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Postsecondary Characteristics and Credentials of Retirement-Aged Employees

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What Explains the Growing Number of Older Workers in the Labor Market?

Prior to 1990, Social Security, private pensions, personal savings, and Medicare facilitated an exodus from the labor market by older workers who had reached retirement age (Shattuck, 2010). Between 1963 and 1990, the percentage of men over 70 years of age who are in the workforce decreased from 21 percent to 11 percent, while the percentage of women in the workforce over 70 years of age decreased from 5.9 percent to 4.7 percent (Federal Interagency Forum on Aging Related Statistics, 2008). Since the 1990s, there has been an upward trend in the number of older workers who are employed in the workplace past retirement age (Juhn & McCue, 2012). In 2015, 15.8 percent of men and 9.2 percent of women over 70 years of age were participating in the labor market (Federal Interagency Forum on Aging Related Statistics, 2016).

This trend towards later retirement has been traced to a number of policy initiatives and demographic changes (United States Senate's Special Committee on Aging, 2017). First, growth in the amount of benefits from government programs that provided support for the elderly, such as health insurance from Medicare and long-term care insurance from Medicaid, has decreased (Friedberg, 2007), particularly in recent years. The average annual growth rate of spending per enrolled person in Medicare and Medicaid decreased from 6.8 percent and 2.3 percent per capita during the period from 2000-2009 to 1.5 percent and 1.2 percent, respectively during the period from 2010-2017 (Kamal & Cox, 2018). Decreases in the generosity of government programs have been linked to delayed retirement (Friedberg, 2007).

Second, Social Security reforms encouraged older workers to postpone retirement (Gustman & Steinmeier, 2006). When Social Security was first implemented, the retirement earnings test meant that workers were eligible to receive benefits only if they had completely withdrawn from the labor market. Since then, the earnings test has been eased, and studies have shown that changes to the earning test rules resulted in an increase in the labor supply of older workers (Friedberg & Webb, 2006).

Third, shifts away from defined benefit pension plans contributed to a reversal in the retirement trends observed in the earlier decades (Munnell & Sass, 2008). Traditionally, the values of defined benefit pension plans increased slowly in the early years of a career, grew more rapidly after 10 to 20 years in a job, then tapered off after 20 to 30 years of tenure (Friedberg, 2007). This pattern of pension accrual encouraged most workers to retire between the ages of 55 and 65, after the value of the pensions slowed down. However, with defined contribution plans replacing defined benefit pension plans, today's workers have greater responsibility for ensuring their contributions are sufficient to sustain them through

retirement. In response, many workers have delayed their retirement. Research shows that workers with defined contribution plans retire, on average, up to two years later than those with defined pension plans (Friedberg & Webb, 2005).

Fourth, increased life expectancy has resulted in a longer work tenure (National Research Council & Institute of Medicine, 2004). The average life expectancy has increased from nearly 70 years old in 1960 to nearly 79 years old in 2015 (Federal Reserve Bank of St. Louis, 2018). The longer life expectancy means that people will be expected to spend a greater proportion of their lives in retirement. In 2010, Americans spent 19 percent of their lives in retirement compared to the 15 percent spent in 1962 (National Research Council, 2012). This has resulted in workers extending their time within the workforce in order to have adequate resources to sustain themselves through a longer retirement.

Finally, educational attainment is associated with employment past retirement age. Research has found that older workers with a bachelor's education are more likely to participate in the labor force past retirement age than those without a bachelor's (B.A./B.S.) degree (Blau & Goodstein, 2010). For many of these college-educated workers, the decision to continue working past retirement age often reflects factors other than financial strain (Burtless, 2013). By way of contrast, many older subbaccalaureate workers (i.e., those without a B.A./B.S. degree) have typically earned less over a lifetime than their college-degreed counterparts (Carnevale, Garcia, & Gulish, 2017; Carnevale, Rose, & Cheah, 2014), and may need to continue to work beyond retirement age out of financial need. A 2018 survey indicated that 49 percent of workers who intended to delay retirement beyond their targeted retirement were doing so because of inadequate finances (Employer Benefits Research Institute, 2018).

Taking a Closer Look at the Subbaccalaureate Population

With the trend in delayed retirement expected to increase (Steverman, 2017; Wartzman, 2016), it becomes important to identify the individual-level factors that can improve the chances of older workers retaining or finding employment. This may be particularly true for the subbaccalaureate population of older workers, whose continued participation in the workforce may be crucial to their chances of retiring. One area that has been understudied is the extent to which older workers possess postsecondary credentials such as certifications, licenses, apprenticeships, and postsecondary certificates, and whether these postsecondary credentials increase the likelihood of older workers remaining employed in the workplace beyond retirement age.

The purpose of this study is to examine a “bonus sample” of respondents who were older than the targeted population for the National Education and Attainment Survey, yet still responded to the questionnaire. Specifically, we looked at the characteristics of the bonus sample respondents who are working past retirement age, focusing in particular on whether the possession of a postsecondary credential increases the probability of remaining employed beyond retirement age. We address the following questions:

1. What characteristics differentiate respondents who continue to work past retirement age from those who have retired from the workplace? Are any postsecondary credentials associated with a higher probability of working past retirement age?
2. Do any postsecondary credentials predict employment among retirement-aged employees who do not hold at least a B.A./B.S. degree?
3. What are the employment characteristics of retirement-aged employees?

Importance of Postsecondary Credentials to Employment Outcomes

Little is known about the value of postsecondary credentials for retirement-aged employees, although research conducted with the non-retirement aged population suggests that these postsecondary credentials can increase workplace outcomes, such as earnings. For example, adult certificate holders can earn up to 20 percent more than those with just a high school diploma (Torpey, 2012). This finding is consistent with the results from Jepsen et al. (2012) who found labor market returns of \$300 per quarter for certificate holders. Using data from the 2012 Survey of Income and Program Participation (SIPP), Ewert and Kominski (2014) found that employees who had obtained a certification or license reported median monthly earnings of \$4167, compared to the \$3110 reported by those who did not obtain any additional credentials. An economic premium for credentials was also found among the subbaccalaureate population. Schneider (2015) found that ten years after graduation, those who had completed a short-term certificate program reported an income of \$53,940, whereas those who had completed an associate’s degree in general studies reported an income of \$47,716.

Research also shows that Americans believe postsecondary credentials are important for job success. In a poll of adults’ perceptions of the value of postsecondary credentials, 70 percent of respondents indicated that a professional certificate or degree was important for getting a good job (Gallup, 2015). Similarly, Cronen, McQuiggan, and Isenberg (2017) found that among those who had a certification or license, more than 80 percent indicated the credential helped them get a job and remain marketable to employers and clients.

What remains unclear from the research literature is an understanding of the value of postsecondary credentials for the retirement-aged employees. Retirement-aged employees have likely been working many years and can arguably draw upon their job experiences better than younger employees. Thus, retirement-aged employees may not hold the same perceptions of the value of postsecondary credentials as novice or mid-career employees, in part because they are at the end of their career trajectories, in many cases. Research is needed to understand whether retirement-aged workers believe postsecondary credentials are valuable, as their perceptions can help shed light as to which specific postsecondary credentials are useful for sustaining or securing employment in the later years. This would help inform the debate regarding the potential long-term value of postsecondary credentials, and help policymakers craft programs to incentivize the postsecondary credentials that are perceived to be most useful for employment.

Methodology

Questionnaire, Sample Design, and Methodology

The data being used for this analysis are from the 2017 administration of the nationally-representative National Education and Attainment Survey (NEAS), conducted by NORC, on behalf of Lumina Foundation. The purpose of the NEAS was to understand the education, training, credentials, and employment of adults after high school. The survey was developed using items primarily sourced from the National Education and Employment Study (NEES)¹ survey, the Current Population Survey² (CPS), and the Survey of Earned Doctorates³ (SED). The NEES questionnaire was the starting point for the NEAS questionnaire and was comprised of questions from the Adult Training and Education Survey⁴ (ATES), the CPS, and the American Community Survey⁵ (ACS).

¹ National Education and Employment Survey was funded by a grant from Lumina Foundation. <http://www.norc.org/Research/Projects/Pages/national-education-and-employment-study.aspx>

² The Current Population Survey (CPS) is the primary source of labor force statistics for the population of the United States. Additional information can be found here: <https://www.census.gov/programs-surveys/cps.html>

³ The Survey of Earned Doctorates is an annual census of research doctorates received for accredited U.S. institutions. Additional information can be found here: <https://www.nsf.gov/statistics/srvydoctorates/>

⁴ United States Census Bureau, U.S. Department of Commerce, Economics and Statistics Administration, *Credentials for Work Survey Part of the 2014 National Household Education Survey* “TABLE B. FIELD OF CERTIFICATION OF LICENSE CODES FOR QUESTION 5b, p.7”. (NHES-2B) (Washington DC, 2014).

⁵ The ACS is an ongoing survey conducted by the U.S. Census Bureau that gathers information on ancestry, educational attainment, income, language proficiency, migration, disability, employment and housing characteristics. <https://www.census.gov/programs-surveys/acs/>

Although the NEAS intended to obtain data from a representative sample of adults aged 18 to 64, we reached an unknown number of respondents who were older than the intended age group. Although older workers were not the targeted group, the survey was nonetheless administered to them because the NEAS sampling design focused on the race/ethnicity of the composition of the household in order to achieve the targeted number of respondents. The NEAS used an address-based sample of households across the United States, and requested that household members self-select based on nearest birth date. As such, a household could contain many members of varying ages. Despite the instructions, in some cases, adults who were older than the target population still completed the survey. Our study examines data from respondents who were at least 66 years old, which is the age at which individuals are currently eligible to receive full Social Security retirement benefits. Thus, we consider respondents who are at least 66 years old to be of retirement age. The NEAS sample yielded 486 respondents who fit the age criteria, which comprised approximately 7 percent of all survey respondents.

Because retirement-age respondents were not our targeted group, the resulting sample of older NEAS respondents was not representative of the population of older adults. Our sample was more educated than the population of older adults (i.e., 50 percent of the NEAS sample had at least a bachelor's degree versus 27 percent nationally) and also more diverse (i.e., 64 percent of the NEAS sample are white compared to 78 percent nationally; 8 percent of the NEAS sample are American Indian or Alaska Native compared to less than 1 percent nationally). However, to the best of our knowledge, this is one of the first studies to assess the postsecondary credentials of the retirement-aged population, and the results provide an exploratory “first look” at the value of credentials within this population.

Measures

Postsecondary credentials. We created four measures of postsecondary credentials that are aligned with Lumina Foundation's interest in licenses, certifications, apprenticeships, and postsecondary certificates. Notably, the following definitions are consistent with the definitions used by the U.S. Department of Education to describe postsecondary credentials (United States Department of Education, 2018).

A license consists of professional certification that indicates the recipient is qualified to perform a specific kind of work, and is required by a federal, state, or local government agency in order to perform a specific job. By contrast, a certification is also professional certification that shows the recipient is qualified to perform a specific kind of work, but a certification is not required by an agency in order to be hired for a specific job. An apprenticeship is on-the-job training provided to a worker to learn an occupation while

being paid a training salary. Finally, a postsecondary certificate consists of a certificate for completion of a program at a community or technical college that requires at least 40 hours of instruction, but does not require completion of a degree program.

Demographics. Respondents reported on their race/ethnicity, gender, age, marital status, and highest degree attainment.

Workforce status and employment characteristics. We defined respondents as working past retirement age if they indicated they had been employed within the past 12 months. For respondents who were employed, we report on characteristics of their employment, including their earnings, number of weeks worked, and median hours worked.

Analytic Approach

We conducted three sets of regression analyses. The first consisted of logistic regression to identify the correlates that predicted employment in retirement age. Our dependent variable was whether the respondent was still working and our independent variables consisted of marital status, age, gender, race/ethnicity, degree attainment, and possession of a postsecondary certificate. We report odds ratio, which represents a measure of association between employment and the characteristic in question (Szumilas, 2010). An odds ratio close to 1.0 indicates that the characteristic in question is unrelated to employment status, whereas an odds ratio significantly greater or significantly less than 1.0 indicates the characteristic is a strong predictor of working past retirement age.

The second analysis consisted of ordinal logistic regression, which is appropriate when the outcome variable is measured on an ordinal scale. We used this type of regression to model outcomes relating to weeks worked and reported earnings among the sample of older workers who reported that they were working past retirement age. The final analysis involved ordinary least squares (OLS) regression, which was used to model the number of hours reported working in a week among the retirement-aged employees who were still working.⁶ Our independent variables for these two latter analyses are the same as those specified above.

⁶ We conducted transformations on the dependent variable so that the residuals in the OLS regression would be more normally distributed. A QQ plot confirmed the enhanced normality of the residuals from the transformed values. However, the regression results with the transformed values provided similar interpretations as the non-transformed values. In the interest of simplicity of interpretation, we report the results for the non-transformed values.

Results

Sample Characteristics

Before describing our results, we remind the reader that these data are based on a convenience or “bonus sample” that is not representative of the over-age-66 population; therefore, the data are only suggestive of what might be found in a representative sample. Our sample was evenly split between respondents who held at least a B.A./B.S. degree and those who did not. Nearly 7 percent held less than a high school degree, 22 percent earned a high school diploma, 17 percent had taken some college courses but did not have a formal degree, 5 percent earned an associate’s degree, 21 percent earned a B.A./B.S., 18 percent earned a master’s degree, 4 percent earned a professional degree, and 7 percent earned a Ph.D. The sample was also evenly split between male and female respondents. With respect to race/ethnicity, nearly 64 percent of respondents indicated they were white, 13 percent indicated they were black, 8 percent indicated they were American Indian or Alaska Native, 6 percent indicated they were Asian, 6 percent indicated they were Hispanic, and the remaining 3 percent indicated they were Native Hawaiian, Pacific Islander, multiple races, or another race. Approximately 47 percent were married, 23 percent were widowed, 19 percent were divorced, 3 percent were separated, and 8 percent were never married. Respondents’ ages ranged from 66 to 97 years, with a median age of 72 years and a standard deviation of nearly 7 years.

Nearly 29 percent of the respondents reported they were still working. Approximately 34 percent of the sample indicated they held some kind of postsecondary credential, although not all the respondents who reported having a credential were still working. Approximately 16 percent of the sample respondents reported having a license, 7 percent had a postsecondary certificate, 5 percent had an apprenticeship, 1 percent had a certification, and 4 percent reported having multiple credentials.

Regression Results

Overall sample. Table 1 provides the logistic regression results for predictors of working past retirement age.⁷ There were four significant predictors of working past retirement age – respondent’s age, attainment of at least a B.A./B.S. degree, possession of a license, and possession of multiple credentials.⁸ To gain a better understanding of the nature of these significant relationships, we examined each of these predictors more closely. First, we compared the average age of respondents who were working past retirement age to the average age of respondents who were not working, and found that those still participating in the labor market were, on average, five years younger (i.e., an average of 70 years old for the employed respondents versus an average of 75 years old for the non-employed respondents). Second, educational attainment predicted employment status, with 19 percent of those with less than a B.A./B.S. degree still working compared to 39 percent of those with at least a B.A./B.S. degree. Third, 31 percent of respondents who were still working reported having a license compared to 10 percent of respondents who were not working. Finally, 9 percent of working respondents reported having multiple credentials compared to 2 percent of non-working respondents. Although the sample size was too small to break down the specific combinations of multiple credentials that may be underlying this latter result, exploratory analysis suggests that this finding is likely to be driven by licensing, as 62 percent of those with multiple credentials reported having a license.

Table 1. Relationship between Postsecondary Characteristics and Employment Status Past Retirement Age

Characteristic	Odds Ratio	p-value
Age	0.894 (0.855, 0.934)	0.000 **
Female	0.701 (0.434, 1.133)	0.147
Married	0.918 (0.574, 1.468)	0.720
White	1.218 (0.758, 1.960)	0.415
At least a B.A./B.S. degree	1.911 (1.161, 3.145)	0.011 *
Apprenticeship	1.591 (0.576, 4.397)	0.371
Certification	2.744 (0.511, 14.744)	0.239
License	3.169 (1.785, 5.627)	0.000 **
Postsecondary certificate	1.440 (0.633, 3.278)	0.385
Multiple credentials	3.865 (1.441, 10.369)	0.007 **

Notes. 95% confidence intervals for odds ratio estimate given in parenthesis.

* denotes significance at the 0.05 level

** denotes significance at the 0.01 level.

⁷ Because the incidence for postsecondary credentials was low, we may have lacked statistical power to detect effects. Therefore, we ran exploratory analyses in which only one credential was entered into the model at a time. Results were robust to those reported above.

⁸ We note the relatively large estimate associated with certification was not significant, due to the small number of respondents who reported a certification.

Among the retirement-aged employees who reported having a license, we examined their perceptions regarding whether they believed the license was useful for keeping a job or for keeping them marketable to employers or clients. Nearly 91 percent indicated they believed the license helped them keep a job and 94 percent indicated they believed the license kept them marketable in the workplace.

Employees with less than a B.A./B.S. degree. We conducted additional analyses to determine whether holding a postsecondary credential was associated with a higher likelihood of employment among those without a B.A./B.S. degree. The results mirrored those for the overall sample, in that licensure and multiple credentials were significant predictors of working past retirement age for those without a B.A./B.S. degree. Among these subbaccalaureate respondents, 9 percent of those still working reported having a license compared to 2 percent of those who were no longer working. Similarly, 15 percent of subbaccalaureate respondents who were still working reported having multiple credentials, compared to 4 percent of the subbaccalaureate respondents who were no longer working.

As with the overall sample, the vast majority of the subbaccalaureate respondents believed their license was crucial to their continued employment. Close to 80 percent responded that the license helped them keep a job and kept them marketable in the workplace.

Employment characteristics among retirement-aged employees. Among those still working, respondents reported working a median of 3.5 hours a week, with a standard deviation of 1.65 hours. Table 2 provides the distribution of weeks worked. As shown in Table 2, a little more than half of employed respondents reported working for at least 48 weeks in the past year. With respect to reported earnings, shown in Table 3, employees’ responses were concentrated on the two extremes of the earnings continuum. Approximately 23 percent reported earning less than \$10,000, while 21 percent reported earning more than \$75,000.

Table 2. Distribution of Weeks Worked among Respondents Working Past Retirement Age

Weeks worked	Percent
50 to 52 weeks	42
48 to 49 weeks	9
40 to 47 weeks	12
27 to 39 weeks	13
14 to 26 weeks	9
1 to 13 weeks	14

Table 3. Distribution of Reported Earnings among Respondents Working Past Retirement Age

Reported earnings	Percent
\$0 to \$10,000	23
\$10,001 to \$20,000	17
\$20,001 to \$30,000	8
\$30,001 to \$40,000	8
\$40,001 to \$50,000	7
\$50,001 to \$60,000	8
\$60,001 to \$75,000	8
More than \$75,000	21

We conducted additional regression analysis to determine which respondent characteristics or postsecondary credentials were related to hours worked, number of weeks worked, and reported earnings. None of the postsecondary credentials were related to any of these employment characteristics. Race/ethnicity was a significant predictor of hours worked, with white respondents reporting fewer hours worked than non-white respondents (3.2 hours versus 3.8 hours, respectively). Age was related to number of weeks worked, with younger respondents reporting more hours worked than older respondents. Of those under the sample median age of 72 years of age, 45 percent reported working 50 to 52 weeks per year compared to 36 percent for those above 72 years of age. Perhaps because they reported working less often, older employees also reported lower earnings. Nearly 39 percent of employees over 72 years of age reported making less than \$10,000 compared to 18 percent of employees under 72 years of age. Finally, consistent with prior literature, having a B.A./B.S. degree was associated with higher earnings (Carnevale, Garcia, & Gulish, 2017; Carnevale, Rose, & Cheah, 2014). Among those who were employed and had at least a B.A./B.S. degree, 27 percent reported earning at least \$75,000. By way of contrast, only 9 percent of the employed respondents who did not have a B.A./B.S. reported similar earnings.

Discussion

A number of demographic factors were predictive of working past retirement age. Non-white respondents reported working more hours per week than white respondents. Younger workers (i.e., those who were younger than the median respondent age of 72 years) were more likely to be employed and reported working more weeks than older workers (i.e., those who were older than the median respondent age of 72). Younger workers and those with a B.A./B.S. degree also reported higher earnings than older workers and those without a B.A./B.S. degree, respectively.

Of the postsecondary credentials examined in this study, licensure appears to be the strongest predictor of employment past retirement age, even among those without a B.A./B.S. degree. Those who held a license and continued to be employed overwhelmingly indicated that they believed the license was useful for keeping a job and for keeping them marketable to clients and employers. Although this finding suggests that having a license can increase the chances of remaining employed during the retirement years, the result also underscores the need for additional research. We were not able to take into account the field in which the license was obtained, so we cannot determine whether those with a license or other credential in certain fields are more likely to show an increased probability of employment compared to respondents who possess a license in other fields. However, it is important to examine field of degree because previous research shows that employees who have credentials in fields such as allied health or criminal justice report significantly higher earnings than employees who have credentials in other fields such as human development or family studies (Schneider, 2015).

Relatedly, the characteristics of the institutions that granted the licenses may be predictive of employment status. In a field experiment, Deming et al. (2016) found that candidates who received their postsecondary credentials from for-profit institutions were less likely to receive job callbacks than candidates who received their credentials from public institutions. Future studies should explore the characteristics of the institutions that granted the licenses and determine whether certain institutional characteristics (e.g., per-pupil spending, graduation rates, selectivity rates) are related to employment status.

Limitations

The small sample size in our study also circumscribes the types of inferences that can be drawn. Due to the low incidence of respondents with any type of postsecondary credential, we may not have had sufficient statistical power to detect effects, particularly with respect to certification. In addition, the fact that our study analyzed data from a bonus sample meant that the respondents were not intended to be representative of the retirement-aged population. Future studies should draw from a larger, representative sample in order to describe more accurately the distribution of postsecondary credentials within the retirement-aged population.

Recommendations for Further Research

More research also needs to be conducted in order to address whether the perceived value of a postsecondary credential varies across stages of an employee's career. For example, certain types of postsecondary credentials may be particularly useful in the initial stages of an employee's career, and the credentials may be instrumental in securing an employee's first or second job. However, as the employee gains work experience, the value of the credential may become less important, and work experience may become more integral to being hired. Alternatively, certain types of postsecondary credentials may materially improve an employee's skills sets, and possessing these credentials may signal a unique set of skills to prospective employers, regardless of the employee's career stage. As retirement-aged employees are in a unique position to reflect on the entirety of their career and describe their career trajectory, we recommend conducting in-depth interviews with them to learn how postsecondary credentials may have affected their careers at various stages of their working years. Overall, this study provides more insight into the characteristics of retirement-aged employees, and represents a promising first step to understanding the types of credentials that may be most predictive of employment status during the retirement years.

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