

Educational Attainment and Economic Self-Sufficiency Literature Review
Countywide Service Integration and Planning Management Internship Spring 2018
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This literature review consists of sources that inform the relationship between educational attainment and economic self-sufficiency and its relevance to work in Fairfax County. The questions originally created to guide research include;

- What advantages and skills commonly developed through high educational attainment, job skills training, and credentialing contribute to an individual's economic self-sufficiency?
- Why does academic or vocational achievement lead to successful economic self-sufficiency, and what are the barriers to low income individuals?
- What specific topics, factors, determinants, or indicators in the study of educational attainment are most relevant to economic self-sufficiency?
- What factors perpetuate a cycle of low educational attainment and therefore economic dependence?

Sources

Credentialing & Vocational Education

1. CERTIFICATES: Gateway to Gainful Employment and College Degrees
2. A Key to Increasing Economic Mobility
3. General Education, Vocational Education, and Labor-Market Outcomes over the Lifecycle

College Education

4. Does It Pay to Complete Community College—and How Much?
5. Good Jobs That Pay without a BA: A State-by-State Analysis
6. Economic Benefit of Postsecondary Degrees: A State and National Level Analysis
7. More High School Seniors Opt for College as Job Market Shrinks
8. Using Community Colleges to Build a STEM-Skilled Workforce
9. A Realistic Look at STEM and the Role of Community Colleges

Factors

10. The Influence of Ethnicity and Adverse Life Experiences During Adolescence on Young Adult Socioeconomic Attainment: The Moderating Role of Education
11. Ten Ways to Promote Educational Achievement and Attainment Beyond the Classroom
12. Social Indicators Predicting Postsecondary Success
13. Economic Inequality, Educational Inequity, and Reduced Career Opportunity: A Self-perpetuating Cycle?
14. Learning in Place: Immigrants' Spatial and Temporal Strategies for occupational advancement
15. Connecting Dropouts to Career Pathways

Fairfax

16. Economic Overview Fairfax/ Falls Church
17. Labor Market Information
18. Meet the threat: NOVA confronts the cyber challenge through innovative solutions

Statistics

19. The Condition of Education 2017
20. Digest of Education Statistics 2015 51st Edition

Credentialing & Vocational Education

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| Source | Georgetown University Center on Education and the Workforce (CEW) “An independent, nonprofit research and policy institute that studies the link between education, career qualifications, and workforce demands.” |
| Title | Certificates: Gateway to Gainful Employment and College Degrees |
| Description | Explanations of the prevalence of certifications in America, graphs, demographic data (gender, age, race, income, education), and statistics. |
| Summary | The CEW distinguishes certificates from other credentials. Certificates are earned through classroom-based learning of a specific topic. This report solely focuses on certificate earning in the United States. The CEW explains the prevalence of certificates, “Overall, 18 percent of prime-age workers have obtained certificates and, of those, 12 percent have certificates as their highest educational attainment; and One third of certificate holders also have an Associate’s, Bachelor’s, or graduate degree” (p. 4). Key findings from the report include differences in salary and occupation between men and women certificate holders, parent’s education level of certificate holders, types of institutions where certificates are commonly earned, and how certificates can increase earnings. The report compares academic preparation/skill and family income and concludes that “students from low-income families have the academic potential to complete certificate programs, but are not fulfilling that potential” (p.13). In addition, completion of school through 10 th grade is the only academic preparation needed in order to succeed in a certificate program, therefore certificate programs are a good option for people who did not complete high school (p.13). Lastly, the report explains the importance of earning a certificate and getting a job in the same field, “Among certificate holders, 44 percent have occupations related to their certificate, and these occupation matches earn 31 percent more than those who aren’t in a related occupation” (p. 22). |
| Relevancy | This report is relevant to the body of research because it provides background information on credentials in America and on certificate earning as a path for economic self-sufficiency. |
| Full Citation | Carnevale, A. P., Rose, S. J., & Hanson, A. R. (2012, June) <i>Certificates: Gateway to gainful employment and college degrees</i> . Retrieved from https://cew.georgetown.edu/cew-reports/certificates/#full-report |
| Link | https://cew.georgetown.edu/cew-reports/certificates/#full-report |

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| Source | Brookings Institute “a nonprofit public policy organization based in Washington, DC.” |
| Title | A Key to Increasing Economic Mobility |
| Description | Article that summarizes a report and summarizes the workforce needs in the U.S. |
| Summary | This article is a summary of a report published by the White House, specifically, The Department of the Treasury Office of Economic Policy, the Council of Economic Advisers, and the Department of Labor, under former |

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| | <p>President Barak Obama, titled <i>Occupational Licensing: A Framework for Policy Makers</i>. This report states the disadvantages that military families, ex-offenders, and immigrants face in obtaining and using certificates and other credentials. The article emphasizes the growing demand in the American workforce for workers with more than a high school education but lower than a Bachelor's degree. The article further explains the demand, "These middle-skill jobs (in clerical, repair, health, construction, and sales occupations) now constitute about half of American jobs and promise to remain the biggest sector of employment in the American economy. Around half of these jobs require a license, so licensing is of great importance to anyone trying to figure out how to help workers from disadvantaged families get decent jobs" (Haskins, 2015). The article summarizes problems with licensing including, restrictive licenses raising consumer prices and different license requirements between states restricting mobility.</p> |
| Relevancy | This article is relevant because it explains how licensing can benefit individuals and meets market needs. The article also explains the drawback of licensing that should be considered. |
| Full Citation | Haskins, R. (2015, August 26). A key to increasing economic mobility. <i>Brookings Institute</i> . Retrieved from www.brookings.edu/opinions/a-key-to-increasing-economic-mobility |
| Link | www.brookings.edu/opinions/a-key-to-increasing-economic-mobility |

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| Source | Journal of Human Resources |
| Title | General Education, Vocational Education, and Labor-Market Outcomes over the Lifecycle |
| Description | This source is a study that analyzed data in 11 countries. |
| Summary | This source explores the long-term value of vocational and academic education. The researchers hypothesize that academic education has higher long-term value than vocational skills, "Our main hypothesis is that any initial labor-market advantage of vocational relative to general education decreases with age" (p. 49). The researchers collect data from different countries and analyzes each country's education system and employment patterns throughout working ages. Some countries encourage people to pursue vocational careers while others emphasize pursuing a general education. The article also recognizes that vocations can lose their relevance, "at any given time skill-specific demand will drop for just some specific vocational skills and it is difficult to predict which ones will face falling demand over the next several decades" (p. 84). |
| Relevancy | This source provides a unique perspective on the long-term worth of vocational careers. Vocational certifications could improve economic self-sufficiency but may not be sustainable as people grow older. |
| Full Citation | Hanushek, E. A., Schwerdt, G., Woessmann, L., & Lei, Z. (2017). General Education, Vocational Education, and Labor-Market Outcomes over the Lifecycle. <i>Journal Of Human Resources</i> , 52(1), 48-87. doi:10.3386/jhr.52.1.0415-7074R |

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| Link | http://web.a.ebscohost.com.mutex.gmu.edu/ehost/detail/detail?vid=22&sid=d71991cc-9fdf-4632-bf2e-708f6c6acda6%40sessionmgr4007&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#AN=121347005&db=ehh |
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College Education

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| Source | Center for Analysis of Postsecondary Education and Employment (CAPSEE) |
| Title | Does It Pay to Complete Community College—and How Much? |
| Description | Qualitative information on the earnings of different education levels and a table that compares the earnings of men and women with an associate's degree or with a certificate in 8 different states including Virginia. |
| Summary | This research brief explains the potential returns on associate degrees, certificates, and completing some college. The researchers found a “positive linear association” between the number of credits and earnings, despite whether or not a degree is earned (p. 2). The more credits completed the higher future earnings. The researchers highlight earning growth throughout the stages of pre-college, during college, after leaving college without a degree, and after earning a certificate or associate degree, using Virginia data (p. 3). The research brief concludes that any college is worth the investment. In addition, the report compares associate degrees to certificates, “For associate degrees, the returns are robust across method, dataset, and time period. For certificates, the evidence is less compelling. Although certificates take less time to complete than associate degrees, it is unlikely that the recent growth in certificate completion can generate the same economic benefit as degree completion. An education policy that relies heavily on increased certificate completion is unlikely to be sufficient” (p. 4). |
| Relevancy | The work of these researchers is relevant because it conveys the value of some college or earning an associate degree for increasing income. This report makes the argument that college degrees are more valuable than certificates. |
| Full Citation | Belfield, C., & Bailey, T. (2017, March). <i>Does it pay to complete college-and how much?</i> Retrieved from https://ccrc.tc.columbia.edu/media/k2/attachments/capsee-does-it-pay-complete-community-college.pdf |
| Link | https://ccrc.tc.columbia.edu/media/k2/attachments/capsee-does-it-pay-complete-community-college.pdf |

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| Source | Georgetown University Center on Education and the Workforce (CEW) “An independent, nonprofit research and policy institute that studies the link between education, career qualifications, and workforce demands.” |
| Title | Good Jobs That Pay without a BA: A State-by-State Analysis |
| Description | 136-page report with statistics about jobs and each state. |
| Summary | The report emphasizes the presence of “good jobs” in America despite the belief that the middle-skill economy is shrinking. The researchers define a good |

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| | job as a job that pays “\$35,000 (\$17 per hour for a full-time job) as the minimum earnings for those under age 45 and \$45,000 (\$22 per hour for a full-time job) for workers age 45 and older” (p. 1). The article states there are thirty million “good jobs” in America that do not require a Bachelor’s degree (p. 1). In addition, the job market has shifted from blue collar jobs to skilled-services jobs (p. 1). This shift is present in Virginia, “Between 1991 and 2015 Virginia lost 100,000 blue-collar non-BA good jobs, but gained 59,000 skilled-services good jobs for workers without BAs” (p. 115). The report indicates the decrease in the ability to have a “good job” with only a high school diploma, but also expresses the opportunities for people with some post-secondary education without a Bachelor’s degree. The best occupations for people in Virginia without a Bachelor’s degree are management, office and administrative support, construction and extraction, sales, and installation, maintenance and repair (p. 116). The best industries for people in Virginia without a Bachelor’s degree are manufacturing, public administration, construction, health services, and information, financial activities, and real estate (p. 116). Also on page 116, the report provides a chart on educational attainment and “good jobs” in Virginia. |
| Relevancy | This report is relevant because it explains how the job market in Virginia has changed over time and the increase in skilled-services jobs. The report also explains the potential to secure a “good job” despite not having a Bachelor’s degree. One drawback to this report is the definition of a “good job” used throughout the report is a low salary compared to the cost of living in northern Virginia. |
| Full Citation | Carnevale, A. P., Strohl, J., & Ridley, N. (2017, November 13) <i>Good jobs that pay without a BA: A state-by-state analysis</i> . Retrieved from https://goodjobsdata.org/wp-content/uploads/Good-Jobs-States.pdf |
| Link | https://goodjobsdata.org/wp-content/uploads/Good-Jobs-States.pdf |

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| Source | State Higher Education Executive Officers |
| Title | Economic Benefit of Postsecondary Degrees: A State and National Level Analysis |
| Description | Qualitative and quantitative research presented in tables, graphs, and writing. |
| Summary | This source gives data on postsecondary education across the United States. This source argues that across the United States a post-secondary education yields a higher salary. According to the researchers STEM disciplines offer high salaries yet in recent years STEM degree production has had slow growth (p. 23). The researchers recommend policymakers to continue to work to increase STEM education opportunities (p. 23). “STEM fields have the highest median income at \$62,605” (p.9). The researchers acknowledge that each state has different needs, “While the relationship between education and income is strong, incomes vary significantly among the types of degrees by level and discipline and within each state. It is beneficial for policymakers to understand market conditions as they make investments in higher education” (p. 3). |

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| Relevancy | This source is relevant because it connects STEM education to labor market demands. In some regions of the U.S. STEM education and careers could be a path to economic self-sufficiency. |
| Full Citation | Zaback, K., Carlson, A., & Crellin, M. (2012, December). Economic benefit of postsecondary degrees: A state and national level analysis. <i>State Higher Education Executive Officers</i> . Retrieved from http://www.sheeo.org/sites/default/files/publications/Econ%20Benefit%20of%20Degrees%20Report%20with%20Appendices.pdf |
| Link | http://www.sheeo.org/sites/default/files/publications/Econ%20Benefit%20of%20Degrees%20Report%20with%20Appendices.pdf |

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| Source | The Hispanic Outlook in Higher Education |
| Title | More High School Seniors Opt for College as Job Market Shrinks |
| Description | Statistics on college enrollment. |
| Summary | Despite decreases in funding for colleges, more people than ever enrolled in post-secondary education (para. 1). Specifically in 2008, “the overall increase in first-time freshman enrollment is 6 percent” (para. 4). The reason for this trend is explained in the article, “The economic downturn is encouraging more and more high school seniors, who see their employment prospects as grim, to commit to the pursuit of higher education - to either wait out the economic storm or improve their skills to make them more competitive” (para. 4). The article breaks down the increase in enrollment by race. Hispanic students have the highest increase in enrollment (15%), followed by Black students (8%), then Asian American students (6%), and lastly White students (3%) (para. 4). College enrollment increased at both 2 year and 4 year institutions. |
| Relevancy | This article is relevant because it communicates that during the recession enrollment in post-secondary education increased. This reveals that many people in the United States might see education has a solution to decreased opportunity in the job market. |
| Full Citation | Cooper, M. A. (2011, Apr 04). More high school seniors opt for college as job market shrinks. <i>The Hispanic Outlook in Higher Education</i> , 21, 28-29. Retrieved from https://search-proquest-com.mutex.gmu.edu/docview/862163775?accountid=14541 |
| Link | https://search-proquest-com.mutex.gmu.edu/career/docview/862163775/9D9259F2F7D9449APQ/2?accountid=14541 |

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| Source | National Governors Association Center for Best Practices “Develops innovative solutions to today's most pressing public policy challenges and is the only research and development firm that directly serves the nation's governors.” |
| Title | Using Community Colleges to Build a STEM-Skilled Workforce |
| Description | Literature-based research analyses, recommendations and best-practices of states successes in promoting STEM education. |
| Summary | Some states have a shortage in STEM educated workers and students pursuing degrees in STEM fields. The article states that low-skilled adults can increase |

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| | their long-term earnings by taking community college classes, specifically in STEM. Community colleges play an important role in STEM education “44 percent of students who receive bachelor’s or master’s degrees in STEM fields attended a community college at some point in their careers.” (p. 3). Remedial math classes often hold students back in completing their degree. In order for students to be successful in STEM programs, the path from remedial math to credit-bearing math courses needs to be restructured. Community college programs should reflect the STEM needs in the area (p. 5). Students often succeed in apprenticeships and “Earn and learn programs” (p. 8) and these kinds of programs can help students enter STEM careers. They also ensure that students are going to meet a specific job need when they complete the program. The article also highlights the need for providing credentialing programs that are nationally recognized maintain a high skill level and ensure mobility potential (p. 11). States that invest in STEM education see a return on their investment in the salaries of the student that took advantage of STEM education opportunities (p. 3). |
| Relevancy | This source is relevant because it highlights how STEM can be a path to economic self-sufficiency by enrolling in community college or apprenticeship. |
| Full Citation | NGA. (June 24, 2011) Using community colleges to build a STEM-skilled workforce. <i>National Governors Association</i> . Retrieved from hwww.nga.org/files/live/sites/NGA/files/pdf/1106STEMWORKFORCE.PDF |
| Link | www.nga.org/files/live/sites/NGA/files/pdf/1106STEMWORKFORCE.PDF |

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| Source | Community College Review |
| Title | A Realistic Look at STEM and the Role of Community Colleges |
| Description | Literature review on STEM education with some statistics. |
| Summary | The researchers outline competing views on the prevalence of STEM-skilled workers and the need for STEM education (p. 146). The researchers identify four points to center their research: that the need for STEM skilled workers varies geographically, there are gaps in the completion of STEM courses in high schools within gender and ethnicity, students of lower socioeconomic status sometimes have low quality education, and there are not enough STEM high school teachers (p. 147-148). Virginia is listed as a state that is “suffering from technology worker shortages” (p. 149). “Too often policy makers and others assume that the majority of STEM careers require at least a bachelor’s degree. But, simply stated, that is not true. In fact, a large measure of openings and predicted shortages require less than a bachelor’s degree but more than just a general high school diploma. As the country’s major broker of less-than-baccalaureate technical training, the nation’s community colleges are arguably the appropriate venue for the training needed to alleviate shortages” (p. 154). Community college can help reduce the gender and ethnicity gaps in STEM, as well as helping nontraditional age students (p. 155). |

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| Relevancy | This source is relevant because it explains how earning an associate's degree in a STEM field can lead to employment and economic self-sufficiency. |
| Full Citation | Hagedorn, L. S., & Purnamasari, A. V. (2012). A realistic look at STEM and the role of community colleges. <i>Community College Review</i> , 40(2), 145-164. Retrieved from https://search-proquest-com.mutex.gmu.edu/docview/1035262315?accountid=14541 |
| Link | https://search-proquest-com.mutex.gmu.edu/docview/1035262315?accountid=14541 |

Factors

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| Source | Journal of Youth and Adolescence |
| Title | The Influence of Ethnicity and Adverse Life Experiences During Adolescence on Young Adult Socioeconomic Attainment: The Moderating Role of Education |
| Description | Provides and analyzes sampling data collected by other researchers. |
| Summary | This journal article acknowledges available research on how adverse life experiences influence income and “that this relationship is largely mediated by educational achievement” (p.1). This article expounds on this research by looking at three specific areas. The first area is the effect of community disadvantage, family, and race/ethnicity on young adult’s income. The researchers found that experiences related to the community, family, and race/ethnicity early in life did have an impact on young adult’s income. “Consistent with past research, the results showed that children who are reared in adverse socioeconomic contexts, such as disadvantaged communities, lower SES, and disrupted families, achieve much lower income and assets, and engage in lower quality jobs in their early adulthood than children who are reared in less adverse contexts” (p.12). The second topic of research is “Whether youths’ educational attainment mediates these independent influences on socioeconomic attainment” (p.1). The article concludes that educational attainment does not significantly mediate community and family influences on socioeconomic attainment. The third topic of research is to “Test whether educational attainment ameliorates the negative influences of disadvantaged community and family conditions and race/ethnicity on socioeconomic attainment” (p.1). This hypothesis was supported in the researcher’s results. The researchers found that higher educational attainment lessens the negative influences of “disadvantaged community and family conditions and race/ethnicity on socioeconomic attainment.” |
| Relevancy | This journal article is relevant to educational attainment and economic self-sufficiency because it directly evaluates the relationship between community, family, and race ethnicity and socioeconomic status, and how education could positively effect that relationship. In addition, this journal article provides information on the skills commonly developed through high educational attainment that contribute to economic success (p. 14), as well as other barriers and furtherance to educational attainment and economic self-sufficiency. |

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| Full Citation | Wickrama, K. A., S., Simons, L. G., & Baltimore, D. (2012). The influence of ethnicity and adverse life experiences during adolescence on young adult socioeconomic attainment: The moderating role of education. <i>Journal of Youth and Adolescence</i> , 41(11), 1472-87. http://dx.doi.org.mutex.gmu.edu/10.1007/s10964-012-9764-9 Retrieved from https://search-proquest-com.mutex.gmu.edu/docview/1112332674?accountid=14541 |
| Link | https://search-proquest-com.mutex.gmu.edu/pqrl/docview/1112332674/2DD88AEA5E0A4590PQ/1?accountid=14541 |

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| Source | Child Trends |
| Title | Ten Ways to Promote Educational Achievement and Attainment Beyond the Classroom |
| Description | Qualitative information and recommendations. |
| Summary | This research brief addresses reasons that children succeed or fail academically and provides ten goals to improve academic success. Neither school quality nor student diligence alone can determine a student's academic success; outside factors contribute to whether students do well in school, continue school, and develop socially and emotionally. |
| Relevancy | This research brief is relevant to educational attainment and economic self-sufficiency, because it explains the factors that negatively impact one's educational success and provides research-driven goals to improve educational attainment. |
| Full Citation | Boccanfuso, C., Moore, K. A., & Whitney, C. (2010, July). <i>Ten ways to promote educational achievement and attainment beyond the classroom</i> . Retrieved from www.childtrends.org/wp-content/uploads/2013/06/2010-16EducationalAchievement.pdf |
| Link | www.childtrends.org/wp-content/uploads/2013/06/2010-16EducationalAchievement.pdf |

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| Source | Child Trends |
| Title | Social Indicators Predicting Postsecondary Success |
| Description | Qualitative data with tables showing the research used and how it was analyzed. |
| Summary | This report compiles information on educational attainment from many sources to develop a review of indicators that predict educational attainment. The report presents indicators from the areas of demographics, family characteristics, individual characteristics, academic performance, and characteristics of the attended secondary school and of the post-secondary school. The researchers used multiple datasets to analyze whether an accurate prediction for postsecondary completion could be made based on social indicators. At the end of the report the researchers include tables that display the analysis of the data they used for their conclusions. |

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| | The researchers identify indicators for non-traditional students earning a post-secondary degree, “Non-traditional students have lower persistence rates, and lower five-year graduation rates among those seeking associates or bachelor’s degrees. Among non-traditional students, younger age and having a high-status occupation were both positively associated with bachelor’s degree completion” (p. 5). The researchers have identified other indicators, “Some individual characteristics that were negatively associated with PSC [Postsecondary Completion] or persistence include problem behavior in high school (among low SES students); pregnancy before age 20; poor health; and more time after school spent alone” (p.6). The researchers also give insight to vocational education, “Among community college students seeking an associate’s degree or higher, selection of an “occupational” (i.e., vocational) major was negatively associated with attaining the degree or transferring to a four-year program within five years” (p.7). |
| Relevancy | This report is relevant because it provides indicators of post-secondary completion based on research. Post-secondary completion is a significant step in obtaining a high-paying job and moving towards economic self-sufficiency. The report gathers data for non-traditional students which could inform the outcome of adults who return to education to achieve economic self-sufficiency. |
| Full Citation | Princiotta, D., Lippman, L., Ryberg, R., Schmitz, H., Murphey, D., Cooper, M. (2014, April 1). <i>Social indicators predicting postsecondary success</i> . Retrieved from www.childtrends.org/wp-content/uploads/2014/05/2014-21SocialIndicatorsLumina.pdf |
| Link | www.childtrends.org/wp-content/uploads/2014/05/2014-21SocialIndicatorsLumina.pdf |

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| Source | New Horizons in Adult Education & Human Resource Development |
| Title | Economic Inequality, Educational Inequity, and Reduced Career Opportunity: A Self-perpetuating Cycle? |
| Description | Qualitative information and some statistics. |
| Summary | This article focuses on how economic inequality leads to educational inequity which results in reduced career opportunity and a continuing cycle. The researchers cite a study by Bailey and Dynarski that shows the effects of income on educational attainment, “low income students with high test scores are less likely to graduate from college than high income students with low test scores. Possible reasons for this disparity are the enrichment activities such as music lessons, travel, and summer camps provided by wealthy parents, and the barriers to student achievement faced by the poor” (p. 22). The researchers also explain what “reduced career opportunities” are (p. 23) and how job availability, career field, and job demand effect one’s opportunities (p. 23). The researchers summarize findings made in 2014 by the Bureau of Labor Statistics, “Reflecting the importance of education for employment, there is a strong inverse relationship between education level and unemployment; the higher the education level, the lower the likelihood of unemployment” (p.23). |

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| Relevancy | This succinct and informative paper is relevant because it directly addresses the relationship between educational attainment and economic self-sufficiency in both directions of impact. |
| Full Citation | Torraco, R. (2018). Economic inequality, educational inequity, and reduced career opportunity: A self-perpetuating cycle?. <i>New Horizons In Adult Education & Human Resource Development</i> , 30(1), 19-29. doi:10.1002/nha3.20206 |
| Link | http://web.a.ebscohost.com.mutex.gmu.edu/ehost/detail/detail?vid=9&sid=d71991cc-9fdf-4632-bf2e-708f6c6acda6%40sessionmgr4007&bdata=JnNpdGU9ZWhvc3QtbGj2ZQ%3d%3d#db=ehh&AN=127932076 |

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| Source | Economic Geography |
| Title | Learning in Place: Immigrants' Spatial and Temporal Strategies for Occupational Advancement |
| Description | Ethnographic study and qualitative information. |
| Summary | This source is about a study of Mexican immigrants living in Philadelphia. The information was compiled through conducting 95 interviews. The immigrants have worked jobs close to where they live to gain skills and make connections. The many immigrants in the study start working at restaurants and small-scale construction and move up to higher paying jobs in construction. As they move up through jobs they gain work experience, skills, and higher wages. The researchers examine "how immigrant workers use the relative spatial organization of residence and production to cultivate the skills that enable them to shift out of low-wage occupations" (p. 53). The researchers highlight the importance of occupational mobility over time and the value of apprenticeships (p. 56). |
| Relevancy | This source is not about formal education, however it highlights education "on the job." Education gained through a series of job is a potential path to economic self-sufficiency. |
| Full Citation | Iskander, N., Riordan, C., & Lowe, N. (2013). Learning in place: Immigrants' spatial and temporal strategies for occupational advancement. <i>Economic Geography</i> , 89(1), 53-75. |
| Link | http://web.a.ebscohost.com.mutex.gmu.edu/ehost/pdfviewer/pdfviewer?vid=5&sid=c7064563-31d3-442d-a5b9-07547c81e279%40sessionmgr4009 |

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| Source | Reclaiming Children and Youth |
| Title | Connecting Dropouts to Career Pathways |
| Description | Qualitative information and Workplace Investment Act program descriptions. |
| Summary | The short feature emphasizes the difficulties in short and long term employment for someone without a high school diploma. "If the economic, social, and political costs of dropouts are to be changed, society must begin establishing meaningful pathways to school and work for these young people. Without the identification of meaningful opportunities for dropouts, countless youth are lost to generational cycles of poverty, incarceration, and illiteracy" (p. 38). The |

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| | feature explains the Workplace Investment Act, started in 1998 to youth and adults find employment and progress in their career path and earnings. Programs resulting from the Act provide, “case management, work readiness training, occupational skills, college and career planning, leadership training, tutoring, and mentoring... high school proficiency exam preparation, credit retrieval, General Education Diploma pre-testing and skills assessment, adult education programming, and distance learning,” (p. 38) to participants. These programs fall into one of three categories, core services, intensive services, and training services (p. 38). |
| Relevancy | The feature is relevant because it emphasizes the need for at least a high school diploma to achieve economic self-sufficiency. In addition, the feature provides an example of how programs can help people achieve occupational and financial goals through the Workplace Investment Act. |
| Full Citation | Saddler, S., Tyler, T. G., Maldonado, C., Cleveland, R., & Thompson, L. K. (2011). Connecting dropouts to career pathways. <i>Reclaiming Children and Youth</i> , 20(2), 37-39. Retrieved from https://search-proquest-com.mutex.gmu.edu/docview/1326422816?accountid=14541 |
| Link | https://search-proquest-com.mutex.gmu.edu/education/docview/1326422816/fulltextPDF/2A7EB134F810461EPQ/1?accountid=14541 |

Fairfax County

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| Source | JobsEQ |
| Title | Economic Overview Fairfax/ Falls Church |
| Description | Demographic data and statistics. |
| Summary | This source provides information on employment, income variation, industries, and education in Fairfax County and Falls Church. The factsheet uses charts and tables to display information on Fairfax and Falls Church. |
| Relevancy | This source is relevant because it provides information on the job market in Fairfax and Falls Church, which could inform what are the valuable subjects and degrees to pursue in this jurisdiction. |
| Full Citation | JobsEq. (2017, October 23). <i>Economic overview: Fairfax/Falls Church</i> . Retrieved from www.nvcc.edu/workforce/docs/FairfaxandFallsChurch.pdf |
| Link | www.nvcc.edu/workforce/docs/FairfaxandFallsChurch.pdf |

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| Source | Virginia.gov |
| Title | Labor Market Information |
| Description | Graphs, tables and narratives of quantitative data. |
| Summary | A website that allows you to search for statistics. An example of information that can be found on the website is, “There were 80,953 job openings advertised online in Fairfax County for Bachelor’s Degree in 2017.” |
| Relevancy | This website is a relevant source because searches for data on the Virginia labor market can be confined to Fairfax County and specific years. |

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| Full Citation | <i>Labor market information.</i> (n.d.). Retrieved April 16, 2018, from https://data.virginalmi.com/vosnet/lmi/default.aspx?pu=1&plang=E |
| Link | https://data.virginalmi.com/vosnet/lmi/default.aspx?pu=1&plang=E |

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| Source | Northern Virginia Community College (NOVA) |
| Title | Meet the threat: NOVA confronts the cyber challenge through innovative solutions |
| Description | Qualitative data of cybersecurity and information technology career paths and educational opportunities at NOVA. |
| Summary | This source outlines the demand for cybersecurity jobs in the Northern Virginia/ Washington D.C./Maryland area. In the article, NOVA highlights their cybersecurity and information technology credentialing programs offered at their Workforce Regional Center. |
| Relevancy | This source is relevant because it provides an example of a credentialing opportunity in Northern Virginia. Cybersecurity and information technology are currently growing fields and have a local demand. |
| Full Citation | NOVA. (2016, December). <i>Meet the threat: NOVA confronts the cyber challenge through innovative solutions</i> . Retrieved from www.nvcc.edu/workforce/docs/NGA_Executive_Brief_NOVA_Cybersecurity_Strategy.pdf |
| Link | www.nvcc.edu/workforce/docs/NGA_Executive_Brief_NOVA_Cybersecurity_Strategy.pdf |

Statistics

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| Source | National Center for Education Statistics, Institute of Education Sciences, & U.S. Department of Education |
| Title | The Condition of Education 2017 |
| Description | Statistics displayed in charts, tables, graphs, and maps. |
| Summary | A governmental report with charts, tables, and explanations of statistics about education in the United States. Notable statistics include: <ul style="list-style-type: none"> • Educational Attainment of Young Adults • Annual Earnings of Young Adults Percentage of the labor force ages 25–34 who worked full time, year-round, by educational attainment: 2000–2015 • Employment and Unemployment Rates by Educational Attainment • Childs race/ethnicity, parents highest level of educational attainment, families living in poverty, family structure • Undergraduate enrollment • Post-baccalaureate enrollment • Technology and Engineering Literacy in 8th graders • Youth Neither Enrolled in School nor Working • Postsecondary Certificates and Degrees Conferred |

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| | <ul style="list-style-type: none"> • Undergraduate Retention and Graduation Rates |
| Relevancy | This source is relevant because it provides national statistics about education and employment that can be compared to Fairfax County. |
| Full Citation | McFarland, J., Hussar, B., de Brey, C., Snyder, T., Wang, X., Wilkinson-Flicker, S., . . . Hinz, S. (2017). <i>The condition of education 2017</i> (NCES 2017-144). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2017144 |
| Link | https://nces.ed.gov/pubs2017/2017144.pdf |

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| Source | National Center for Education Statistics, Institute of Education Sciences, & U.S. Department of Education |
| Title | Digest of Education Statistics 2015 51 st Edition |
| Description | Quantitative data in charts and statistics. |
| Summary | A report, over a thousand pages long, about national data on college enrollment, postsecondary degrees, educational attainment, and adult literacy and numeracy skills. |
| Relevancy | This source is relevant because it provides national statistics about education and employment that can be compared to Fairfax County. |
| Full Citation | Snyder, T.D., de Brey, C., and Dillow, S.A. (2016). <i>Digest of education statistics 2015</i> (NCES 2016-014). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from https://nces.ed.gov/pubs2016/2016014.pdf |
| Link | https://nces.ed.gov/pubs2016/2016014.pdf |