

**HEALTH NOTE: Indiana Youth Service Program
(SB 158)
2019 Indiana General Assembly**

Bill Authors:

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Bill Summary:^a

Provides that Ivy Tech Community College (Ivy Tech) shall develop a proposal to establish the Indiana Youth Service Program to provide high school graduates with the opportunity to learn various skills and participate in service at host sites throughout Indiana.

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What is the goal of this health note?

Decisions made in sectors outside of public health and health care, such as in education, housing, and employment, can affect health and well-being. Health notes are intended to provide objective, nonpartisan information to help legislators understand the connections between these various sectors and health. This document provides summaries of evidence analyzed by the Health Impact Project while creating a health note for Indiana Senate Bill (SB) 158. Health notes are not intended to make definitive or causal predictions about how a proposed bill will affect health and well-being of constituents. Rather, legislators can use a health note as one additional source of information to consider during policy-making. The analysis does not consider the fiscal impacts of this bill.

How and why was this bill selected?

This bill was identified as one of several important policy issues being considered by the Indiana General Assembly in 2019. The health note screening criteria were used to confirm the bill was appropriate for analysis. (See Methodology Appendix on Page 7)

Two of the Health Impact Project's focus areas for health notes are education and employment. The project selected SB 158 for analysis because of its potential to affect career opportunities and educational attainment for Indiana youth. Research has consistently demonstrated a strong link between employment and health, particularly through effects on workers' income, safety, stability, and access to health insurance and other benefits.¹ There is also a strong and robust evidence base linking education and health, with educational attainment creating opportunities for better health over a lifetime. Research has consistently demonstrated that people with more education live longer, healthier lives than those with fewer years of education.²

SUMMARY OF HEALTH NOTE FINDINGS

In Indiana in 2016, nearly 91,000 youth ages 16 to 24 were neither in school, nor employed. This population is commonly described as "disconnected youth." National data suggest that half of the population of disconnected youth ages 18 to 24 have a high school diploma.³ In addition, research suggests that employers across the United States, particularly large companies, are concerned about talent shortages and their ability to identify qualified workers, including for skilled trades which require post-high school education or training.⁴ Many state and local governments are exploring the use of work-based learning programs—such as internships, apprenticeships, and vocational-specific curricula—to prepare youth for the workforce or college and decrease the proportion of disconnected youth in their communities.

Indiana SB 158 would require Ivy Tech Community College (Ivy Tech) to develop a proposal to establish the Indiana Youth Service Program, with the purposes of encouraging young adults to stay in Indiana after

^a Summary as described by the Indiana General Assembly, <http://iga.in.gov/legislative/2019/bills/senate/158>

^b The Health Impact Project is committed to conducting non-partisan research and analysis.

graduating from high school; providing youth with skills to help them enter the workforce or college; and promoting a model of social engagement, relationship building, and civic participation among Indiana youth from diverse communities.⁵ Students graduating from high school in Indiana—including children in foster care, group homes, and other placements—would be eligible to participate in the program. The program would connect participants with host sites, such as private employers in target sectors, nonprofit organizations, or local government entities, to gain work experience. SB 158 would also direct Ivy Tech to explore federal or grant funding for the program and opportunities to award participants with academic credit, certification, or scholarships for their service.

This health note prioritizes the components of SB 158 with the greatest potential to affect health. The note explores the evidence regarding youth workforce readiness and work-based learning programs and their effects on participants' employment and educational outcomes, and subsequent potential health effects. It does not examine the extent to which workforce development and work-based learning programs are successful in encouraging youth to remain in their home state, or any potential health effects stemming from the economic effects associated with youth moving to other states.

This review found that high-quality workforce readiness and work-based learning programs can lead to better jobs and increased earnings for participants, with positive implications for health.

Jobs with higher wages help people afford resources important to health, such as safe housing and healthy food.⁶ People with steady employment report better physical and mental health and lower stress and anxiety than do the recently unemployed, and those who are unemployed face higher rates of poor health outcomes than people who are employed.⁷ Employment can also facilitate access to benefits important to health, including access to paid leave, health insurance, and retirement funds.⁸ Below is a summary of key findings:

- There is **a fair amount of evidence^c** that the quality of any youth workforce readiness or work-based learning program, and how well it is implemented, plays an important role in determining whether participants see beneficial effects on their employment or educational outcomes.⁹ Therefore, the extent to which the Indiana Youth Service Program would affect educational, employment, and health outcomes for youth will ultimately depend on its components, structure, and implementation.
- There is **a fair amount of evidence** that high-quality workforce readiness and work-based learning programs can lead to higher-quality jobs and increased earnings for participants.¹⁰
- There is **very strong evidence** that having a steady job with adequate compensation can improve health and well-being. People with higher incomes live longer and experience better health outcomes than those living in poverty.¹¹ To the extent that the Indiana Youth Service Program, if implemented, supports Indiana youth in securing stable, well-compensated jobs, those youth could see potential health benefits.
- There is **a fair amount of evidence** that there are essential components of workforce readiness programs that may increase the likelihood of successful employment outcomes, including facilitating positive relationships with adults, providing opportunities for students to gain workplace experience, and providing paid work-based learning opportunities.¹² As described in SB 158, the Indiana Youth Service Program would include several of these components.
- SB 158 directs Ivy Tech to explore opportunities to provide participants with certification as part of their service in the program. There is **a fair amount of evidence** that obtaining a certificate can boost students' employment prospects and positively affect a person's income.¹³ However, the evidence also shows substantial variation in earnings outcomes depending on the specific field of study, whether the certificate holder works in their field of study, and the certificate holder's sex, race, and ethnicity.¹⁴ Additionally, evidence suggests that people with vocational or technical

^c See definitions of strength of evidence ratings on Page 8.

certificates may be particularly vulnerable to economic downturns compared with those with associate's or bachelor's degrees.¹⁵ This research highlights the importance of training youth in high-demand fields and aligning workforce readiness programs with the local labor market.

- Research found **mixed evidence** on the effect of workforce development programs on educational attainment, with some programs having no effect on college enrollment rates and others demonstrating increased rates.¹⁶ There is **very strong evidence** that higher educational attainment is associated with better health outcomes, including decreased risk of mortality.¹⁷ Research has consistently demonstrated that Americans with more education live longer, healthier lives than those with fewer years of education.¹⁸ To the extent that the Indiana Youth Service Program, if implemented, encourages Indiana youth to obtain postsecondary degrees, those youth could see potential health benefits.

Methods Summary: To complete this health note, Health Impact Project staff conducted an expedited literature review using a systematic approach to minimize bias and identify studies to answer each of the identified research questions. In this note, “health impacts” refer to effects on determinants of health, such as education, employment, and housing, as well as effects on health outcomes, such as injury, asthma, chronic disease, and mental health. The strength of the evidence is qualitatively described and categorized as: not well researched, mixed evidence, a fair amount of evidence, strong evidence, or very strong evidence. It was beyond the scope of analysis to consider the fiscal impacts of this bill or the effects any funds dedicated to implementing the bill may have on other programs or initiatives in the state. To the extent that this bill requires funds to be shifted away from other purposes or would result in other initiatives not being funded, policymakers may want to consider additional research to understand the relative effect of devoting funds for this bill relative to another purpose. A detailed description of the methods is provided in the Methodology Appendix on Page 7.

WHY DO THESE FINDINGS MATTER FOR INDIANA?

Youth who are unemployed and not in school are commonly referred to as disconnected or opportunity youth.¹⁹ In Indiana in 2016, the population of disconnected youth was 90,800 individuals, which is 10.7 percent of the youth ages 16 to 24.²⁰ The percentage of disconnected individuals is higher among black and Latino youth—18.8 percent and 13.6 percent, respectively—compared with 9.4 percent of white youth.²¹ In addition, the unemployment rate of youth ages 16 to 24 is higher than the rate for older age groups in Indiana.²² As of December 2018, the total unemployment rate in Indiana was 3.5 percent.²³ According to 2018 state unemployment estimates, the unemployment rate for individuals between 16 and 19 years of age was 11.4 percent, and the rate was 7 percent for individuals ages 20 to 24.²⁴ Upon high school graduation, youth in Indiana enter one of several pathways including attending a four-year college, two-year college, or technical training program; joining the military or workforce; and unemployment.²⁵ In 2017, among Indiana youth ages 18 to 24, 16.1 percent had less than a high school degree, 31.4 percent had a high school diploma or the equivalent, 43 percent had some college education or an associate's degree, and 9.5 percent had a bachelor's or more advanced degree.²⁶ Indiana youth between 16 and 24 years of age most often worked in the following industries: restaurants and other food services; colleges, universities, and professional schools, including junior colleges; construction; amusement, gambling, and recreation industries; and department stores and discount stores.²⁷

HOW DO WORKFORCE READINESS AND WORK-BASED LEARNING PROGRAMS AFFECT PARTICIPANTS?

Effects of Youth Workforce Readiness and Work-Based Learning Programs on Health

- **There is limited evidence exploring the effects of youth participating in workforce development and work-based learning programs on health.** Research has examined the connections between youth summer employment programs and health. Although such programs differ from the proposed Indiana Youth Service Program, the evidence suggests the potential for youth workforce development and work-based learning programs to affect health. One study in New York City, examining the Summer Youth Employment Program (SYEP), the largest summer employment program for youth in the U.S., compared outcomes for 164,641 randomly-selected participants ages 14 to 21 with outcomes for 129,459 youth who applied but were not selected.²⁸ Youth could participate in the lottery each year as long as they applied. SYEP participation at any time between 2005 and 2008 decreased the probability of overall mortality by 17.97 percent by 2014. Because this percentage reflects a reduction of 83 deaths, the study did not find statistically significant differences by demographics groups; however, the data suggest this reduction is driven by a lower number of deaths among male, Latino, and black youth who participated in the SYEP. Participation also decreased the probability of incarceration.
- **Research consistently shows that as one's education level increases, including through completion of a vocational certificate, risk of death decreases.**²⁹ One study, using data from the Panel Study of Income Dynamics and National Death Index, found that among high school graduates, completion of a vocational certification was independently associated with a reduced risk of death.³⁰ Although people with technical and vocational degrees have a higher risk of mortality compared with those who have attained bachelor's, master's, or professional degrees, they have a lower risk of death compared with those whose highest level of education is some college or less.³¹ Research for this analysis did not identify any studies that examined whether programs that help move youth from a path of low educational attainment to higher educational attainment change their health outcomes relative to a control group.

Effects of Workforce Readiness and Work-Based Learning Programs on Subsequent Employment, Earnings, and Educational Outcomes

- **The Metropolitan Policy Program at Brookings and Child Trends identified three factors in youth employment, education, and training experiences that are associated with youth from disadvantaged backgrounds having higher-quality jobs at the age of 29: work-based learning opportunities that foster positive relationships with adults; gaining experience in the labor market between the ages of 16 and 18; and completing a two-year, four-year, or graduate postsecondary degree, which was the strongest predictor of a high-quality job.**³² The 2018 report used longitudinal data from the National Longitudinal Survey of Youth 1997, defining higher-quality jobs based on measures of earnings, benefits, hours of work, and job satisfaction.
- **Evidence suggests that obtaining a certificate can positively affect a person's income: Certificate holders earn 20 percent more compared with high school graduates who do not have any postsecondary education.**³³ An increasing number of adults hold certificates from vocational, technical, trade, or business programs. Data from the Survey of Income and Program Participation show that the proportion of adults age 18 and older who have a certificate as their highest level of educational attainment grew from less than 2 percent in 1984 to nearly 12 percent in 2009.³⁴ However, the evidence also shows substantial variation in earnings outcomes depending

on the specific field of study, whether the certificate holder works in their field of study, and the certificate holder's sex, race, and ethnicity.

- **Research shows that completing education beyond a high school degree can positively affect one's earnings.** Between 1965 and 2013 the median annual earnings for individuals ages 25 to 32 with only a high school degree decreased by more than \$3,000, while annual earnings for individuals with a bachelor's degree or higher rose by almost \$7,000.³⁵ Additionally, research indicates that Indiana workers with a certificate see their earnings increase between the first and fifth years after program completion.³⁶ However, salaries are higher for individuals with an associate's, bachelor's, or graduate degree. Research has also explored the relationship between youth summer employment programs and earnings. A study examining the Summer Youth Employment Program in New York City (discussed above) found that although participation in the program increased earnings and employment for youth in the year they participated in the program, it caused a modest (\$100) decrease in average earnings for the three years following participation.³⁷
- **Data suggest that students with vocational or technical certificates may be particularly vulnerable to economic downturns compared with those with associate's or bachelor's degrees.**³⁸ Research using panel data from the Youth Development Study examined effects of the Great Recession of 2007-2009 on employment outcomes, and found that people ages 31 to 37 with a bachelor's or associate's degree were able to maintain high levels of employment, were more likely to view their jobs as a career, and maintained higher levels of weekly hours at their jobs during the recession compared with those without postsecondary degrees.³⁹
- **Research for this analysis found mixed evidence on the effect of workforce development programs on educational attainment, with some programs having no effect on college enrollment rates and others demonstrating increased rates.**⁴⁰ Postsecondary degrees are becoming increasingly critical to obtaining employment. Researchers estimate that, by 2020, 65 percent of all jobs will require postsecondary education and training.⁴¹ Indeed, data show the differential employment rates based on educational attainment: In 2017, 70 percent of people age 29 with a high school diploma or less were employed, compared with 88 percent of their peers with bachelor's degrees.⁴² Research on the Summer Youth Employment Program in New York City (discussed above) found that the program had no impact on subsequent college enrollment.⁴³
- **Research suggests that workforce readiness and work-based learning programs may support youth in developing important "soft skills," such as communication, problem-solving, and social skills.** A growing body of research has demonstrated the importance of soft skills to positive employment outcomes including obtaining a job, securing higher earnings and opportunities for advancement, and job stability.⁴⁴ One qualitative study of individuals who had participated in a work-based learning experience while in high school highlighted the perceived value of the program to their maturity, time management skills, and self-awareness.⁴⁵

Correlates of Successful Workforce Readiness and Work-Based Learning Programs

- **Research suggests that availability and access to programs that support workforce readiness among youth will not guarantee benefits for employment and educational outcomes: The quality and implementation of the programs play an important role.**⁴⁶ In addition, factors such as local labor market demand and the match between high-quality jobs and the skills of available workers can affect the ability of youth to secure quality employment after completing certificate or training programs.⁴⁷
- **Research has identified essential components of workforce readiness programs that may increase the likelihood of successful employment outcomes, including facilitating positive**

relationships with adults, providing opportunities for students to gain workplace experience, and providing paid work-based learning opportunities.⁴⁸

- Researchers at Brookings conducted semi-structured interviews with the leaders of well-regarded science, technology, engineering and math (STEM)-focused workforce training programs at community colleges across the United States to identify common themes of workforce training programs that seem to contribute to their success. The identified factors included: engaging industry and employers in curriculum development for workforce training programs; providing opportunities for students to gain workplace experience during the program; taking an intensive approach to developing students' math and technical skills; developing the program at a college with strong leadership and a culture of innovation; and access to funding from nonpublic sources, such as foundation funding.⁴⁹
- A 2016 report from the National Skills Coalition and National Youth Employment Coalition identifies elements of youth work-based learning programs that make the programs successful. These elements include: providing paid work-based learning opportunities; strong partnerships with businesses and community stakeholders; positive youth development and continued support; and linkages to connect youth to future education and training opportunities.⁵⁰
- A 2018 report by the Aspen Institute Workforce Strategies Initiative highlights the importance of ensuring income for young adults during their participation in programs that train them for future jobs.⁵¹
- Research suggests that programs that facilitate positive relationships with adults—through mentoring, internship, apprenticeship, cooperative education, and career academies, for example—have positive effects on youth employment and educational outcomes, including employment rates, job quality, earnings, and college enrollment.⁵²

WHICH POPULATIONS ARE MOST LIKELY TO BE AFFECTED BY THIS BILL?

SB 158 encourages the Indiana Youth Service Program to select cohorts of participants from diverse socioeconomic, geographic, racial, ethnic, religious, and political backgrounds, and explicitly mentions youth in foster care and other placements stemming from interactions with the Indiana Department of Child Services, courts, and other agencies. Research shows that the percentage of disconnected youth is higher in Indiana among black and Latino youth compared to white youth.⁵³ Disconnected youth are more likely to come from disadvantaged backgrounds and often lack the social networks and support that can help them access health-promoting factors such as employment. Research also suggests that adolescents from disadvantaged backgrounds—such as growing up in poverty—have lower rates of employment in adulthood and are less likely to have higher-quality jobs compared with their peers who did not face these circumstances.⁵⁴ Low-income high school graduates face unique economic and social barriers that can hinder academic or work aspirations, including concerns about the cost of postsecondary education or complicating life events such as family illness.⁵⁵ Compared with peers who are working or in school, disconnected youth are more likely to experience or report poor health, poverty, mental health disorders, incarceration, and criminal interactions later in life.⁵⁶ If implemented, the Indiana Youth Service Program may have the potential to positively affect youth who are already at disproportionate risk of negative employment, educational, and health outcomes.

HOW LARGE MIGHT THE IMPACT BE?

Where possible, the Health Impact Project describes how large the impact may be based on the bill language and literature, such as describing the size, extent, and population distribution of an effect. The number of youth potentially affected by the Indiana Youth Service Program will depend on the size of the

program. The fiscal note for the introduced version of SB 158 assumed a maximum of 50 participants a year.⁵⁷

It was beyond the scope of this analysis to consider the fiscal impacts of this bill or the effects any funds dedicated to implementing the bill may have on other programs or initiatives in the state. To the extent that this bill requires funds to be shifted away from other purposes or would result in other initiatives not being funded, policymakers may want to consider additional research to understand the relative effect of devoting funds for this bill relative to another purpose.

APPENDIX: METHODOLOGY

Once the bill was selected, a research team from the Health Impact Project hypothesized a pathway between the bill, health determinants, and health outcomes. The hypothesized pathway was developed using research team expertise and a preliminary review of the literature. The bill component was mapped to steps on this pathway and the team developed research questions and a list of keywords to search. The research team reached consensus on the final conceptual model, research questions, contextual background questions, keywords, and keyword combinations. The conceptual model, research questions, search terms, and list of literature sources were peer-reviewed by an external subject matter expert. The external subject matter expert also reviewed a draft of the note. A copy of the conceptual model is available upon request.

The Health Impact Project developed and prioritized 6 research questions related to the bill components examined:

- To what extent do youth workforce development and college preparedness programs affect the following: short-term and long-term employment outcomes for participants, job stability, income, and access to health care/insurance status?
- To what extent do youth service programs affect enrollment in and completion of higher education degree-seeking programs?
- To what extent do youth workforce development programs affect the rate at which young people move out-of-state?
- To what extent do scholarships or compensation affect youth participation in workforce development and college preparedness programs?
- To what extent does participation in youth workforce and college preparedness programs affect the following: behavioral health, physical health, and social engagement/social networks?
- What are barriers to and facilitators of participating in and completing workforce development and college preparedness programs?

Next the research team conducted an expedited literature review using a systematic approach to minimize bias and answer each of the identified research questions.^d The team limited the search to systematic reviews and meta-analyses of studies first, since they provide analyses of multiple studies or address multiple research questions. If no appropriate systematic reviews or meta-analyses were found for a specific question, the team searched for nonsystematic research reviews, original articles, and research reports from U.S. agencies and nonpartisan organizations. The team limited the search to electronically available sources published between January 2014 and January 2019.

^d Expedited reviews streamline traditional literature review methods to synthesize evidence within a shortened timeframe. Prior research has demonstrated that conclusions of a rapid review versus a full systematic review did not vary greatly. Cameron A. et al., "Rapid versus full systematic reviews: an inventory of current methods and practice in Health Technology Assessment," (Australia: ASERNIP-S, 2007): 1-105, https://www.surgeons.org/media/297941/rapidvsvfull2007_systematicreview.pdf.

The research team searched PubMed and EBSCO databases along with the following leading journals in public health, higher education, workforce, and economics to explore each research question: American Journal of Public Health, Social Science & Medicine, Health Affairs, Empirical Research in Vocational Education and Training, The Quarterly Journal of Economics, and Higher Education, Skills and Work-based Learning.^e For all searches, the team used the following keywords: youth workforce development program, college preparedness program, youth apprenticeship, youth work-based learning, vocational education, employment outcomes, job stability, job insecurity, income, graduation rates, behavioral health, physical health, social engagement, social networks, education outcomes, and barriers to completion. The team also searched Brookings Institution, National Skills Coalition, MDRC, and the Indiana Youth Institute for additional research and resources outside of the peer-reviewed literature.

After following the above protocol, the team screened 45 titles and abstracts,^f identified 4 abstracts for potential inclusion and reviewed the full text corresponding to each of these abstracts. After applying the inclusion criteria, 1 article was excluded. In addition, the team identified 4 additional peer-reviewed articles through the original articles and identified 12 resources with relevant research outside of the peer-reviewed literature. A final sample of 19 resources was used to create the health note. In addition, the team used 11 references to provide contextual information.

Of the studies included, the strength of the evidence was qualitatively described and categorized as: not well researched, mixed evidence, a fair amount of evidence, strong evidence, or very strong evidence. The evidence categories were adapted from a similar approach from another state.⁵⁸

Very strong evidence: the literature review yielded robust evidence supporting a causal relationship with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the relationship.

Strong evidence: the literature review yielded a large body of evidence on the association, but the body of evidence contained some contradictory findings or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or some combination of those factors.

A fair amount of evidence: the literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent with only a slightly larger percent of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher than average risk of bias.

Mixed evidence: the literature review yielded several studies with contradictory findings regarding the association.

Not well researched: the literature review yielded few if any studies or yielded studies that were poorly designed or executed or had high risk of bias.

EXPERT REVIEWER

This document benefited from the insights and expertise of Dr. Hannah L. Maxey, Director, Bowen Center for Health Workforce Research and Policy, Indiana University School of Medicine and Assistant Professor,

^e These journals were selected using results from a statistical analysis completed to determine the leading health research journals between 1990 and 2014. Merigó, José M., and Alicia Núñez. "Influential Journals in Health Research: A Bibliometric Study." *Global Health* 12.1 (2016), accessed Jan. 11, 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4994291/>.

^f Many of the searches produced duplicate articles. The number of sources screened does not account for duplication across searches in different databases.

Department of Family Medicine, Indiana University. Although she reviewed the note and found the approach to be sound, neither she nor her organization necessarily endorses its findings or conclusions.

¹ Health Impact Project, “Employment Strongly Influences Health,” accessed March 8, 2019, <https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2018/employment-strongly-influences-health>.

² Virginia Commonwealth University Center on Society and Health, “Education: It Matters More to Health than Ever Before,” accessed October 31, 2018, <https://societyhealth.vcu.edu/work/the-projects/education-it-matters-more-to-health-than-ever-before.html>.

³ Martha Ross and Nicole Bateman, “Millions of young adults have entered the workforce with no more than a high school diploma,” *Brookings*, January 31, 2018, <https://www.brookings.edu/blog/the-avenue/2018/01/31/millions-of-young-adults-have-entered-the-workforce-with-no-more-than-a-high-school-diploma/>, accessed March 7, 2019.

⁴ ManpowerGroup, “2018 Talent Shortage Survey United States”, (2018) https://cdn2.hubspot.net/hubfs/2942250/Local%20Infographics/2018_TSS_Infographics-United%20States.pdf.

⁵ Indiana General Assembly, SB 158, version updated February 14, 2018, <http://iga.in.gov/legislative/2019/bills/senate/158#document-52386972>, accessed March 7, 2019.

⁶ Robert Wood Johnson Foundation, “How Does Employment—or Unemployment—Affect Health?” March 2013, http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2013/rwjf403360, accessed March 12, 2019.

⁷ Jessamyn Schaller and Ann Huff Stevens, “Short-Run Effects of Job Loss on Health Conditions, Health Insurance, and Health Care Utilization,” *Journal of Health Economics* (2015), https://poverty.ucdavis.edu/sites/main/files/file-attachments/jhe2015_schallerstevens.pdf.

⁸ Robert Wood Johnson Foundation, “Exploring the Social Determinants of Health: Work, Workplaces and Health” (2011), https://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf70459.

⁹ Martha Ross et al., “Pathways to High-Quality Jobs for Young Adults,” *Metropolitan Policy Program at Brookings & Child Trends*, October 2018, accessed March 7, 2019, <https://www.brookings.edu/research/pathways-to-high-quality-jobs-for-young-adults/>.

¹⁰ Anthony P. Carnevale, Stephen J. Rose, and Andrew R. Hanson, “Certificates: Gateway to Gainful Employment and College Degrees,” *Georgetown University Center on Education and the Workforce*, June 2012, <https://cew.georgetown.edu/cew-reports/certificates/#full-report>, accessed March 7, 2019; Martha Ross et al., “Pathways to High-Quality Jobs for Young Adults.”

¹¹ Centers for Disease Control and Prevention, National Center for Health Statistics, “*Health, United States, 2011: With Special Feature on Socioeconomic Status and Health*” (2012), <https://www.cdc.gov/nchs/data/abus/abus11.pdf>.

¹² Adela Soliz, “Preparing America’s Labor Force: Workforce Development Programs in Public Community Colleges,” *Brookings*, December 2016, <https://www.brookings.edu/research/preparing-americas-labor-force-workforce-development-programs-in-public-community-colleges/>, accessed March 7, 2019; Thomas Showalter and Katie Spiker,

“Promising Practices in Work-Based Learning for Youth,” *National Skills Coalition & National Youth Employment Coalition* (2016) https://www.nationalskillscoalition.org/resources/publications/file/10-4-NSC-YouthWorkBasedLearning_v4.pdf, accessed March 7, 2019; The Aspen Institute Workforce Strategies Initiative, “Now

Jobs in Young Adult Workforce Programming;” Martha Ross and Nicole Bateman, “Millions of young adults have entered the workforce with no more than a high school diploma.”

¹³ Anthony P. Carnevale, Stephen J. Rose, and Andrew R. Hanson, “Certificates: Gateway to Gainful Employment and College Degrees.”

¹⁴ Ibid.

¹⁵ Mike Vuolo, Jeylan T. Mortimer, and Jeremy Staff, “The value of educational degrees in turbulent economic times: Evidence from the Youth Development Study,” *Social Science Research*, 57 (2016): 233-252.

¹⁶ Alexander Gelber, Adam Isen, and Judd B. Kessler, “The Effects of Youth Employment: Evidence From New York City Lotteries,” *The Quarterly Journal of Economics* 131, no. 1(2016): 423-460, <https://doi.org/10.1093/qje/qjv034>; Martha Ross and Nicole Bateman, “Millions of young adults have entered the workforce with no more than a high school diploma;” Harry J. Holzer, “Raising Job Quality and Skills for American Workers: Creating More-Effective Education and Workforce Development Systems in the States,” *The Hamilton Project*, November 2011, http://www.hamiltonproject.org/assets/legacy/files/downloads_and_links/11_workforce_holzer_paper.pdf, accessed March 7, 2019.

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- ¹⁷ Commission on the Social Determinants of Health, "Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health," World Health Organization (2008), http://whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf; Robert Wood Johnson Foundation, "Education and Health: Exploring the Social Determinants of Health" (April 2011), http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwif70447; Nancy E. Adler and David H. Rehkopf, "U.S. Disparities in Health: Descriptions, Causes, and Mechanisms," *Annual Review of Public Health*, no. 29 (2008): 235–52, <https://www.ncbi.nlm.nih.gov/pubmed/18031225>; Robert A. Hahn and Benedict I. Truman, "Education Improves Public Health and Promotes Health Equity," *International Journal of Health Services* 45, no. 4 (2015): 657–78, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4691207>.
- ¹⁸ Virginia Commonwealth University Center on Society and Health, "Education: It Matters More to Health than Ever Before."
- ¹⁹ Tamar Mendelson et al., "Opportunity youth: insights and opportunities for a public health approach to reengage disconnected teenagers and young adults." *Public Health Reports* 133 no.1 (2018): 54S-64S. <https://doi.org/10.1177/0033354918799344>.
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- ²¹ Ibid.
- ²² Bureau of Labor and Statistics, "Preliminary 2018 Data on Employment Status by State and Demographic Group" (2018), <https://www.bls.gov/lau/ptable14full2018.pdf>, accessed March 7, 2019.
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- ²⁶ U.S. Census Bureau, "Indiana, 2017 American Community Survey, Educational Attainment", https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml, accessed March 8, 2019.
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