70.
- Carter, E. W., Wehby, J., Hughes, C., Johnson, S. M., Plank, D. R., Barton-Arwood, S. M., and L. B. Lunsford. 2005. "Preparing Adolescents With High-Incidence Disabilities for High-Stakes Testing With Strategy Instruction." *The Journal of Educational Research* 49 (2): 55-62.
- Cohn, L. P. 2007. *Who Will Serve? Education, Labor Markets, and Military Personnel Policy*. ProQuest Dissertations Publishing.

- Cowan, B. W. 2018. "Sources of Bias in Teenagers' College Expectations." *Social Science Quarterly* 99(1): 136-53.
- "Defense Manpower Data Center." 2012. OfficialAsvab.Com. Personnel Testing Division Defense Manpower Data Center, January 5, 2012. https://www.officialasvab.com/wp-content/uploads/2019/08/asvab_techbulletin_4.pdf.
- "Demographics of the U.S. Military." Council on Foreign Relations, 2020. <https://www.cfr.org/backgroundunder/demographics-us-military>.
- Dibner, K. A. 2013. *Something Else for the Rest of 'em? Military Recruiting, School Mission and Postsecondary Transitions in Public High Schools*. ProQuest Dissertations Publishing.
- Hagopian, A., and K. Barker. 2011. "Should We End Military Recruiting in High Schools as a Matter of Child Protection and Public Health?" *American Journal of Public Health* (1971) 101 (1): 19-23.
- Jennings, J., and D. S. Tentner. 2006. "How Public Schools Are Affected by No Child Left Behind." *Education Digest* 72 (4): 4-9.
- Korbin, J. L., and R. S. Michel. 2005. "The SAT as a Predictor of Different Levels of College Performance." *College Board* 2006, no. 3.
- Lee, S. 2014. "Race Disparity between the Ranks: A Qualitative Research Study concerning Military Diversity; in Addition, Why Blacks Are Still Playing Catch-up." ProQuest Dissertations Publishing.
- Maclean, A. and Kleykamp, M. 2016. "Income Inequality and the Veteran Experience." *The Annals of the American Academy of Political and Social Science* 663 (1): 99-116.
- McMullen, J. E. 2016. *Recruiting Best Practices in Prospecting: Developing the Skills Necessary to Recruit an All-Volunteer Army—A Delphi Study*. ProQuest Dissertations Publishing.
- Mercado, M. C. 2014. *A Cross-cultural Examination of Factors Associated with High School Graduation: Perspectives from High School Seniors*. ProQuest Dissertations Publishing.
- Reimer Rothmeyer, M. G. 2020. "Perceptions of Standardized-Testing Environments." Order No. 27997269, Edgewood College. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/perceptions-standardized-testing-environments/docview/2436389706/se-2>.
- Roberts, R. M. 2019. "Standardized Testing in Education: The Importance of Play in the 21st Century." Order No. 13808182, Nazarene University, 2019. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/standardized-testing-education-importance-play-21/docview/2240090039/se-2>.
- Rogers, Jeff E. 1996. "Review of the Armed Services Vocational Aptitude Battery (ASVAB) Career Exploration Program." *Measurement and Evaluation in Counseling and Development* 29 (3): 176-82. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/review-armed-services-vocational-aptitude-battery/docview/62612532/se-2>.
- Schiano, M. L., Jr. 2018. "Determining the Relationship between Armed Services Vocational Aptitude Battery Scores and Long-Term Military Performance: A Correlational Study." Order No. AAI10809124, Northcentral University. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/determining-relationship-between-armed-services/docview/2103242029/se-2>.
- Shaver, W. 2014. "Effects of Remediation on High-Stakes Standardized Testing." Order No. AAI3537545. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/effects-remediation-on-high-stakes-standardized/docview/1499094649/se-2>.
- Tajalli, H. 2019. "The Impact of Texas 'wealth Equalization' Program on the Academic Performance of Poor and Wealthy Schools." *The Urban Review* 51(3): 404-423. doi:<https://doi.org/10.1007/s11256-018-0490-9>. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/impact-texas-wealth-equalization-program-on/docview/2442365432/se-2>.
- "The Condition of College and Career Readiness." ACT.Org. ACT, May 1, 2015. <https://www.act.org/research/policymakers/cccr15>.
- Wall, J. E. 2018. "Qualifying for Military Services as an Enlistee and the Importance of the ASVAB for Military and Civilian Work." *Career Planning and Adult Development Journal* 34(1): 46-52. <https://uiwtx.idm.oclc.org/login?url=https://www.proquest.com/trade-journals/qualifying-military-service-as-enlistee/docview/2251593957/se-2>.