

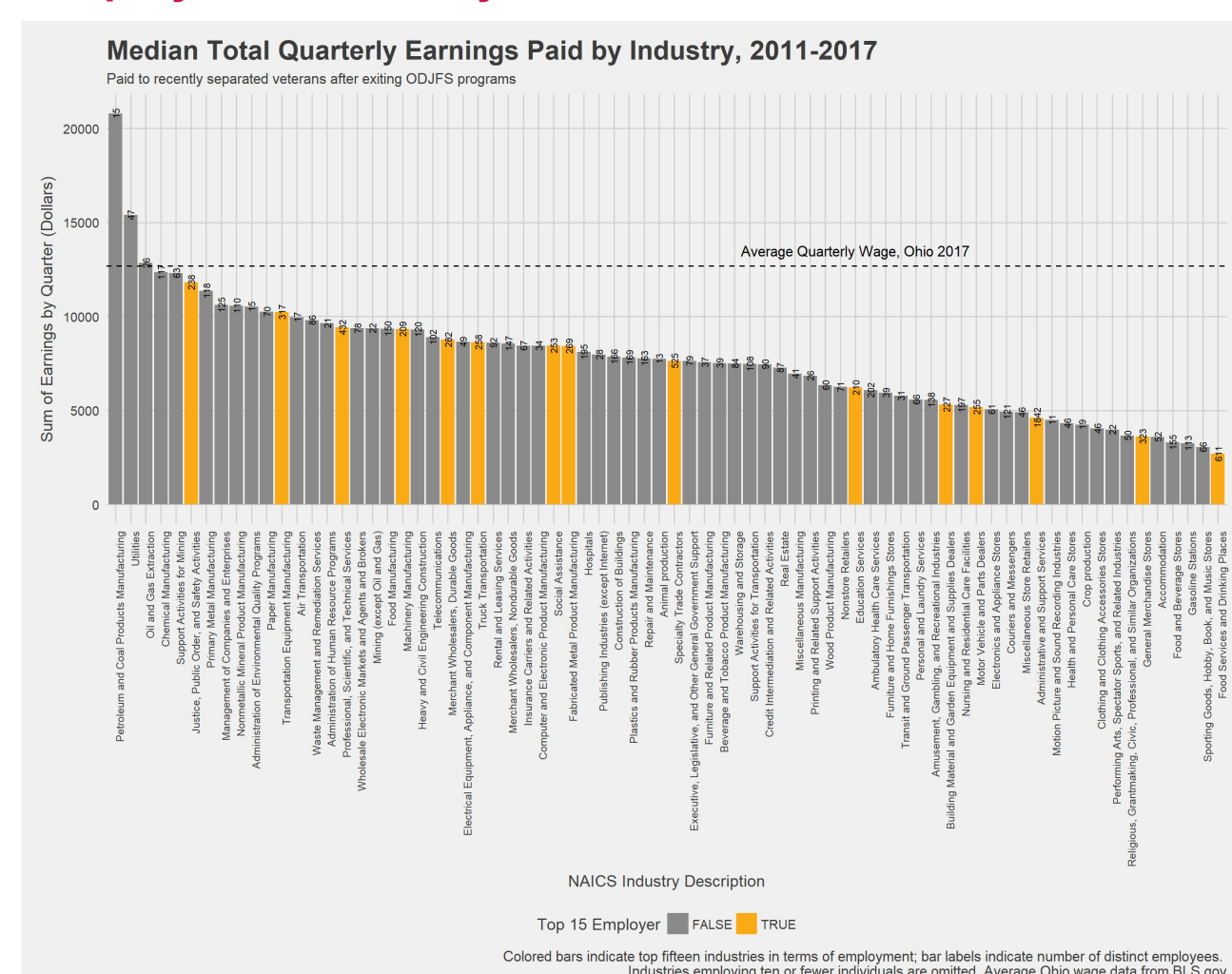
An Analysis of Workforce Development Pathways Taken by Recently Separated Veterans

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INTRODUCTION

This project attempts to use data analytics to provide an overview of outcomes of pathways to employment taken by recently separated veterans in Ohio. This project was conducted in conjunction with the Office of Workforce Development and Veterans Program managers at the Ohio Department of Job and Family Services (ODJFS), along with staff at CHRR at the Ohio State University and the Ohio Education Research Center. Using ODJFS data stored at CHRR, this project seeks to provide insights into the outcomes of various pathways taken by veterans recently separated from the military to inform development of policies to serve this population. For the purpose of this research project, “recently separated veteran” refers to any veteran receiving ODJFS services within 36 months of his or her separation date from military service.

Figure 1: Median Total Quarterly Earnings Paid by Employment Industry



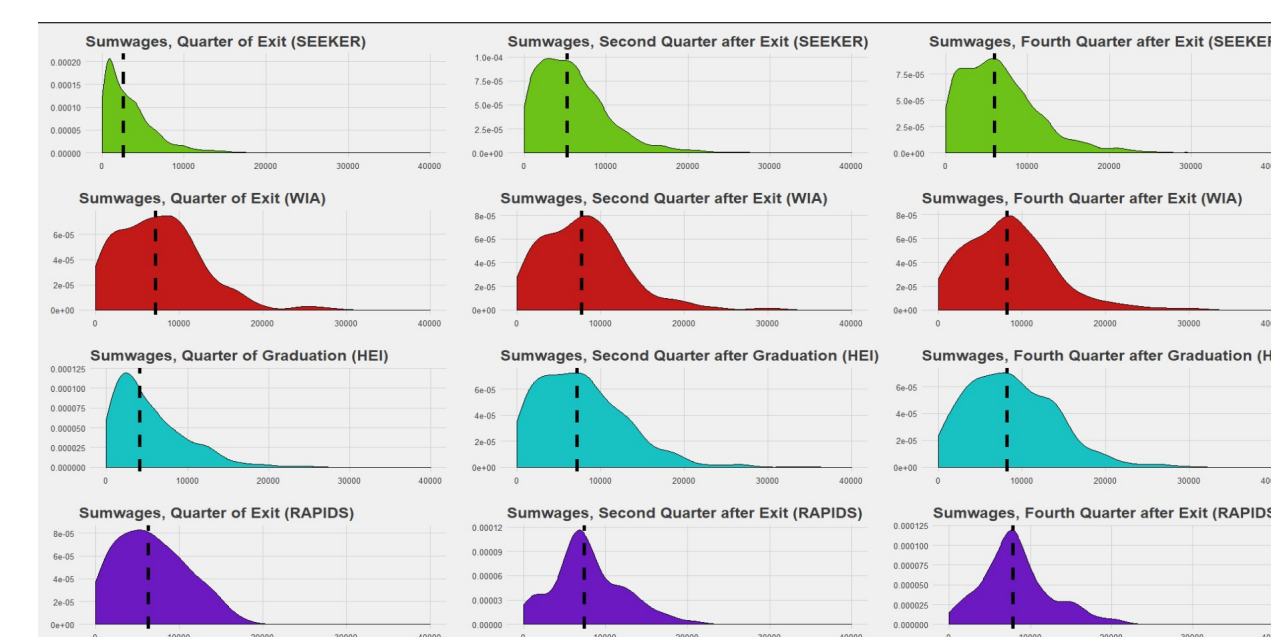
he employer industry is defined by NAICS 3 Codes. The bars are labelled according to the number of unique employ ees employed by each industry, with the top fifteen employers highlighted in yellow.

METHODS

To complete the analysis detailed above, the statistical programming language R was used to manipulate and analyze the provided data. Data provided by CHRR included higher education enrollment information (2011-2017), wage records (2011-2017), enrollment information in WIA training services (2011-2012), apprenticeship participation (1996-2017), and veteran representative services (2011-2015). This data was initially provided in several separate datasets, each of which was manipulated individually using the statistical programming language R. Each dataset was manipulated to determine the rates and length of participation, completion rates where applicable, wage progression and employment rates in the year following the exit from ODJFS programs, and information regarding industries of employment. Employment rates and wage growth were calculated by determining the last quarter of enrollment in each given pathway and analyzing wage and employment records for the year following that exit date. The employment dataset was

also used to determine employment and wage information regarding participants in ODJFS programs. Finally, datasets for each pathway were combined to create visualizations comparing this information across all pathways.

Figure 2: Distribution of Total Quarterly Earnings in Year Following Exit from ODJFS Programs



SEEKER plots represent data for veteran representative services, WIASRD plots display data for WIA training programs, HEI plots display wage data for higher education graduates, and RAPIDS plots represent apprenticeship program data. The dotted lines display the median wage for each given plot.

RESULTS

Veteran Representative (DVOP/LVER) Services Pathway

4,499 reported individuals received services from Disabled Veterans' Outreach Program (DVOP) specialists and Local Veterans' Employment Representatives (LVER), veteran representatives employed by ODJFS to provide services to veterans in Ohio. These services can include career guidance, preparation for interviews or job search activities, referrals to jobs and training, placement in federal jobs or training, and intensive services. Of 3,204 participants with listed intake dates and dates of receiving services not preceding these intake dates, 2,017 received services for only one quarter. Only 449 of this group received services more than one year after their intake date. In the year following the exit from this pathway, employment rates for this group rose from 45.90% to 58.91%. Participants in this pathway reflected the lowest median total quarterly earnings as shown in Figure 3; however, the median quarterly wage of participants in this group more than doubled in the year following exit.

WIA Training Programs

414 reported individuals participated in Workforce Innovation Act (WIA) training programs between 2011 and 2015, when WIA was replaced with the updated Workforce Innovation and Opportunity Act (WIOA). These training programs include pre-vocational services (development of learning skills, communication skills, interviewing skills, etc), adult education and literacy training, entrepreneurial training, basic skills training, occupational skills training, and skills upgrading and retraining. The two training programs with highest participation rates in this time were on the job training and pre-vocational activities. The enrollment rate of both of these programs were higher than that of the other training programs and the overall median among all WIA training programs. Additionally, individuals participating in on the job training had the highest median wage one year after program exit compared to the other WIA training programs.

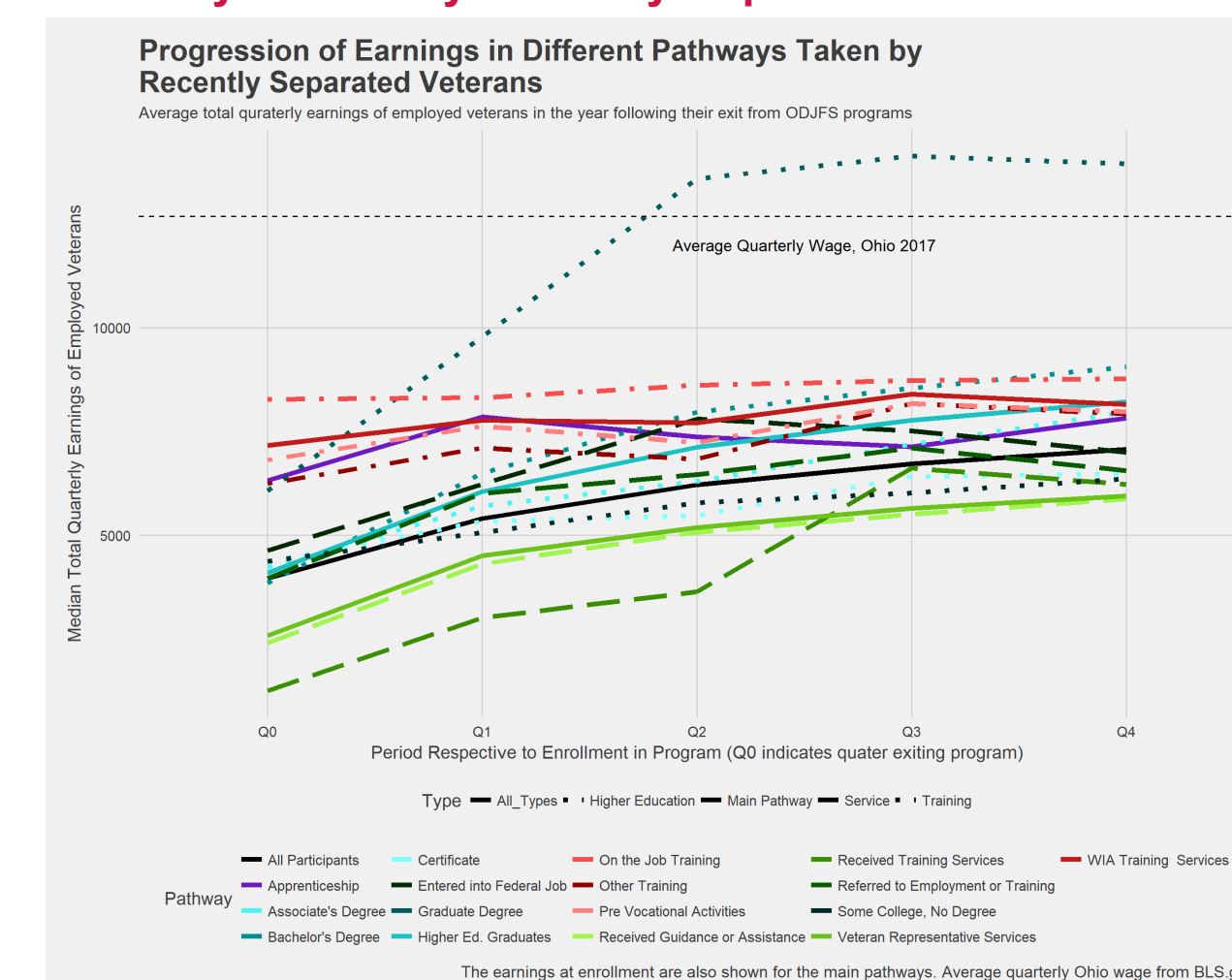
Higher Education Pathway

A total of 3,718 reported recently separated veterans enrolled in at least one quarter of higher education between 2011 and 2017. Of this number, 823 enrolled in only one quarter, and 2,221 were enrolled for two years or less. 959 of the total participants earned at least one degree, resulting in a rate of completion of 25.8%. Of the degrees earned, the majority were either Associate's or Bachelor's degrees, of which 372 and 384 were earned, respectively. 122 individuals earned certificates of less than four years, and 60 earned graduate degrees. The remaining 20 individuals earned graduate level certificates and transfer modules. For those graduating from higher education institutions, the employment rate in the quarter of graduation was 53.39%. In the following year, the employment rate rose to 65.80%. Individuals with Associate's degrees and certificates had higher employment rates; however, the median total quarterly earnings of individuals earning Bachelor's and Graduate degrees were higher than those of individuals earning Associates degrees and certificates.

Apprenticeship Programs

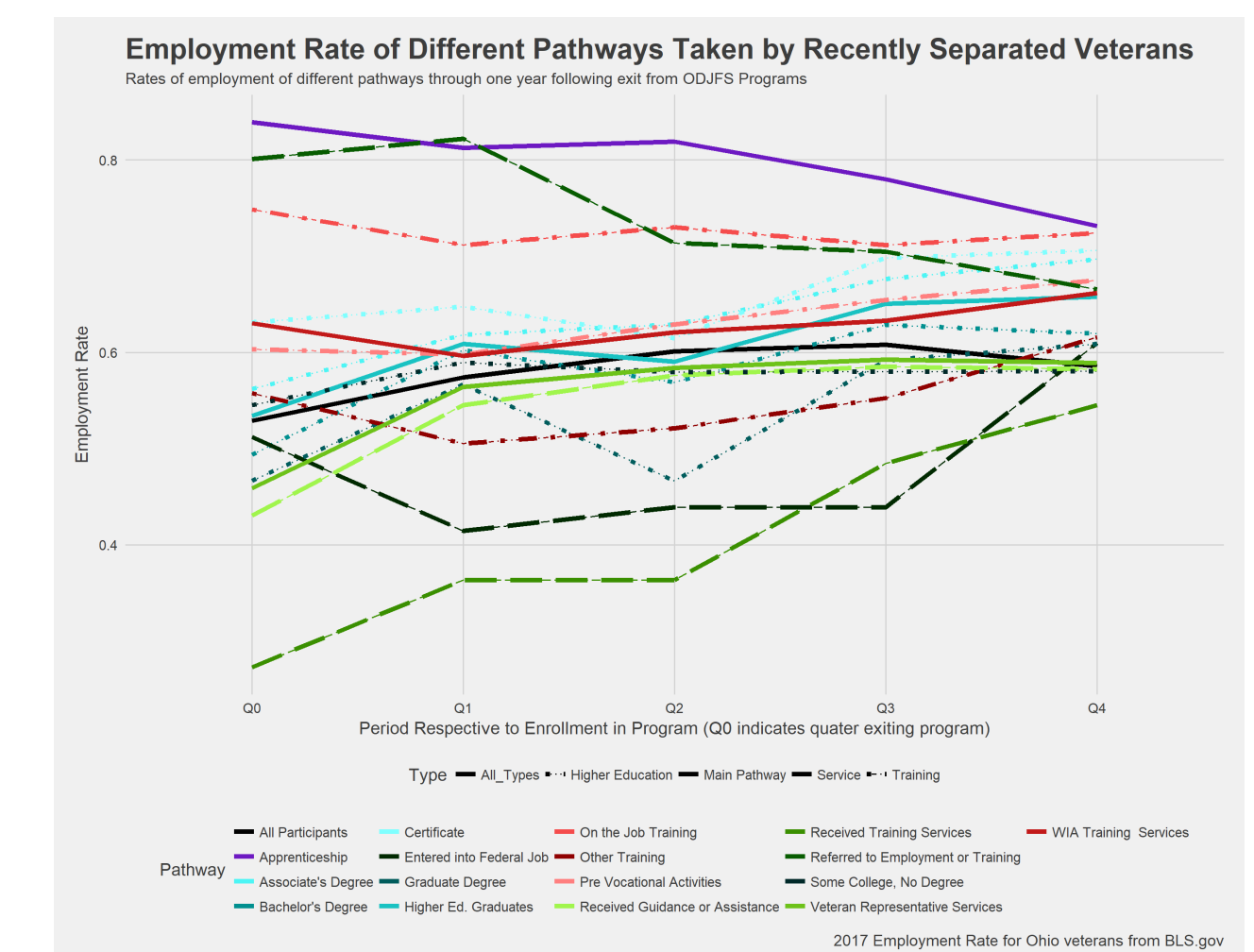
A total of 236 reported recently separated veterans participated in apprenticeship programs between 2011 and 2017. Last events were listed for each individual, and of this number, 31 individuals completed programs, 114 cancelled programs, and 91 registered or were reinstated. This gives a completion-to-cancellation rate for this pathway of 27.19%. Among participants in apprenticeship programs, the median hourly wage at entrance to these programs was \$13.66 and the median wage at the time of exit from these programs was \$15.82. Of the 236 individuals participating in apprenticeship programs, 112 had information included in the datasets allowing them to be merged with wage data for comparison with individuals from other datasets. Of this group, 12 completed apprenticeship programs and 53 cancelled their programs.

Figure 3: Progression of Earnings in Different Pathways Taken by Recently Separated Veterans



Each main pathway is shown with a solid line, while different pathways within the main four are shown with dotted lines shaded in similar colors to those of the main pathways. The average quarterly wage among all employed individuals in 2017 is shown by the dotted black line.

Figure 4: Employment Rate of Different Pathways Taken by Recently Separated Veterans



Each main pathway is shown with a solid line, while different pathways within the main four are shown with dotted lines shaded in similar colors to those of the main pathways. The employment of all participants overall is shown by the solid black line.

DISCUSSION

While there are a few observations and hypotheses for future research that can be drawn from this research, the limited sample size and narrow definition of the subject population mean that drawing definite conclusions from this research is difficult. Furthermore, the data used in this project captures only reported recently separated veterans; it is possible that there are additional observations that should be included in this research that have not been identified as part of the analyzed population. Given the similarity of earnings data and employment rates between the higher education, WIA training, and apprenticeship pathways, this suggests that the apprenticeship and WIA training programs are being under-utilized when these results are considered. However, the small sample sizes of the WIA and apprenticeship datasets limit this observation. Additionally, the discrepancy between the highest paying industries and those employing the most recently separated veterans participating in ODJFS services is significant, and further research into this discrepancy may provide insights into the reason for this.

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The Ohio Longitudinal Data Archive is a project of the Ohio Education Research Center (oerc.osu.edu) and provides researchers with centralized access to administrative data. The OLDA is managed by The Ohio State University's Center for Human Resource Research (chr.osu.edu) in collaboration with Ohio's state workforce and education agencies (ohioanalytics.gov), with those agencies providing oversight and funding. For information on OLDA sponsors, see <http://chr.osu.edu/projects/ohio-longitudinal-data-archive>.