Shorter Training, Smaller Rewards? An Analysis of Training Outcomes for Youth WIOA Individual Training Account Recipients[1]

Abstract

American workers have potentially tens of thousands of different non-degree credentials to choose from when seeking training for a new career. One of the many dimensions on which these credentials differ is length. Unlike an associate or baccalaureate degree, which typically requires two or four years of study (respectively) to complete, programs of study leading to certificates, certifications, and occupational licenses can be as short or as long as a training provider designs them to be. Young people entering or re-entering the workforce may be tempted to choose the shortest programs possible to ensure that they enter the labor market and start earning quickly. But what if longer programs are associated with better labor market outcomes, perhaps because they provide higher quality or more comprehensive training? In this report I use data from the Participant Individual Record Layout data files maintained by the US Department of Labor to answer this question for displaced and disadvantaged young workers who receive Individual Training Accounts under the Workforce Innovation and Opportunity Act. I find that longer training programs for young workers do indeed tend to be associated with higher post-completion earnings, though different subpopulations of workers receive different benefits. An analysis of the rewards associated with credentials earned within specific subpopulations of interest to the US Department of Health and Human Services finds that youth who were formerly homeless or TANF recipients see a particularly strong correlation between training program length and post-completion earnings.

Introduction

The marketplace for credentials in the United States is much larger than was once appreciated and grows every day (Credential Engine 2018). In recent years, attention has grown to the world of sub-baccalaureate credentials – which are often non-degree in nature and may be referred to as alternative or short-term credentials, are available in nearly all occupations and industries. Non-degree credentials, such as certificates, certifications, occupational licenses, and apprenticeships, are helping individuals to train for a new occupation or advance in their chosen occupation far faster than earning a new associate or baccalaureate degree. Meanwhile, the number of associate degree programs and associate degree recipients in the United States is expanding at a rapid rate as interest grows in the potential value of community colleges as drivers of socioeconomic empowerment (Lumina Foundation 2020).

These sub-baccalaureate credentials and the training programs that prepare individuals to attain them tend to be excluded from traditional tuition finance mechanisms, such as student loans issued by the federal government. While there is some political interest in the extension of Pell grants to short-term credentials and some non-credit certificates and certifications are eligible for military veteran education benefits, non-credit certificates and certifications tend to be financed without government assistance. One of the few sources of public-sector funding for short-term credential attainment is the individual training accounts established under the Workforce Innovation and Opportunity Act (WIOA), which provide support for tuition, fees, necessary supplies, and living expenses while disadvantaged and displaced workers pursue credentials from designated providers. Each US state and territory identifies credentials eligible for support through individual training accounts, which are referred to as eligible training providers. The significance of WIOA training grants as a source of funding is underscored by the

[1] Corresponding author: Kyle Albert, George Washington Institute of Public Policy, George Washington University. Email: kalbert@gwu.edu.

fact that many short-term training providers on state-approved eligible training provider lists direct potentially eligible students to contact their local workforce boards and apply for grants, and some even provide guidance on how to maximize the probability that one's grant application will be successful.

The Promise of Shorter Credentials

Shorter credentials may be tempting to individuals seeking a fast route to professional advancement, both because of the potential for lower direct costs associated with training (including tuition, supplies, and living expenses while studying) and lower opportunity costs in the form of foregone earnings while training. Faster credentials may also be easier for individuals to complete, leading to lower risks of dropping out midway through one's course of study. Recent research claims that shorter credentials may, if carefully designed, be starting points on educational pathways that lead to more advanced credentials that can lead to further socioeconomic advancement (Perea 2020).

A substantial body of literature exists that suggests that non-degree credentials – which tend to be shorter than college degrees – provide substantial labor market rewards to those who attain them. Much of the literature focuses on certifications and licenses, both of which have been measured in the general US population for the first time within the past ten years through a series of nationally-representative surveys sponsored or developed by the Interagency Working Group on Expanded Measures of Enrollment and Attainment. These surveys found that certifications, licenses, and certificates are widely held and that individuals who hold these credentials earn more than workers at the same level of post-secondary degree attainment who do not (see Ewert and Kominiski 2014; Cronen, McQuiggan, and Isenberg 2017). Certifications, in particular, seem to have some value for at least younger workers that exists independent of any tendency for more competent or qualified workers to seek out certification (Albert 2017). While the labor market benefits of non-degree credential attainment are not equal across demographic groups (for example, according to Tesfai, Dancy, and McCarthy 2018, women seem to benefit less than men from some credentials), evidence is mounting of an across-the-board benefit associated with the attainment of non-degree credentials –which tend to be shorter than degrees but vary substantially in length - for the median worker (Belanich 2019). Ample evidence also exists pointing to an earnings premium associated with associate-level degrees, which, unlike certifications, tend to yield a greater increase in earnings for women (Dadgar and Trimble 2015).

While there is a common understanding of the duration of study required to complete most college degrees, massive variation exists within the world of non-degree credentials. In particular, the length of time required to complete certificates and certifications can vary widely across training institutions and credential issuers. Indicators of quality are often difficult to ascertain (Van Noy, McKay, and Michael 2019); however, one of the indicators that is relatively easy to identify is the duration of a program of study or average time spent to prepare for a credential. Given the heterogeneity of the world of sub-baccalaureate credentials, substantial variation exists in the duration of training for credentials of the same type offered by different institutions (or even departments/programs within institutions) in terms of the depth and breadth of the curriculum they can cover. Institutions offering training and credentials vary in the intensity of their curricula, both in terms of the number of contact hours in an average day of instruction and in pace at which they cover new topics. We might assume that shorter credentials – whether they be certificates, certifications, licenses, or fall into some other category - may be less attractive to employers who fear that those who hold shorter credentials lack skills or knowledge relative to peers who studied for longer periods of time. Moreover, if shorter credentials do fall short in terms of their ability to prepare individuals for the world of work, those who study for shorter periods of time may be less skilled or competent in their post-completion job placements, which may lead to more frequent turnover or lower salaries.

Youth as a Population of Special Interest

This study focuses explicitly on the relationship between training duration and outcomes for youth workers, which are defined as individuals under the age of 25. I focus on youth because they are especially likely to be navigating a transition between schooling and the labor market in which sub-baccalaureate credentials may be especially likely to aid labor market entry. However, recognizing that individuals toward the end of this age bracket have significantly more life experience than younger youth (e.g., teenagers and especially those still in the traditional high school age range), I break out individuals under the age of 22 and those aged 22-24 in the regression analyses conducted for this study. I also compare youth to workers of all ages to understand whether the labor market experiences of youth who complete training are substantively different from older workers. It could be expected that youth will tend to enjoy more favorable long-term labor market outcomes associated with training because they will have more years in the workforce in which to use their upgraded skills and competencies. Young workers may also find in-person classroom training to be a more familiar learning environment relative to older peers, given that youth trainees are less temporally distant from K-12 classroom instruction than older workers.

Research Data and Methods

This research study uses data from the Participant Individual Record Layout (PIRL) data files maintained by the US Department of Labor. These data files contain a wide range of demographic, socioeconomic, and program-related variables for a massive sample of individuals who have participated in federal assistance programs mandated by the Workforce Innovation and Opportunity Act (WIOA). The WIOA PIRL datasets contain data updated on a quarterly basis on all individuals who are currently served by the public workforce system as well as those who have completed a training program or otherwise stopped receiving services within the past year. As the PIRL dataset contains the entire population of workers who have engaged with the public workforce system over the past year, the microdata files are among the largest public use datasets published by the federal government for employment research; the raw data file used in this study is approximately 13.7 million cases (which is cut down to 513,537 cases when individuals who did not participate in training are excluded). There is normally a lag of about 12-24 months between the timeframe in which data is collected and the release of microdata to researchers. Analyses in this report use data corresponding to the most recent quarter for which data was available at the start of this research study (Q2 2018).

One of the major advantages of conducting research using the PIRL dataset is that the PIRL contains the entire population of individuals receiving support under WIOA and is therefore not a sample. However, it should be acknowledged that not all disadvantaged or out-of-work individuals are eligible for WIOA services, and not all eligible individuals actually seek support through the public workforce system. For example, some displaced workers may choose not to file for unemployment benefits, and some individuals facing barriers to employment may find that non-WIOA support programs fully satisfy their training and support needs. Another issue with the PIRL data files is that missing data exists for some variables, resulting in limited sample sizes. We know little about how different states make decisions about which variables to report and the completeness of efforts to fill in certain variables (such as post-completion quarterly earnings) with administrative data. Potential strengths and limitations of the PIRL as a source of workforce data are discussed further in the discussion section of this paper.

The length of one's training program leading to a credential is measured in days and calculated by standardizing all date formats into the number of days between a given date and January 1, 1960 (the standard format used in SAS) and subtracting start dates from end dates for all individuals in the PIRL dataset. To permit meaningful comparisons between occupations that attract significant numbers of trainees, all Standard Occupational Classification (SOC) codes are abbreviated into the two-digit major level categories defined in the 2010 SOC User

Guide published by the US Bureau of Labor Statistics.[2] 40 cases reported training completion dates earlier than training start dates, and 19,806 cases reported that training started and ended on the same day. While it is not completely impossible that a credential could have been attained in just one day of study, those cases are excluded from this analysis on account of a high risk of data entry error. These omitted cases represent 4.64% of all trainees in the PIRL dataset.

Logistic regression analyses are used to identify the probability of finding employment and the probability that the employment one finds will be in one's occupational field of study. Linear regression analysis is used to identify the predictors of choosing a shorter or longer credential and the effect of credential length on earnings. Earnings are measured as logged quarterly income in the second quarter after program completion. Each regression analysis includes dummy variables for each major level occupational field of study to control for differences in the average length of credentials across occupations. Given the emphasis on youth outcomes in this study, each regression analysis is repeated for four different populations: those under 22, those aged 22-24, those above the age of 25, and all credential holders.

This paper presents analyses of two different populations of credential completers: those who complete an industry-recognized certification, and those who complete any type of credential. Credential classifications are not exclusive in the PIRL, so a training program that prepares one for both a certification and an associate degree will be counted in both categories. In this study, I have decided to pay special attention to industry-recognized certifications (hereafter, "certifications"; the Department of Labor is imprecise as to defining what would cause a certification to not be reported for not being "industry-recognized") given their unique nature as credentials that may be especially well suited for individuals looking for a rapid transition into a new occupation or career. Certifications have been praised by thought leaders in the workforce development space (e.g., Jacoby 2019) for their potential to be attained quickly and be associated with strong labor market returns. Certifications tend to lack coursework prerequisites, given that they are competency-based credentials issued primarily on the basis of performance on an examination (National Governors Association 2020). Given the competency-based nature of certifications, the days of study reported by individuals in the PIRL may be days in which an individual is engaging in self-study, with or without the help of study aids such as exam preparation books or videos. Some individuals may enroll in training or coursework as part of the process of preparing to obtain their certification, but this training or coursework is not necessarily part of the certification itself or approved by the certification issuer.

Program Length

By Credential Type

[2] https://www.bls.gov/soc/soc_structure_2010.pdf

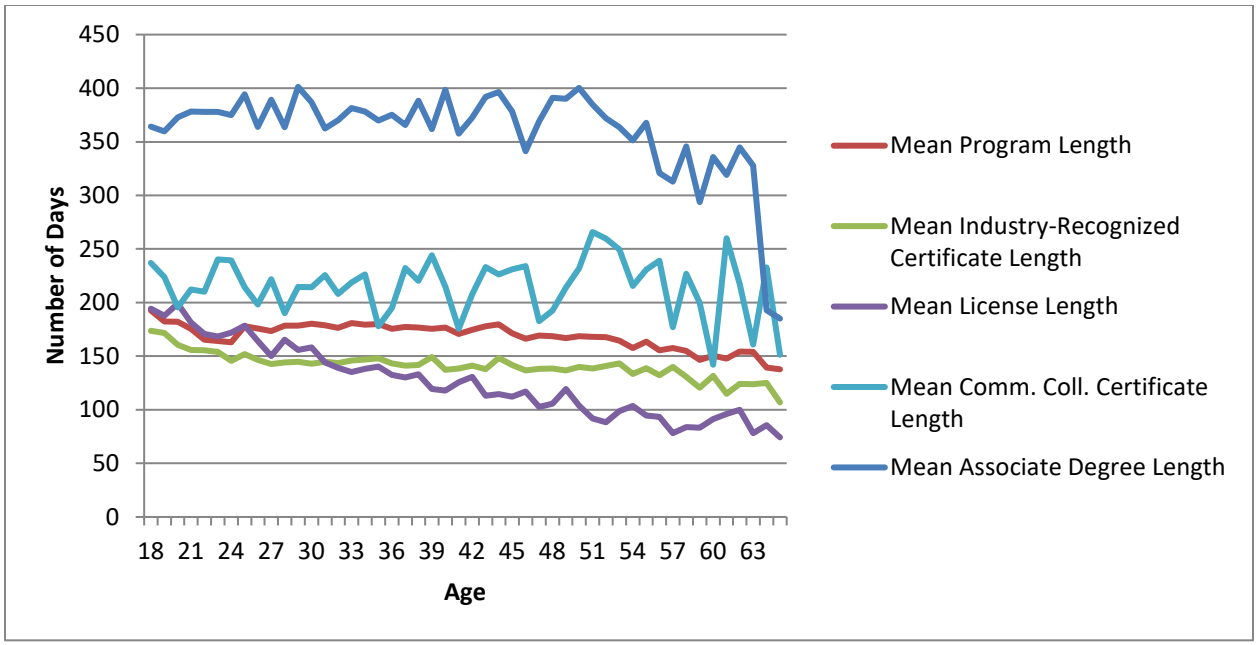


Figure 1: Average Length of a Credential in Days, by Age and Credential Type

The average length of time invested in earning a credential is not consistent over the lifecourse. On average, young people take a little longer to earn credentials of all types, and differences exist within the under-25 population: the average credential takes 193 days to earn for individuals who started their training at the age of 18, but only 163 days for individuals who start training at 24. To understand how certifications compare to other types of credentials, I compare five different categories of credentials in **Figure 1**: all credentials, certifications, occupational licenses, certificates (which are typically issued at the community college level within the WIOA population), and associate degrees. Notably, some training programs are completed faster by older learners, including those intended to prepare individuals for occupational licenses.

By Occupation

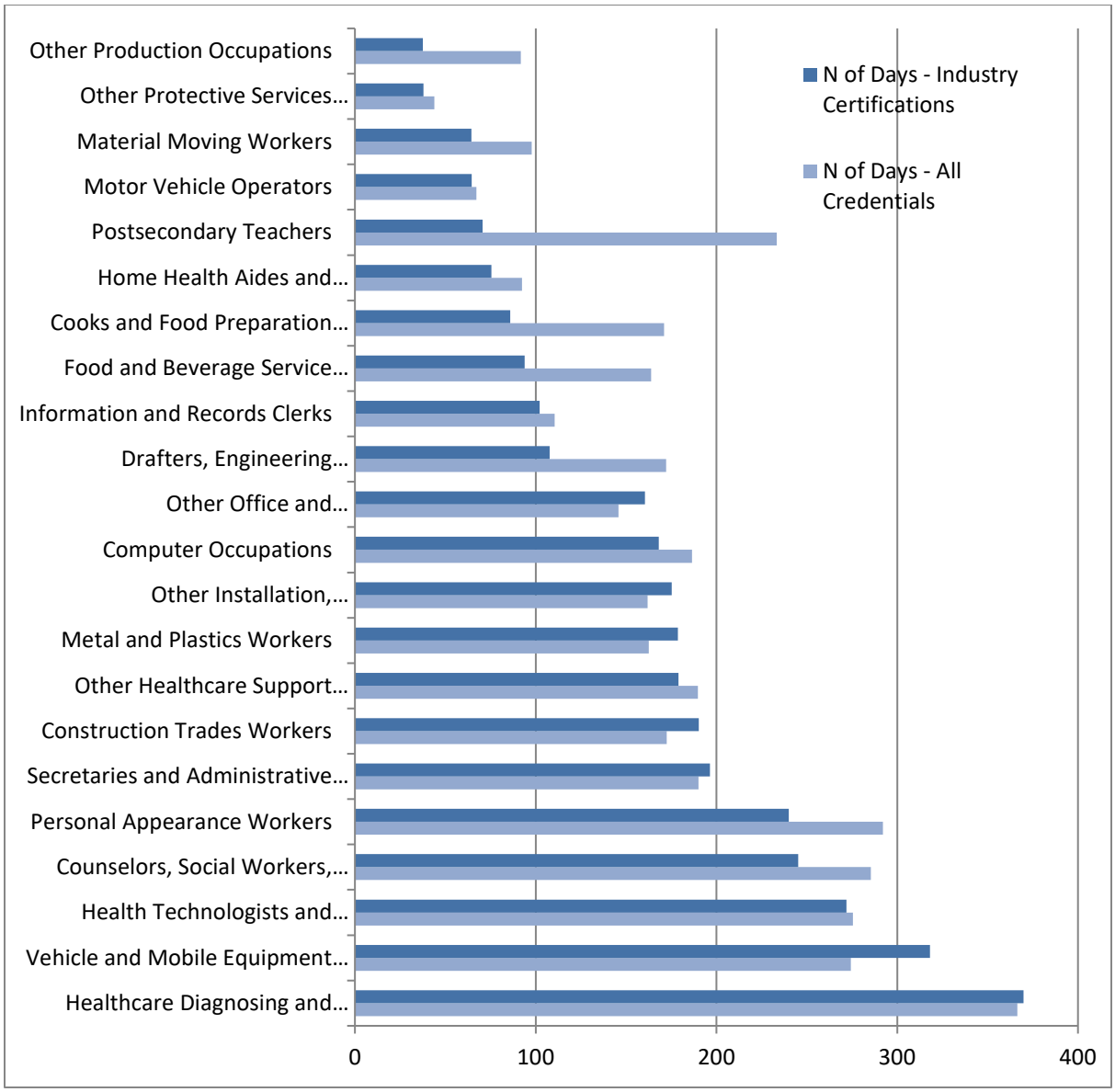


Figure 2: Average Length of a Credential and a Certification in Days, by Occupational Field of Study

In general, the average length of time involved in completing an industry certification mirrors the mean length of time required to complete any credential funded by WIOA in a given occupation. As seen in **Figure 2**, the mean number of days required to complete an industry certification ranges from 37 days for production occupations to 370 days for healthcare diagnosing and treating practitioners (the majority of whom study nursing). Many entry-level service sector occupations average less than 100 days for the completion of a certification, including protective services, driving, food preparation, and home health aides. Within the range of occupations that are normally characterized by lower skill requirements, workers studying for programs that prepare individuals to become personal appearance workers and administrative assistants tend to take longer than those studying for other entry-level occupations.

Which short-duration certificates are most likely to lead to employment in the wake of COVID-19?

We can compare the average amount of time required to earn a credential across occupations likely to be in demand in a post-pandemic labor market. While much remains unknown about the continuing economic fallout from the coronavirus, we know that job losses have been concentrated in certain occupations. According to tables published by the Bureau of Labor Statistics in August 2020,[3] the following occupations have experienced the fewest job losses (as a percentage of the workforce) related to the coronavirus:

- Business and financial operations
- Architecture and engineering
- Healthcare practitioners
- Office and administrative support
- Life, physical, and social sciences

Among certification fields of study reported above, two stand out as being both light in terms of the duration of a typical training program leading to certification and relatively immune to coronavirus-related job losses: drafting (a subset of the architecture and engineering occupational category) and other office and administrative occupations (part of the "office and administrative support" occupation). Earning such certificates could be wise choices for workers looking to quickly enter or reenter the labor market and avoid the negative labor market consequences of the COVID-19 pandemic.

Relationship Between Credential Length, Probability of Employment and Earnings for the Youth Population

The length of one's program of training is positively and significantly related to post-training earnings for youth and adults alike (**Table 1**). Each additional day of training is associated with an increase in logged income for individuals in all age categories who complete credentials with support from WIOA funds, including those who specifically complete an industry certification. This relationship holds even when controlling for earnings prior to receiving a training grant, as well as a wide range of demographic variables and indicators of disadvantage noted in Table 1 as well as one's occupational field of study.

Similarly, the length of time that one spends training for a credential is positively and significantly related to the probability of being employed two quarters after completion (**Table 2**). However, the relationship is somewhat inconsistent within the population of individuals whose credential type is an industry-recognized certification. While there is a positive relationship between certification attainment and the probability of employment for youth and individuals 25 and over when analyzed in isolation from each other, in a pooled model there is no significant relationship between certification length and the probability of employment.

As with the probability of being employed in any occupation, results differ by age category when examining the relationship between the duration of one's training program and the probability that one will be employed within one's occupational field of study (**Table 3**). While the relationship between one's duration of training and the likelihood that one's job will be related to one's training is positive and significant for those under 21 and those 25 and above, there is no relationship in the 22-24 age range and a negative relationship when one analyzes workers of all ages simultaneously.

<Insert Tables 1-3 about here>

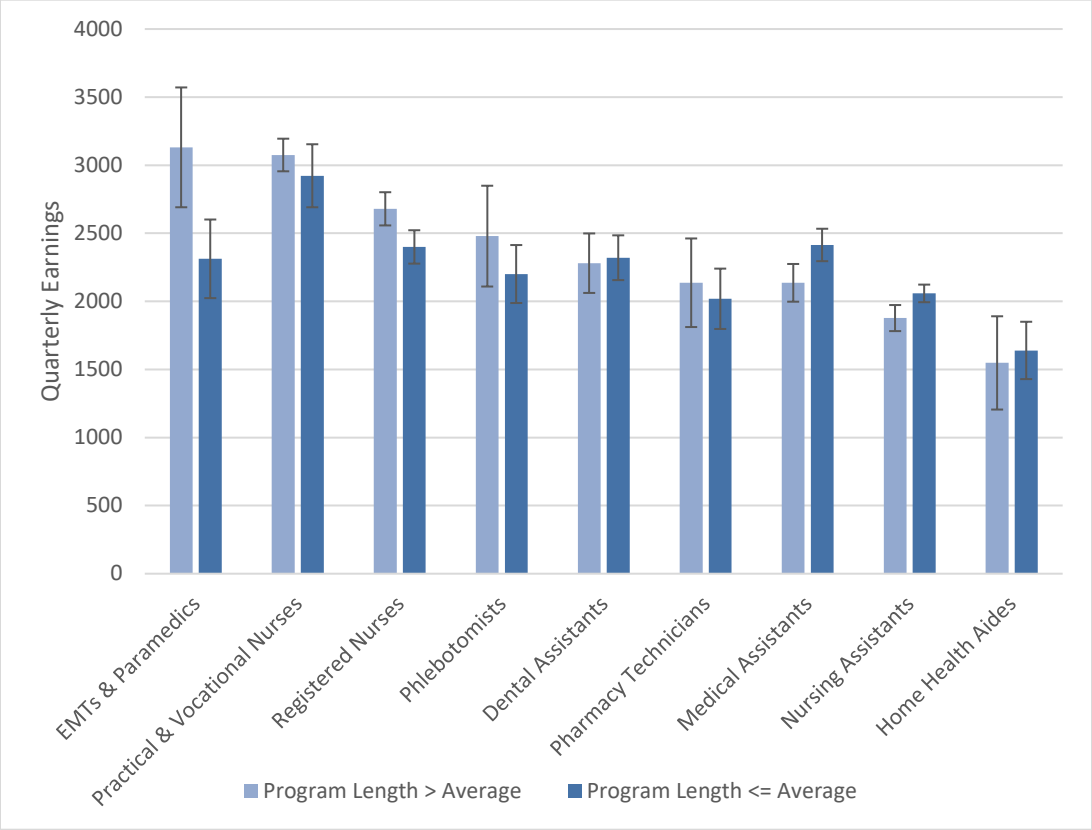
Sidebar: Focus on Popular Health Occupations

[3] https://www.bls.gov/cps/effects-of-the-coronavirus-covid-19-pandemic.htm

Healthcare occupations are a popular choice for individuals seeking stable careers with strong long-term growth potential. The attractiveness of healthcare occupations is likely to grow as a result of the COVID-19 pandemic, given the essential nature of the industry and social importance of its work. Credentials for entering health occupations are also subject to significant levels of regulation and oversight, potentially ensuring some baseline quality control that prevents shorter programs from skipping content that would help their graduates in the labor market. In **Figure 3** below, I compare average salaries for youth receive training that is longer than or shorter than (or equal to) the average duration of training for their healthcare occupation. The population for this analysis is youth who receive a training grant and complete training leading to any type of credential in each of the health occupations chosen by more than 1,000 youth WIOA program participants nationwide.

Figure 3. Quarterly Post-Completion Earnings by Healthcare Training Program Length

Error bars represent 95% confidence intervals.



While the majority of popular healthcare fields of study are characterized by higher earnings for those who complete a credential that takes longer than average to complete, there are some exceptions to the rule: dental assistants, medical assistants, nursing assistants, and home health aides enrolled in programs that take longer tend to earn less post-completion. Plausible explanations certainly exist for this finding: for example, lower-quality programs in these fields of study could be only available on a part-time basis, forcing training grant recipients in these programs to prolong their studies. Further research is warranted to explain such variation from the general pattern of rewards associated with longer programs.

Variation in Training Length and Outcomes for Variables of DHHS Interest

This study also examined how three variables of policy interest to the Department of Health and Human Services – receipt of public assistance through the Temporary Assistance for Needy Families program, a history of

homelessness and being a single parent – affect training length and outcomes within the youth population. The following analyses focus on individuals who earn all types of credentials rather than break out certification earners as a separate population, due to the limited number of individuals in these subpopulations who pursue certifications.

Individuals who are homeless at program entry and individuals who are single parents tend to see a strong relationship between the duration of their program of study and earnings after program completion. While there is also evidence of a payoff to selecting longer programs of study for TANF recipients, the relationship between earnings and credential length is weaker. That said, youth TANF recipients and youth with a recent history of homelessness tend to earn less overall once they complete their credentials.

Figure 4 shows variation in second quarter earnings after program completion for youth who complete credentials, broken out for the purposes of visualization into five quintiles of program length. While Figure 4 shows that incomes are generally higher for individuals who complete longer credentials, earnings for youth single parents are highest for those who select programs that are around average in duration.

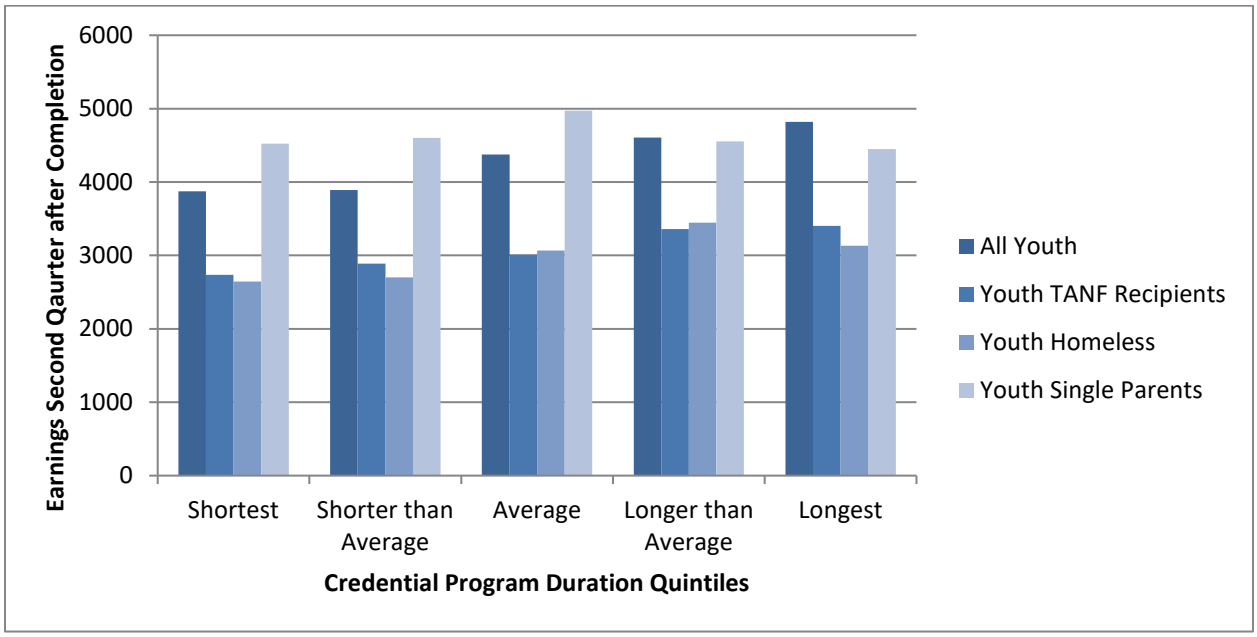


Figure 4: Average Earnings Second Quarter Post-Completion (Months 4-6), by Credential Length (All Credential Types)

In Figures 5-7, I examine the relationship between the length of a program of study leading to a credential (of any type) and earnings (for those who were employed post-credential) using binned scatterplots with trendlines. In order, the relationship between credential program length and earnings is highest for youth who were TANF recipients at the time of program entry (N with credential = 3,059), followed by homeless youth (N with credential = 3,259) and single parent youth (N with credential = 13,532). As is also reflected in Figure 4, single parents tend to enjoy higher earnings after attaining their credentials relative to other subpopulations of interest. However, the relationship between credential duration and earnings is not as strong as it is for TANF recipients and previously homeless youth.

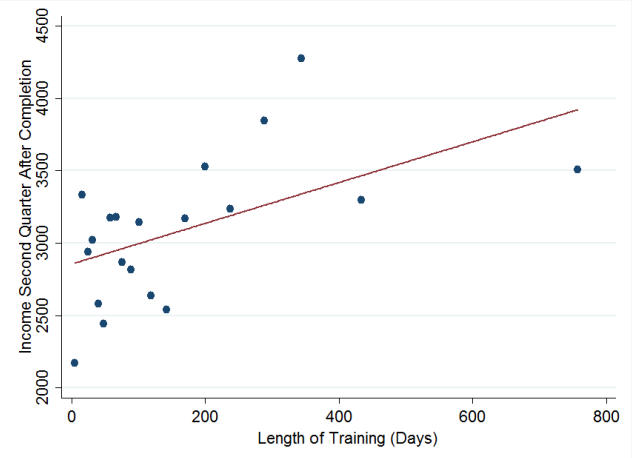


Figure 5: Relationship Between Program Length and Second Quarter Post-Completion Earnings for Youth TANF Recipients

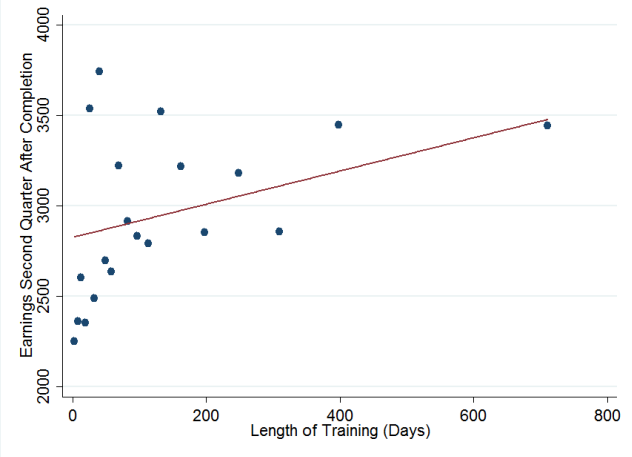


Figure 6: Relationship Between Program Length and Second Quarter Post-Completion Earnings for Formerly Homeless Youth

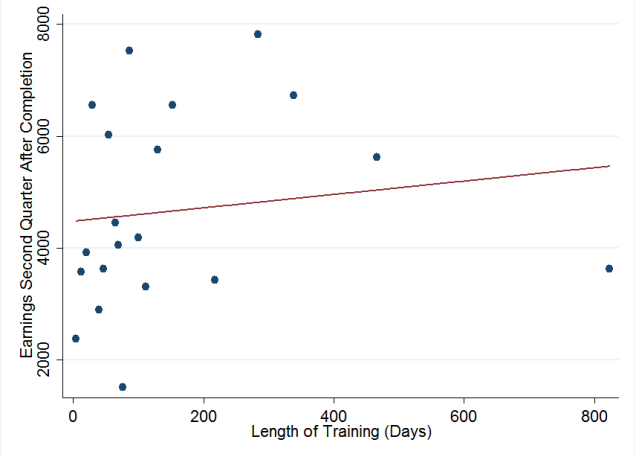


Figure 7: Relationship Between Program Length and Second Quarter Post-Completion Earnings for Youth Single Parents

Discussion/Conclusions

Issues with the WIOA PIRL dataset

One challenge of working with the PIRL dataset is the use of multiple indicators of training fields of study. Programs are coded on the basis of both Classification of Instructional Programs (CIP) and Standard Occupational Classification (SOC) codes. For this study, I chose to analyze only the SOC codes as I wanted to identify the factors that predict whether one will work in a position relevant to one's field of training. However, it is hard to know how accurate or precise the state workforce agencies are with respect to assigning training programs to SOC and CIP codes. The fact that a non-negligible number of individuals report having received WIOA support for training in the SOC code for "top executives" suggests that there may be some margin of error in the assignment of codes, as WIOA funds are normally allocated only to programs that appear on eligible training provider lists containing programs determined to correspond to specific occupations and industries in demand in a given local or state-level labor market. It is highly unlikely that any state considers executive-level training or coaching programs to be suitable uses of WIOA funds, which are specifically intended to help disadvantaged and displaced workers to quickly enter or re-enter the labor market.

The cost of program attendance was not considered in this study, given that WIOA program participants often receive training grants that cover the full cost of attendance. However, any effort to make recommendations about how short-term credentials could pay off for young workers without access to WIOA support would have to take into consideration the cost of such credentials, including the opportunity cost associated with taking time out of the workforce to complete a credential. The availability of data on fees charged to non-WIOA participants that is expected to be published as DOL collates data to be collected by state workforce agencies in response to Training and Employment Notice (TEN) 24-19 and places them in a database accessible to job-seekers, learners, and researchers, could allow for the consideration of costs in future research on the returns to credentials.

Conclusions

To generalize, longer credentials are associated with stronger labor market outcomes for youth and for the general population. We do not know the precise mechanisms that result in superior labor market outcomes for those young, WIOA-eligible individuals who receive training. However, this finding is consistent with the expectations that follow logically from both signaling and human capital theories: longer credentials may be a more credible signal of occupational commitment and capability, and longer credentials may provide more opportunity for the accumulation of new skills and competencies. The relationship between labor market outcomes (specifically, earnings) and training length for two of the populations of special interest in this study – individuals who received public funds to support living expenses (TANF) and individuals who were homeless at any point within the six month period before WIOA program entry – suggests that those disadvantaged workers who can complete longer programs tend to see greater gains. Thus, this research could be interpreted as indicating that individuals from these populations *may* benefit from choosing longer credentials over shorter ones. It should be emphasized that we cannot rule out the possibility that there may be unobserved preexisting socioeconomic advantages among those who choose longer credentials even within the TANF and previously homeless subpopulations, which could be explored in greater depth in future research.

Implications for Policy and Practice

The potential for longer credentials to pay off in terms of post-completion earnings could lead career counselors to encourage and facilitate the pursuit of more intensive credentials when individual learners are given the choice. While this study was completed using data from participants in the public workforce system, findings are likely to

also be applicable to young learners in other contexts, including those enrolled in high school who retain access to school-based counseling. Integrating data on average time to completion into data systems used by career counselors to guide students, such as the Career OneStop Certification Finder, would help students ensure that they are selecting credentials that provide substantive levels of instruction.

These findings could also be marshalled to support efforts to expand access to short-term credentials through the expansion of the definition of programs eligible for federal postsecondary student aid (i.e., "short-term Pell"), and to ensure that such a program provides sufficient financial support to cover longer credentials that offer more robust labor market returns. The association between credential length and earnings could also motivate accreditation agencies to pay closer attention to the depth and breadth of certificate programs and consider establishing minimum standards for instruction in programs eligible for federal student aid. More broadly, greater awareness of the value proposition associated with longer credentials can empower policymakers to place a greater emphasis on variation between credential providers and avoid generalizing across broad categories of credentials – especially in the case of "certificates" and "certifications," which lack commonly agreed upon standards with respect to the depth and duration of instruction and preparation.

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Table 1. Predictors of Post-Completion Income

	All Types of Training				Industry-Recognized Certifications			
	All Ages (Model 1)	21 and Under (Model 2)	Ages 22-24 (Model 3)	25 and Above (Model 4)	All Ages (Model 1)	21 and Under (Model 2)	Ages 22-24 (Model 3)	25 and Above (Model 4)
Length of Training	0.000162***	0.000515***	0.000314***	0.000381***	0.000262***	0.000681***	0.000612***	0.000603***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
High School Completion	0.279***	0.412***	0.311***	0.409***	0.0982***	0.158**	0.238***	0.177***
	(0.01)	(0.02)	(0.04)	(0.02)	(0.02)	(0.08)	(0.08)	(0.05)
Sex (1=F)	-0.170***	-0.110***	-0.110***	-0.108***	-0.180***	-0.0608	-0.0302	-0.0777**
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.05)	(0.05)	(0.03)
Disability Status (1=Y)	-0.194***	-0.176***	-0.182***	-0.200***	-0.193***	-0.156*	-0.207**	-0.205***
	(0.01)	(0.03)	(0.05)	(0.03)	(0.02)	(0.09)	(0.09)	(0.06)
Prior Criminal Record (1=Y)	-0.178***	-0.267***	-0.276***	-0.239***	-0.151***	-0.316**	-0.125*	-0.136**
	(0.01)	(0.04)	(0.04)	(0.02)	(0.02)	(0.13)	(0.08)	(0.05)
TANF Within Six Months of Program Entry (1=Y)	-0.144***	-0.135***	-0.252***	-0.142***	-0.142***	0.0123	-0.213**	-0.0996*
	(0.02)	(0.05)	(0.04)	(0.03)	(0.03)	(0.11)	(0.09)	(0.06)
Homeless Within Six Months of Program Entry (1=Y)	-0.220***	-0.205***	-0.224***	-0.219***	-0.221***	-0.503***	-0.0318	-0.197**
	(0.02)	(0.05)	(0.06)	(0.04)	(0.04)	(0.13)	(0.12)	(0.08)
Single Parent at Program Entry (1=Y)	-0.0112***	-0.00671**	-0.0173***	-0.0115***	-0.0135***	-0.0203**	-0.0167*	-0.0177***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Earnings Second Quarter Prior to Program Entry	3.23e-05***	6.65e-05***	4.30e-05***	5.50e-05***	3.02e-05***	6.73e-05***	5.11e-05***	5.76e-05***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	8.473***	7.645***	8.102***	7.776***	9.059***	8.747***	8.295***	8.560***
	(0.04)	(0.16)	(0.18)	(0.11)	(0.07)	(0.91)	(0.90)	(0.90)
Occupation-Level Effects	Included	Included	Included	Included	Included	Included	Included	Included
Observations	122,504	15,128	13,653	33,316	35,045	2,849	3,188	7,362
R-squared	0.152	0.15	0.148	0.156	0.158	0.138	0.147	0.13

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 2. Predictors of Post-Completion Employment

	All Types of Training				Industry-Recognized Certifications			
	All Ages	21 and Under	Ages 22-24	25 and Above	All Ages	21 and Under	Ages 22-24	25 and Above
	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Length of Training	-6.59e-05*	0.000505***	0.000401***	0.000412***	-0.000103	0.000711*	0.00112***	0.000611**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
High School Completion	0.383***	0.462***	0.530***	0.503***	0.273***	0.304	0.377*	0.351***
	(0.025)	(0.049)	(0.079)	(0.039)	(0.053)	(0.199)	(0.207)	(0.126)
Sex (1=F)	0.0600***	0.0507	0.129*	0.0876**	0.0202	0.0654	-0.0545	-0.0159
	(0.019)	(0.054)	(0.068)	(0.040)	(0.035)	(0.160)	(0.152)	(0.097)
Disability Status (1=Y)	-0.600***	-0.323***	-0.439***	-0.342***	-0.643***	-0.672***	-0.0445	-0.430***
	(0.026)	(0.067)	(0.105)	(0.054)	(0.047)	(0.204)	(0.252)	(0.140)
Prior Criminal Record (1=Y)	-0.337***	-0.475***	-0.404***	-0.417***	-0.206***	-0.515*	0.161	-0.198
	(0.023)	(0.084)	(0.082)	(0.053)	(0.044)	(0.296)	(0.219)	(0.140)
TANF Within Six Months of Program Entry (1=Y)	-0.337***	-0.463***	-0.287***	-0.394***	-0.262***	-0.441	-0.228	-0.316**
	(0.038)	(0.097)	(0.108)	(0.066)	(0.069)	(0.276)	(0.234)	(0.154)
Homeless Within Six Months of Program Entry (1=Y)	-0.360***	-0.104	-0.453***	-0.214***	-0.367***	-0.154	-0.0726	0.037
	(0.041)	(0.105)	(0.128)	(0.078)	(0.071)	(0.330)	(0.300)	(0.204)
Single Parent at Program Entry (1=Y)	-0.00681**	-0.00191	-0.0214**	-0.0110**	-0.0160**	-0.0257	-0.0101	-0.0268
	(0.003)	(0.007)	(0.009)	(0.005)	(0.007)	(0.027)	(0.028)	(0.017)
Earnings Second Quarter Prior to Program Entry	4.68e-05***	0.000207***	0.000142***	0.000165***	3.90e-05***	0.000150***	0.000155***	0.000143***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.555***	0.558	0.328	0.394	0.508***	0.469	0.65	-0.499
	(0.094)	(0.395)	(0.452)	(0.275)	(0.181)	(0.913)	(0.622)	(1.478)
Occupation-Level Effects	Included	Included	Included	Included	Included	Included	Included	Included
Observations	148,895	18,536	15,865	39,754	42,959	3,227	3,641	8,571
Psuedo R-squared	0.0378	0.0732	0.0642	0.0689	0.0331	0.0563	0.0657	0.0577

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Predictors of Post-Completion Employment Being in the Field of Training

	All Types of Training				Industry-Recognized Certifications			
	All Ages (Model 1)	21 and Under (Model 2)	Ages 22-24 (Model 3)	25 and Above (Model 4)	All Ages (Model 1)	21 and Under (Model 2)	Ages 22-24 (Model 3)	25 and Above (Model 4)
Length of Training	-0.000201***	0.000587***	-3.09E-05	0.000276***	0.000175**	0.000963***	0.00113***	0.000928***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
High School Completion	0.527***	0.957***	0.679***	0.859***	0.268***	0.289	0.148	0.227*
	(0.028)	(0.065)	(0.094)	(0.050)	(0.054)	(0.204)	(0.210)	(0.130)
Sex (1=F)	0.017	0.0276	0.112**	0.0772**	0.0404	0.0885	0.162	0.083
	(0.017)	(0.056)	(0.056)	(0.036)	(0.032)	(0.136)	(0.125)	(0.082)
Disability Status (1=Y)	0.0196	-0.156*	-0.0404	-0.104*	0.0117	0.283	-0.0425	0.16
	(0.030)	(0.082)	(0.106)	(0.061)	(0.055)	(0.221)	(0.223)	(0.141)
Prior Criminal Record (1=Y)	-0.143***	-0.248**	-0.279***	-0.265***	-0.164***	-0.298	0.0214	-0.109
	(0.023)	(0.106)	(0.086)	(0.060)	(0.045)	(0.335)	(0.184)	(0.134)
TANF Within Six Months of Program Entry (1=Y)	-0.266***	-0.244**	-0.208*	-0.210***	(0.033)	0.064	0.136	0.118
	(0.043)	(0.123)	(0.109)	(0.074)	(0.070)	(0.265)	(0.213)	(0.143)
Homeless Within Six Months of Program Entry (1=Y)	-0.412***	-0.595***	-0.408***	-0.508***	-0.287***	-1.234***	0.129	-0.371*
	(0.050)	(0.137)	(0.149)	(0.094)	(0.086)	(0.466)	(0.289)	(0.207)
Single Parent at Program Entry (1=Y)	-0.0613***	-0.0487***	-0.0446***	-0.0491***	-0.0298***	-0.0630**	0.0127	-0.0236
	(0.003)	(0.007)	(0.008)	(0.005)	(0.006)	(0.025)	(0.023)	(0.015)
Earnings Second Quarter Prior to Program Entry	6.32e-06***	2.45e-05***	1.50e-05***	1.86e-05***	8.92e-06***	1.09E-05	2.15e-05*	1.61e-05**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-1.009***	-3.517***	-2.174***	-2.731***	-0.276*	-1.405	-1.124**	-1.254***
	(0.087)	(0.619)	(0.480)	(0.338)	(0.161)	(1.188)	(0.537)	(0.414)
Occupation-Level Effects	Included	Included	Included	Included	Included	Included	Included	Included
Observations	122,503	15,078	13,625	33,297	34,991	2,779	3,137	7,315
Pseudo R-squared	0.0288	0.0581	0.0412	0.0478	0.0305	0.0606	0.0576	0.0513

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1