

Philadelphia's College Near Completers: An Opportunity to Train, Upskill, and Advance Economic Mobility

June 2021

By combining existing funding programs to support college Near Completers, workforce leaders in Philadelphia have the opportunity to not only help upskill workers and advance individual economic mobility but to also help ensure the resiliency of our local economy. This research brief first provides insight into the demographic and economic characteristics of Near Completers in Philadelphia. Attention is then paid to the labor market benefits of degree-completion programs.

Overall, advancing educational attainment alone is not enough to improve individual economic outcomes. Individuals who complete higher levels of formal education but fail to transition to higher skilled employment are unlikely to experience any significant wage gains. To help ensure that upward occupational mobility does occur, degree-completion programs should be

tightly coupled with career guidance and workforce development programming.

In 2019, more than
120,000
adult Philadelphians had more than one year of college credit, were not currently enrolled in school, and had no postsecondary degree.

Near Completers in Philadelphia

Over the past half-century, technological advances and economic transitions have dramatically affected the nature of work in the United States. Shifting from a production-focused economy to one more heavily reliant on services and innovation has caused the American labor market to move in opposing directions. Employment opportunities have concentrated among well-paying and high-skill occupations on one end and often low-wage and precarious service or gig occupations on the other.¹

The employment crisis of 2020 has required that we confront this economic liability. When COVID-19 forced thousands of Philadelphians to stay home, job losses were primarily concentrated among low-wage and low-skill service occupations. In the first half of 2020, for example, an estimated 86% of job losses occurred among occupations that typically require a high school diploma or less.² Those at the opposite end of the spectrum, working in higher skill and often well-paying occupations, have experienced much fewer job losses.

In times of economic uncertainty, an individual's lack of formal education and skills increases employment vulnerability. Helping individuals obtain postsecondary degrees or portable industry-recognized credentials is a critical step in not only shoring up our local labor market but also in building toward a more resilient future.

A potential first step toward a more educated and skilled workforce is to provide additional supports to those who have already completed significant postsecondary education but may have not earned a formal degree or certificate.

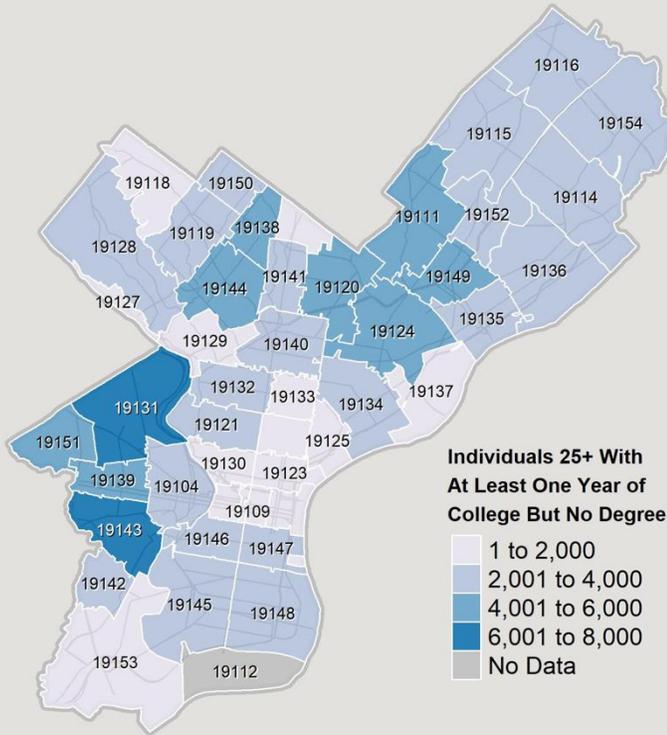
In 2019, more than 120,000 adult Philadelphians were considered college Near Completers.

- By definition, these individuals were not currently enrolled in school, were over the age of 25, and had completed more than one year of college without obtaining a degree.
- By broad demographic characteristics, they were overwhelmingly Black or African American, roughly evenly distributed across age groups, and more likely to live in specific areas of North and West Philadelphia.
- By employment, approximately 80,000 were actively employed, half of whom were working in low-skill occupations and earning a median annual salary of just \$30,000. By industry, Near Completers were most prevalent in the Healthcare and Social Assistance sector.

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A Snapshot of Philadelphia's College Near Completers in 2019

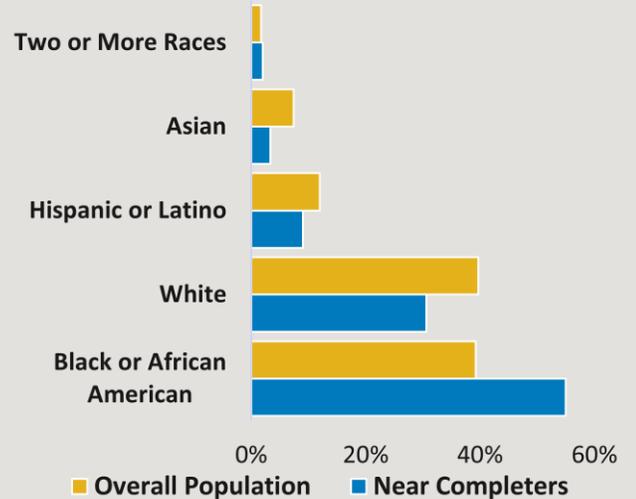
Zip Code of Residence



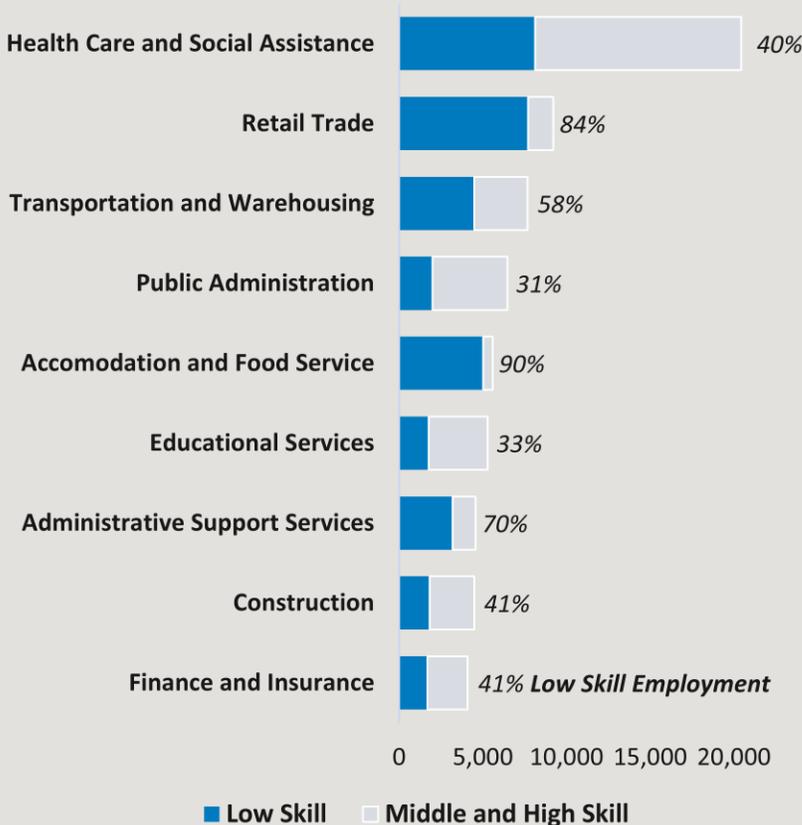
Employment by Occupational Skill



Race and Ethnicity, Share of Total



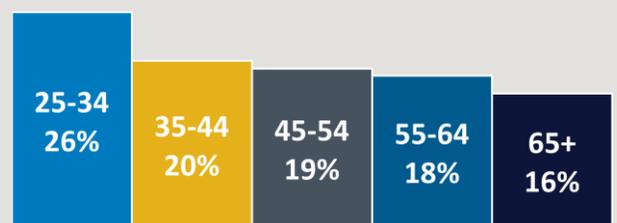
Most Common Industries of Employment



6% Self-Reported a Low Level of English Fluency

54% Self-Identified as Female

Age Groups, Share of Total



The Value of Educational Attainment

Beyond the current recession and recovery, educational attainment has historically been associated with improved labor market outcomes. Individuals with more advanced education have higher levels of labor force participation, lower levels of unemployment, and typically earn higher wages (see Figures 1 and 2). In Philadelphia in 2019, for example, the median annual income for a worker with a high school diploma or GED was approximately \$27,500. For a worker with a Bachelor's degree, it was \$49,000.

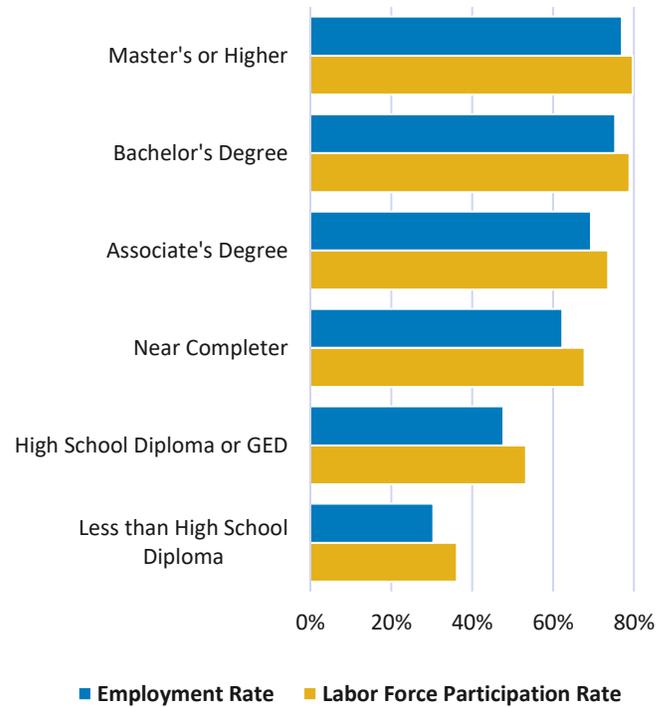
While the above figures show the importance of educational attainment overall, segmenting workers by the skill level of their current occupations provides a more nuanced understanding of employment and wages across educational attainment levels. For more information on how we have defined skill levels, refer to our interactive tool [Building Talent Over Time](#), found on the *Data and Trends* page of our website.³

As seen in Table 1, an estimated 61% of Philadelphia workers with a high school diploma or GED were employed in low-skill occupations in 2019. For those with an associate's or bachelor's degree, low-skill employment rates were just 41% and 24%, respectively.

This distribution overall should not be surprising: higher levels of education lead to higher-skilled employment. However, note the similar occupational skill breakdown among Near Completers and those with an associate's degree. While associate's degree holders were slightly more likely to be employed in high-skill occupations, a roughly even share were employed in middle-skill occupations.

Education Improves Employment Outcomes

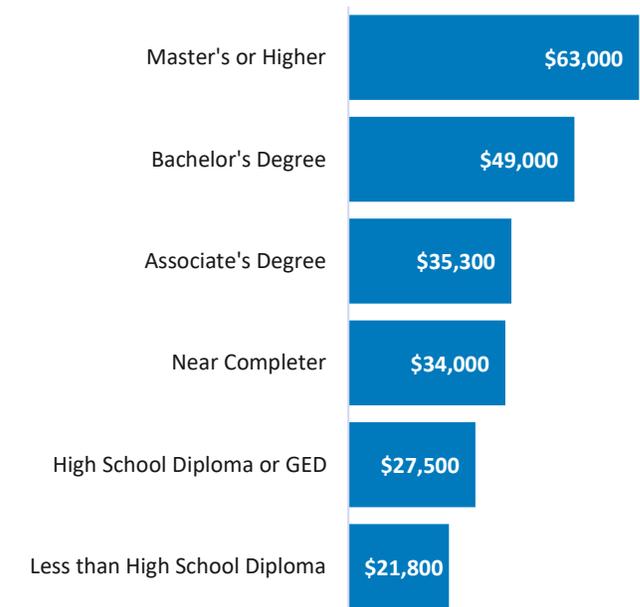
Figure 1: Philadelphia Employment and Labor Force Participation Rates by Education, 2019



Source: Philadelphia Works analysis of ACS, 2015-2019

Higher Educated Workers Typically Earn More

Figure 2: Philadelphia Median Annual Wages by Education, 2019



Source: Philadelphia Works analysis of ACS, 2015-2019

This similarity becomes even more important when considering median wages. Shown in Table 2, the wages between Near Completer and associate's degree holders show little variance across occupational skill levels.

Wage outcomes improve most significantly when moving from low- to high-skill occupations. Across Philadelphia's labor market, skill is a much stronger predictor for wage outcomes than educational attainment alone.

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Higher Levels of Education Are Closely Related to Higher Skilled Employment

Table 1: Philadelphia Employment by Education and Occupational Skill, 2019 | Rows Sum Across

Educational Attainment	Low Skill	Middle Skill	High Skill
Less than High School Diploma	65%	28%	6%
High School Diploma or GED	61%	32%	8%
Near Completer	49%	34%	17%
Associate's Degree	41%	35%	24%
Bachelor's Degree	24%	17%	59%
Master's or Higher	10%	6%	84%

Source: Philadelphia Works analysis of ACS PUMS, 2015-2019

Higher Skilled Employment – Not an Individual's Education – Drives Higher Wages

Table 2: Philadelphia Median Annual Wages by Education and Occupational Skill, 2019

Educational Attainment	Low Skill	Middle Skill	High Skill
Less than High School Diploma	\$20,000	\$24,000	\$39,900
High School Diploma or GED	\$24,500	\$31,200	\$45,000
Near Completer	\$29,500	\$35,000	\$46,000
Associate's Degree	\$30,000	\$38,800	\$48,000
Bachelor's Degree	\$31,200	\$43,000	\$60,000
Master's or Higher	\$30,400	\$45,000	\$68,000

Source: Philadelphia Works analysis of ACS PUMS, 2015-2019

Integrating Occupational Training and Workforce Development

If the prospects of wage improvements are minimal, why should an individual with substantial existing education and experience invest time in completing a formal degree? Beyond their offers of improved employment stability, formal education and certification improve the chances of upward occupational mobility. That is, a Near Completer currently or formerly employed in a low-skill occupation has a greater chance of moving to a middle- or high-skill occupation with a degree or certificate in hand.

Once this shift occurs, wage outcomes are much improved. Using an analysis of variance (ANOVA), Figure 3 shows the average annual wage increases for Near Completers currently employed in low-skill occupations should they transition to higher-skilled occupations and/or obtain a formal degree.

Note that the shift from low-skill Near Completer to low-skill associate's degree offers no significant

increase in wages. However, for an individual moving to a middle-skill occupation after obtaining an associate's degree, the average wage increase would be \$11,880.

For a Near Completer moving to a middle-skill occupation *without* completing an associate's degree, the average wage increase would be similar. For certain occupations, obtaining an industry-recognized credential is enough to spur this occupational mobility and improve wage outcomes.

Importantly, in constructing this statistical model, one finds evidence of significant variations across race, ethnicity, and binary sex. The degree to which incomes are likely to increase often depend on individual demographics. Though not included in this brief, existing research has revealed Philadelphia's labor market inequities,⁴ and the work presented here is not free from our region's systemic barriers to employment and economic mobility.

For Example:

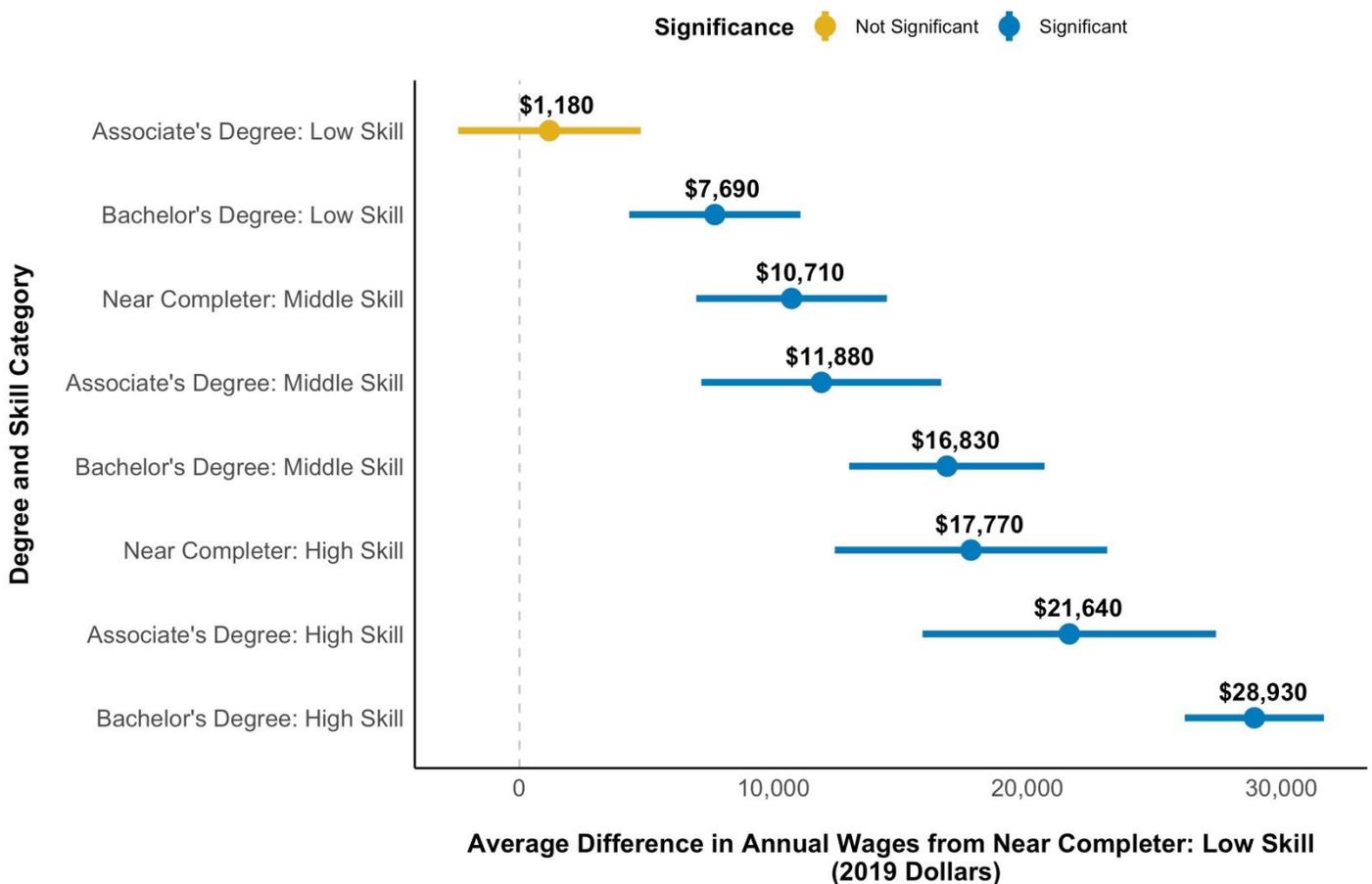
Looking at data for Pennsylvania overall, a Near Completer employed as a hotel front-desk clerk—a low-skill occupation—should expect no meaningful increase in her annual wages if she were to complete an associate's degree and remain in the same occupation. However, if she were to complete an associate's degree and transition to a position as a paralegal—a middle-skill occupation—her annual income would increase by an average of \$23,000. In this example, a workforce program that provides resources to complete an associate's degree as well as training toward paralegal certification would help to ensure that upward mobility does occur.

Findings from this analysis suggest that educational attainment alone is not enough to improve wage outcomes for Near Completers. To help ensure that upward mobility occurs, degree completions programs targeting these individuals should be tightly coupled with career guidance and additional workforce development programming.

For more information on this specific analysis and how it was conducted, refer to the below section [Sources, Methods, and Limitations](#).

Higher Education Combined with Occupational Mobility Significantly Improves Annual Wages for Near Completers in Low Skill Occupations

Figure 3: Wage Variance by Education and Skill for Philadelphia Near Completers in Low Skill Occupations, 2015 to 2019



Source: Philadelphia Works analysis of ACS PUMS, 2015-2019

Policy in Action: Completion Programs for Philadelphia Residents

While the current recession and recovery have shown the importance of formal education in employment security, this short analysis has shown that education alone is not enough to guarantee economic mobility. In partnership with **Montco-Works**, community organizations, and area colleges and universities, Philadelphia Works has helped to develop programming tailored specifically for Near Completers.

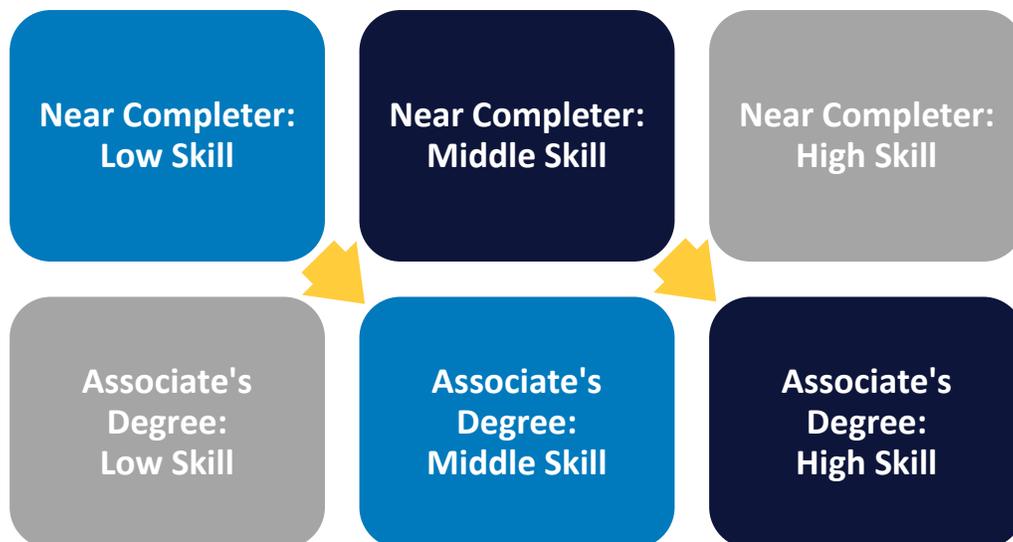
Set to launch for the Fall semester of 2021, a pilot program will target Near Completers that have lost employment due to COVID-19. A combination of funding sources, including specialized grant funding from the Commonwealth of Pennsylvania, will be used to provide full tuition assistance as well as other educational support services. Program staff from both the PA CareerLink® Philadelphia system as well as participating colleges and universities will help participants retrieve past transcripts, apply existing credits to new degree programs, and

navigate career opportunities. This network of support systems across institutions of higher education and the PA CareerLink® system will leverage a unified and individually customized plan to help educate, upskill, and rapidly reattach dislocated workers to employment.

By combining financial assistance, resources, and programming from institutions of higher education and the federal workforce system, similar partnerships can strategically promote individual economic mobility as well as upskill our region's workforce. Existing workforce programming, funded in part through the Workforce Innovation and Opportunity Act (WIOA), already provides tuition assistance, training, and career guidance for Philadelphia residents. When appropriate, these programs can be combined with federal Pell grants and other financial resources to help cover the cost of degree completion while also ensuring career readiness and job placement.

Degree Completion Programs Must Be Tightly Coupled with Career Guidance and Workforce Development Programing

Figure 4: Framework for Degree Completion and Upward Occupational Mobility



Sources, Methods, and Limitations

This analysis relies primarily on the Public-Use Microdata Sample (PUMS) of the 2015-2019 American Community Survey (ACS) from the U.S. Census Bureau. Based on individual and house-hold responses, these data are weighted to provide estimates of individuals and provide researchers a unique opportunity to segment across demographic and economic characteristics.

Unfortunately, while we are able to examine the enrollment status and the number of years of postsecondary education an individual may have completed, we can see neither post-secondary certificates earned below the associate's degree level nor any certificates earned outside educational institutions.

For example, if a worker in Philadelphia had completed college coursework leading to a cosmetology license but did not earn an official degree, they may be counted as a Near Completer in this analysis. While this limitation of the PUMS data may lead to an overcounting of Near Completers in Philadelphia, recent research from the Census Bureau has shown that more than 75% of Near Completers across the country lack any credential or occupational license.⁵

To conduct the analysis of variance, several steps were taken to clean and standardize the PUMS survey data. For consistency of comparison and in an attempt to normalize the data, the analysis included only full-time employees, excluded any individuals reporting wages below the minimum wage, and excluded very high earners. Additionally, given the definition of Near Completers, the analysis also excluded all individuals below the age of 25 and individuals currently enrolled in school. For each

education-skill category, wage outliers below the 25th and above the 75th wage percentiles were also excluded.

Presented below in Table 3, the ANOVA results show statistically significant wage variations across skill, race or ethnicity, binary sex, and educational attainment. Additionally, a non-random interaction effect between skill and race or ethnicity finds that the variations observed across skill levels *depend* on an individual's race or ethnicity. Though not addressed in this brief, this interaction should not be ignored and is an appropriate topic for future research.

Despite the precautions taken to clean and normalize the PUMS data, density plots of wages in each of the education-skill categories show that our data are nonnormal. Additionally, the ANOVA model itself fails the Levene test for homogeneity of variance, indicating significantly different standard deviations of wages across the education-skill categories.

Violations of the assumptions of normality and variance require the use of more robust and non-parametric tools of analysis. To account for heterogeneity of variance, a Games Howell post hoc test (rather than the traditional Tukey test) was used to measure the specific variances between education-skill categories. The output of this test is shown in Figure 3, above.

To determine the effects of our nonnormal data, non-parametric Kruskal and Wilcox tests were also performed, further confirming that non-random variations are occurring along the medians of each education-skill category. These results show that

our original ANOVA model is robust against the violation of normality and that our results can be trusted.

Significant Variations in Full-Time Wages Exist Across Education, Skill, Race, and Binary Sex

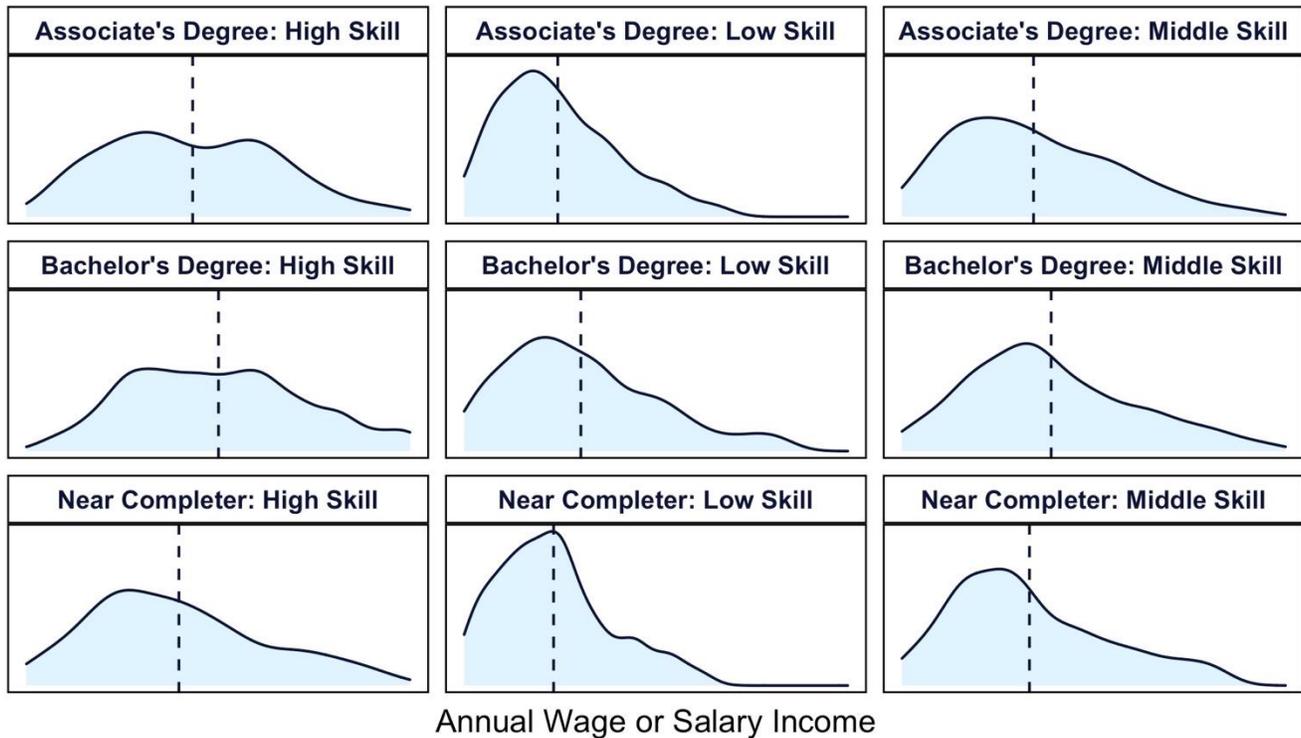
Table 3: ANOVA Results, Effects on Annual Wage

Variable	Sum Sq.	DF	F Value	P Value
Skill Level	1.0075E+13	2	319.772274	3.85E-131***
Race or Ethnicity	1.3922E+12	8	11.0464447	1.41E-15***
Binary Sex	9.0823E+11	1	57.6521569	3.73E-14***
Educational Attainment	9.3596E+11	2	29.7059535	1.51E-13***
Skill Level : Race or Ethnicity	6.4125E+11	11	3.7004285	2.86E-05***

Source: Philadelphia Works analysis of ACS PUMS, 2015-2019

Some Education-Skill Categories Have Nonnormal Wage Distributions, Hinting Toward Underlying Inequities Among Workers in These Categories

Figure 5: Density Plots: Wages and Education-Skill



¹ Here, we refer to the body of research around income inequality and labor market polarization in the United States. A recent report from the PEW Philadelphia Research and Policy Initiative discusses how these broad macroeconomic trends have manifest in Philadelphia:

<https://www.pewtrusts.org/fr/research-and-analysis/issue-briefs/2021/04/whats-happening-with-philadelphias-middle-wage-jobs>

² Based on analysis completed by Philadelphia Works. Refer to the April 2021 edition of the Philadelphia Quarterly Labor Market Report: <https://www.philaworks.org/wp-content/uploads/2020/10/Philaworks-Quarterly-LMI-Report-April-2021.pdf>

³ Building Talent Over Time Tool: <https://www.philaworks.org/building-talent/>

⁴ Based on analysis completed by Philadelphia Works. Our research briefs *Increasing Inequities* and *Patterns of Spatial Inequities* discuss Philadelphia's existing and emerging labor market inequities in more detail. <https://www.philaworks.org/increasing-inequity/> ; <https://www.philaworks.org/patterns-of-spatial-inequity-negative-impacts-of-the-covid-19-pandemic/>

⁵ Ewert, S. and Robert Kominski, "Measuring Alternative Educational Credentials: 2012," in *Households Economic Studies* (U.S. Census Bureau, 2014), 70-138. <https://www.census.gov/prod/2014pubs/p70-138.pdf>