

Age-Earning Profiles: Refinement and Applications

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Abundant research exists on age-earnings profiles and the positive correlation between experience and earnings. However, much of this research relies on imprecise mathematical models or limited data sources. This paper utilizes rich data offerings of the American Community Survey to generate age-earnings profiles delineated by gender, education, and disability status. In addition to expected trends and relationships, the results show higher levels of growth in the establishment phase of career development for the most educated. Further, we find that males not only earn more than their equally educated female counterparts but also enjoy greater increases in earnings from higher levels of education. Additionally, we show that the decrement in earnings from disability increases with educational level.

A wide range of factors can affect an individual's earnings over the course of his¹ career. Age, gender, education, and disability status can all create significant differences in earnings patterns across individuals. The precise analysis of the combination of these impacts in the form of age-earnings profiles has challenged economists in the past due to the lack of a large and reliable data source. However, in recent years a solution to this problem has presented itself in the form of the data collected by the American Community Survey (ACS) from the U. S. Census Bureau. This paper details methodologies to extract earnings by age, education, gender, and functional disability from the ACS Public Use Microdata Samples (PUMS). It then presents and analyzes the results using data from the 2010–2014 PUMS.

The first section reviews prior research on the construction of age-earnings profiles and the effects of human capital on lifetime earnings. While acknowledging the valuable insight provided by such research, it examines the shortcomings of the past reliance upon mathematical models and suggests a new approach based on the previously unavailable statistical wealth of the ACS.

Next, we discuss our approach for using the ACS to construct age-earnings profiles. This section outlines our specifications for data extraction and defines the sample size for the remainder of the paper.

In the Results section, we analyze the age-earnings profiles generated from cross-sectional data from the ACS. We analyze separately the profiles by education and disability. For education, not only do we confirm earlier research showing higher levels of education associated with higher earnings, but we also show

higher levels of growth in the establishment phase of career development for the most educated. Furthermore, we examine the effects of gender on the impact of education, showing both that males make more than their equally educated female counterparts and that there appears to be a greater inequality in the distribution of income across educational levels in males than in females. For our discussion of disability, we demonstrate the detrimental effect of disability on lifetime earnings. Additionally, we note the relatively larger impact of cognitive limitations compared to mobility limitations and show that the impact of disability increases with educational level.

The final section builds on the previous discussions and explores the application of age-earnings profiles in the forensic setting. We discuss uses for predicting future earnings for a given individual by providing examples for adjusting standard profiles to fit individual criteria (e.g., profession).

Prior Research

The effects of human capital on a worker's perceived value in the labor market have long been a topic of great interest for economists, and the quantification of this lifetime progression has been documented in age-earning profiles for more than forty years. It is important to note, however, that while such documentations map earnings by biological age, this number is merely a proxy for experience, based on the assumption that individuals at the same age will have acquired similar levels of experience.² Mincer (1974) and Heckman (1976) were two of the first economic authorities to quantify this relationship in publications which have remained promi-

nently cited through the test of time. Additional research has explored several questions raised by this quantification, including that by Taubman (1974) which explained the trend of growth in earnings until at least middle age as a result of investment in job training. He further postulated that the delay in peak earnings from education resulted from a continuing “sorting and monitoring” process by employers in which they ascertain an individual’s potential productivity to determine eligibility for promotion.

Since the establishment of the original relationship between earnings and human capital, research has shown that even when education is held constant, profiles can differ drastically across variables such as gender, race, and regional location (Lane & Glennon, 1986). These differences could reflect differences in many areas including work life, job preference, local cost of living, and prejudice.

However, issues have been found in these prominent mathematical models by researchers such as Murphy and Welch (1990) who recognized that Mincer’s human capital function significantly underestimated early growth while overstating mid-career growth, leading to an overall error of about 8% under what can be determined empirically. Despite this error, they recognized a stability of bias in the results suggesting that a “true” specification, aside from the original quadratic one, could be found to correctly alter Mincer’s model. Although they suggested some more accurate forms, they remained unable to determine this “true” model.

Observations

While much of this prior research certainly reveals valuable trends in age-earnings profiles, it also relies heavily on mathematical models which, as shown by Murphy and Welch, are prone to error. This reliance was originally necessitated by the lack of a large database for the analysis of actual values. However, this need has been alleviated as such a resource exists in the American Community Survey which includes responses from 3.5 million people annually, allowing for the cross-sectional examination of exact age-specific

data for many distinct demographics and, consequently, the creation of more precise age-earnings profiles.

Our Approach

To develop representative age-earnings profiles, this paper relies on median age-specific values drawn from the combined ACS PUMS files from 2010-2014. We restrict this data to include only earnings for those employed full-time (at least 35 hours/week) and year-round (at least 50 weeks/year), or FTYR in short (Gibson, *Use of ACS to Estimate Lifetime Loss of Earning Capacity as a Result of Disability*, 2015, p. 5). Use of FTYR earnings offers the following advantages:

- FTYR earnings for persons with disabilities are likely for those persons with less severe limitations since they exclude those whose limitations are so severe as to preclude employment or limit them to part-time work. Since the value is to be used as a measure for those with disabilities that maintain a reasonable likelihood of employment, this measure is appropriately suited.
- The earnings for those with and without disabilities are directly comparable by using a common level of employment.

Throughout the analyses, we provide earnings separated by gender,³ education level, and disability status. For simplicity, we limit education to five representative levels: less than high school, high school graduate, associate degree, baccalaureate degree, and “master’s plus.”⁴ For expanded levels, please refer to the appendix.

We analyze disability consistent with the approach presented by Gibson (*Use of ACS to Estimate Lifetime Loss of Earning Capacity as a Result of Disability*, 2015), focusing on the functional limitations shown in Figure 1, which shows the ACS question and the classification we employ.

To narrow our focus, the data analyzed in the narrative of this paper will center on the core limitations of cognitive and mobility. For data on hearing and vision

Question	Class.
Is this person deaf or does he/she have serious difficulty hearing?	Hearing
Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?	Vision
Because of a physical, mental, or emotional condition, does this person have serious difficulty concentrating, remembering, or making decisions?	Cognitive
Does this person have serious difficulty walking or climbing stairs?	Mobility

Figure 1. ACS Disability

please consult the index. Note that the questions do not address specific *injuries*, instead focusing on common *limitations* that may result from a myriad of injuries (Gibson, *Use of ACS to Estimate Lifetime Loss of Earning Capacity as a Result of Disability*, 2015). The limitation-based approach used by the ACS is both consistent with other modern definitions of disability⁵ and important for studying the employment impact of a disability. For instance, consider the mobility limitation. Multiple permanent injuries could cause such a limitation, including injuries to a foot, leg, lumbar spine, and many others. However, the important consideration for measuring how limitations affect a person's ability to perform a specific job task (prolonged walking) is how the injury affects functional abilities (mobility).

Thus, the ACS definitions appropriately suit our analyses. While far from exhaustive of every functional limitation, the questions in Figure 1 cover a large percentage of cases encountered in the litigation arena while fitting in the limited space Census is able to allot to the study of disability in the ACS among competing demands.

The data sample analyzed from the combined 5-years of ACS data represents a sample size of almost sixteen million, which we pare to more than four million by focusing on the working age population. For explanations of extraction and adjustment methodology, please refer to Appendix A.

Discussion of Results

Profiles by Education

As countless research has shown, a clear relationship exists between education and earnings due to the gains in human capital associated with each increasing educational level. When quantified through age earnings profiles, this relationship can clearly be seen through a comparison of lifetime median earnings. At each subsequent level of education, this value increases universally within each demographic profile regardless of gender or disability status.

As seen in Figure 2, profiles at each educational level share similar characteristics:

- a steep slope in the early years as workers attach to the labor market and gain experience,
- flattening out in the 40s and 50s, and
- an eventual decline as workers approach retirement age.

A closer examination of this growth pattern reveals a difference between educational levels, which accounts for the magnitude of the overall gaps in earnings.

Figure 2, shows that while different educational groups do begin at different earnings levels, this dif-

ference is quite small relative to the peak of each profile. This difference magnifies over time with an increasing slope for each education level; the profiles for baccalaureate and master's degrees demonstrate much steeper slopes in the early years of experience, leading to large overall differences in earnings compared to those with lower levels of education throughout the primary earnings period. Thus, each increase in educational attainment magnifies the impact of age or experience for a person's expected earnings.

It is also important to note that in this discussion we separate our analyses by gender. A comparison of the separate male and female profiles shown in Figure 2 reveals that for every level of education, females consistently earn less than their male counterparts. Discrimination aside,⁶ this could be at least partially explained by differences in job preferences and the accumulation of experience. Females tend to have fewer years of employment due to a higher likelihood for absences from the labor force (i.e., taking time off with childbirth); this shorter worklife translates into less experience and consequently lower pay. In relation to this, earnings for males tend to plateau at peak levels earlier than do females, who do not peak until after primary childbearing years (45-50) (Gibson, *Use of ACS to Estimate Lifetime Loss of Earning Capacity as a Result of Disability*, 2015).

Furthermore, differences between the age earnings profiles of males and females can be seen in the trends revealed by Figure 3, which graphs the annual earnings of each education level as a percentage of the lifetime median earnings across all levels of education for a gender. In addition to once again showing a later plateau for females, the data also indicates a greater income inequality across educational levels in males than females. As can be seen, at their peak levels of earnings, the highest educated males make a higher percentage of the lifetime median earnings across males of all levels of education than do the most educated females relative to the lifetime median earnings of females across all levels of education.

As previously noted, this discussion limited education to five representative levels. However, we recognize the differences in Age Earnings profiles for more specific differentiations. For more detailed data, please refer to Appendix B which includes expanded nine educational levels.

Profiles by Disability

With the development of age earnings profiles, additional factors aside from education can create a divide between groups, with disability status being a prime example. For this analysis we focus only on those with cognitive and mobility limitations, and due to our use of FTYR earnings, the data will be limited to those with nonsevere disabilities. To further simplify the

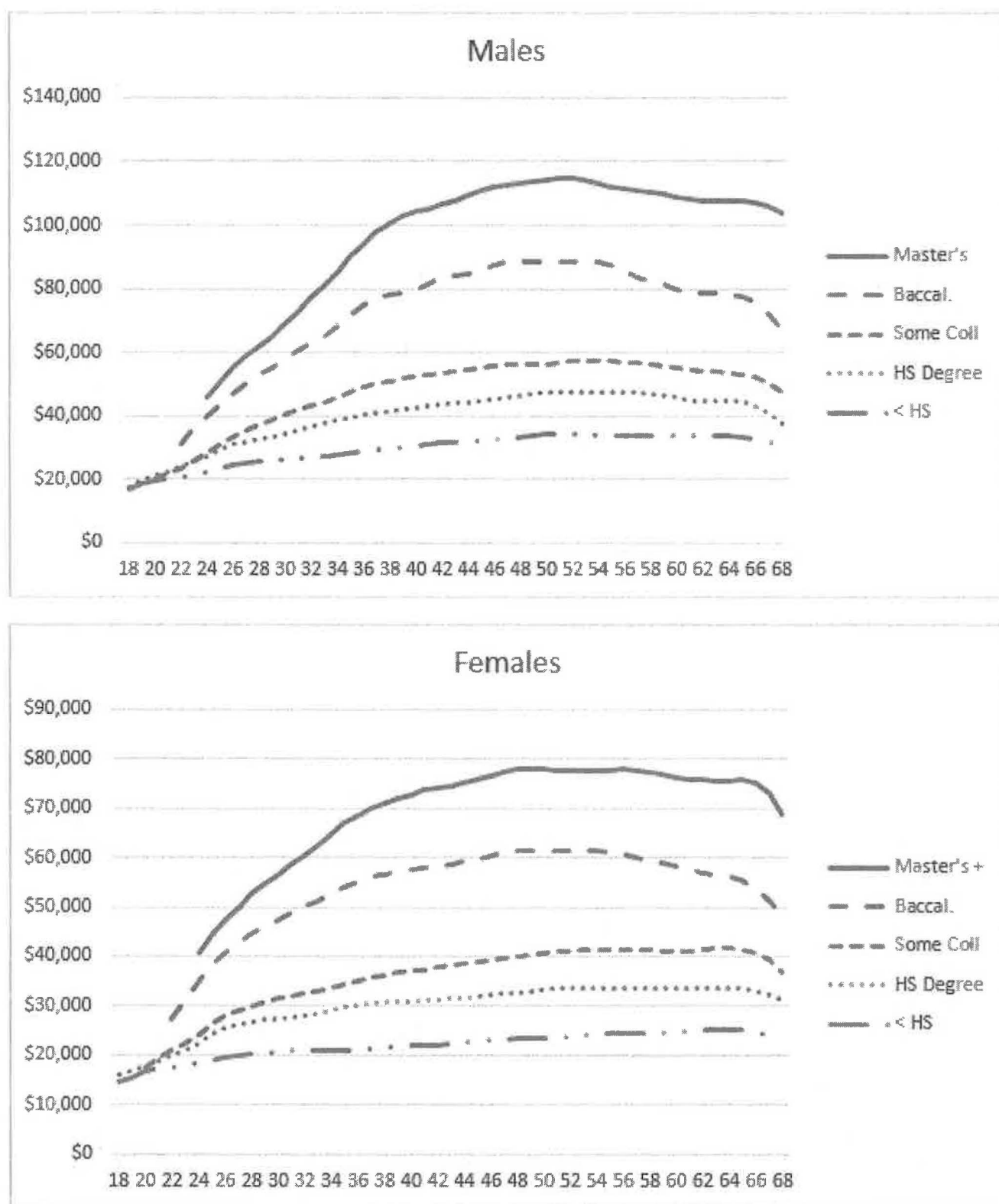


Figure 2. Median Age-Earnings Profiles by Education: No Disability

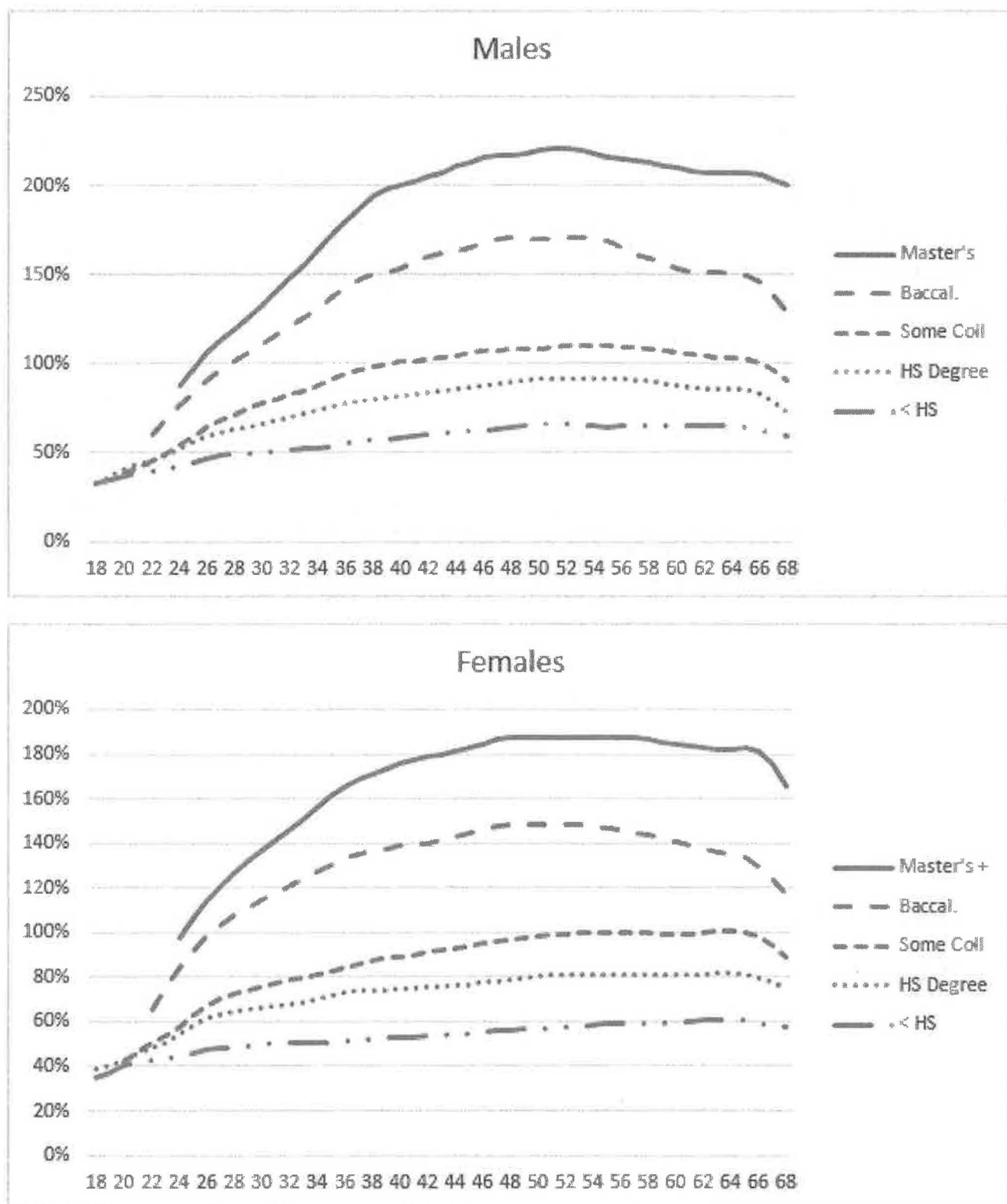


Figure 3. Median Age-Earnings Profiles as Percentage of All Earners

discussion, we focus only on those with a high school diploma.⁷

An overview of Figure 4 reveals that persons with disabilities will, on average, earn less when working than will persons with no disabilities. This is true when controlled for nonsevere disabilities, regardless of gender, education, or form of disability. More specifically, those with cognitive disabilities tend to suffer larger decrements in earnings as compared to those with mobility limitations.

One might ask why there is still a reduction in earnings when controlled for education. Ignoring the potential for discrimination against those with disabilities, the most likely cause for a decrement would stem from the productivity of the worker (Gibson, *Use of ACS to Estimate Lifetime Loss of Earning Capacity as a Result of Disability*, 2015). Despite maintaining capacity for full-time year-round employment, a person with limitations will likely not be so productive as would his same aged, equally educated peers with no limitations. Thus, raises and earnings growth are likely to be lower.

The data reveal an interesting trend across educational level: As the level of education increases, the loss of earnings from disability also increases, with the largest gap occurring at the master's level. This holds true even for relative loss as Figure 5 graphs the yearly earnings of each profile as a percentage of the

lifetime median for those with no disability, while holding educational level constant. As can be seen, the differences between those with cognitive and mobility limitations and those with no disability increase drastically between those with a high school education and those with a master's degree and beyond. This increasing decrement is especially striking from the vantage point of mobility limitations since employment at higher levels is largely sedentary.

For this discussion we focused only on the comparison of individuals with no disability to those with mobility or cognitive limitations. However, for wider array of data including hearing and visual limitations, please refer to Appendix B Age-Earnings Profiles.

Application in Forensic Setting

Age-earnings profiles have many useful applications in the forensic setting. Perhaps the most obvious would be direct application of the values as a prediction of future education-specific earnings for those who have not yet entered the labor market. However, many experts may miss the potential of also using these profiles to derive expected growth for an established wage earner or experience-based projections for a given occupation. The profiles in Appendix B are, in fact, national medians that are not occupation-specific. While there can be a broad range within age

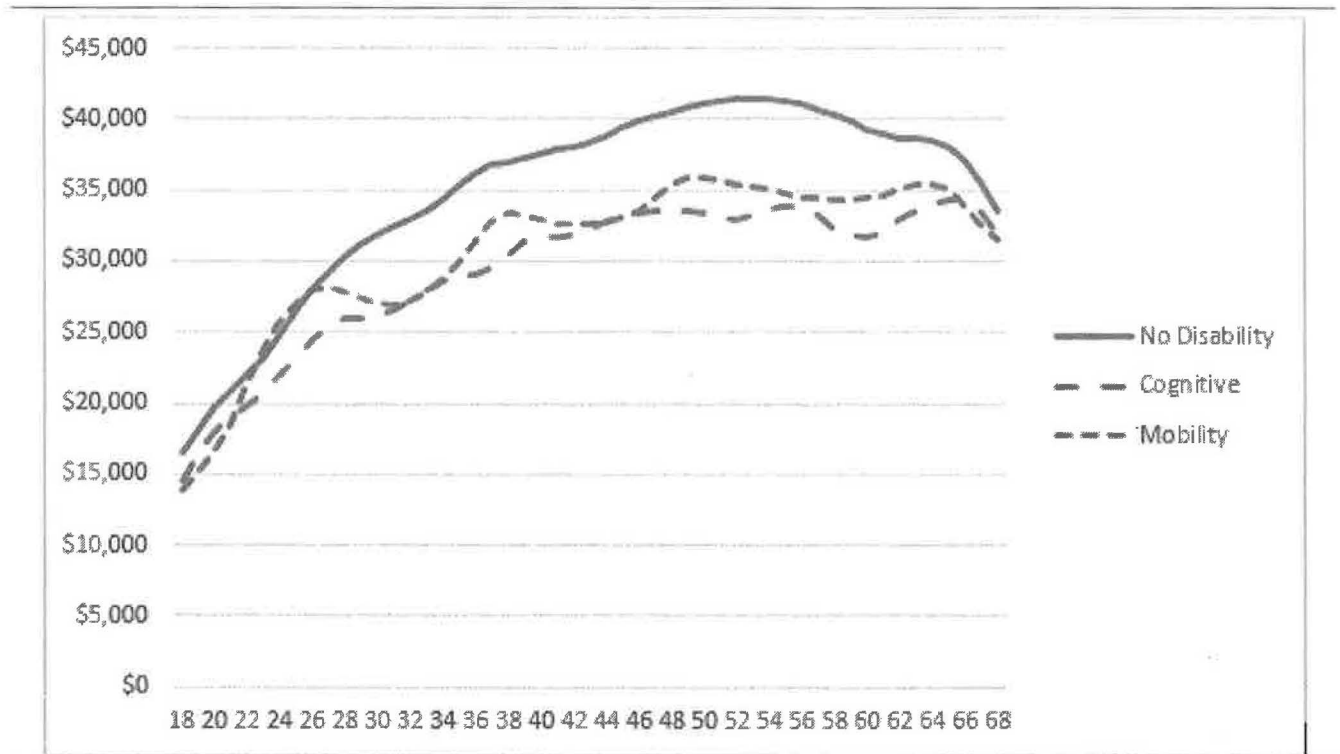


Figure 4. High School Earnings by Disability¹²

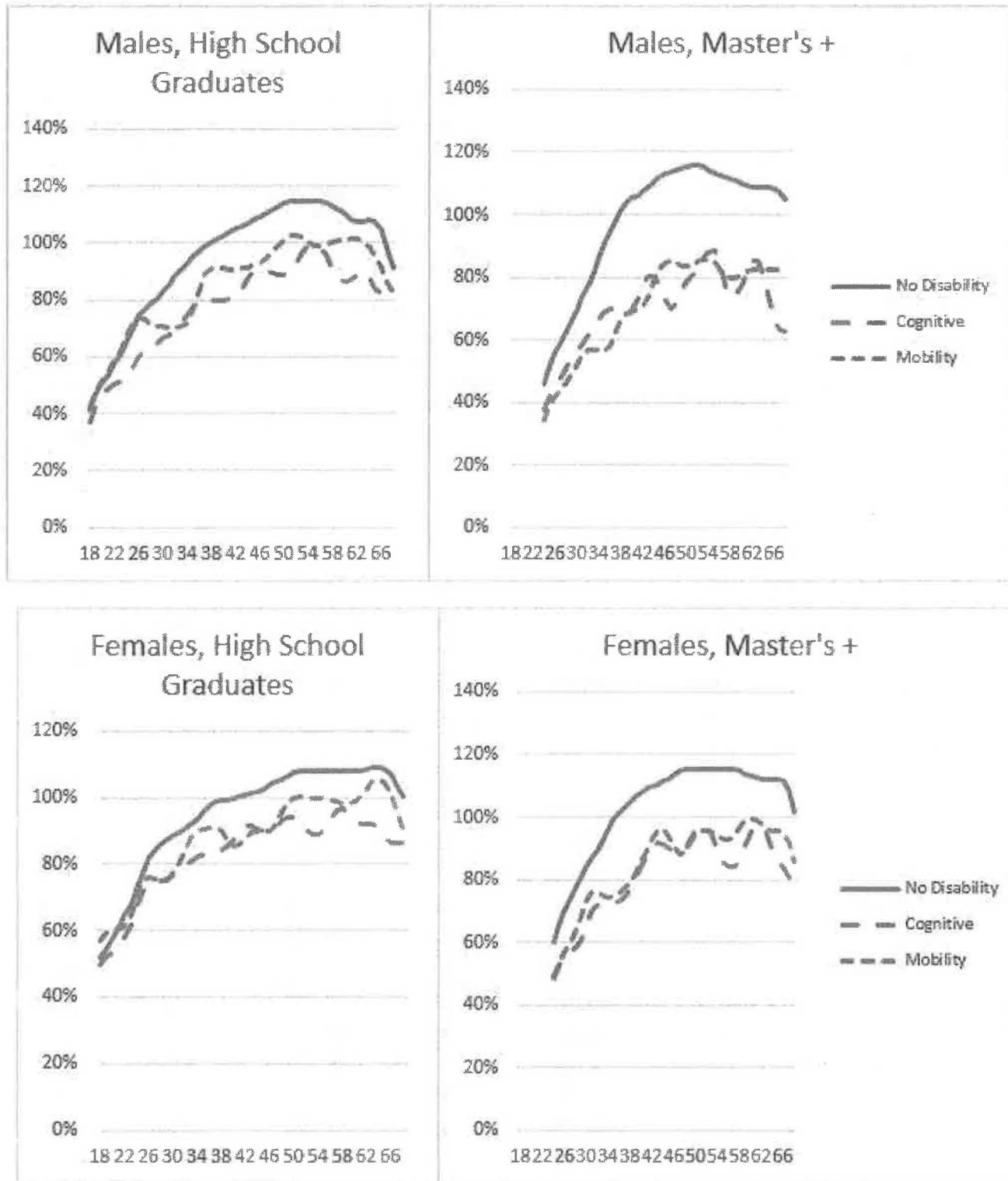


Figure 5. Disability Impact by Gender and Education

earnings profiles even when controlled for educational levels, the following examples demonstrate how they can be adapted to many applications.

Adapt to Market

For our first example, consider a female currently finishing her baccalaureate degree in Chicago. Based on market data, we know that baccalaureate-educated females working in the Chicago market make approximately 108% of the national median for the same gender and education.⁸ In such a scenario, one can simply multiply the age-specific values for females with a baccalaureate degree from Appendix B by 108% for a reasonable projection of her earnings in the Chicago market.

Project Future Changes

Next, consider a twenty-nine year old female with a baccalaureate degree and assume she currently works as an accountant earning \$50,000 annually; how could an age earnings profile be adapted to estimate her future earnings? Starting with the standard age earn-

ings profile of females with baccalaureate degrees, one could determine the percentage growth in earnings from year to year. While the female in this scenario has higher earnings at age 29 than the median level at that age for all females with a baccalaureate degree (\$46,105), it would still be reasonable to assume that her future expected growth pattern will be similar to her peers. Thus, a more tailored age earnings profile could be constructed starting at age twenty-nine with her actual earnings and grown by the appropriate percentage year to year from that age for the remainder of her expected working life.

Figure 6 presents this application. The first two columns provide the standard-age earnings profile of a female with a baccalaureate degree beginning at the subject's current age. The next column measures the percentage growth in earnings as shown in the standard profile from year to year, and the applied column takes this factor and applies it to the subject's current earnings (\$50,000) to determine her expected annual earnings for the remainder of her working life.

Age	Profile	% Growth	Applied	Age	Profile	% Growth	Applied
29	46,105	3.6%	50,000	49	61,547	0.1%	66,698
30	47,438	2.9%	51,450	50	61,547	0.0%	66,698
31	48,680	2.6%	52,788	51	61,555	0.0%	66,698
32	50,055	2.8%	54,266	52	61,541	0.0%	66,698
33	51,422	2.7%	55,731	53	61,459	-0.1%	66,631
34	52,697	2.5%	57,124	54	61,305	-0.3%	66,431
35	54,027	2.5%	58,552	55	61,023	-0.5%	66,099
36	55,229	2.2%	59,840	56	60,586	-0.7%	65,636
37	56,008	1.4%	60,678	57	60,055	-0.9%	65,045
38	56,561	1.0%	61,285	58	59,461	-1.0%	64,395
39	57,125	1.0%	61,898	59	58,900	-0.9%	63,815
40	57,578	0.8%	62,393	60	58,404	-0.8%	63,304
41	57,848	0.5%	62,705	61	57,770	-1.1%	62,608
42	58,131	0.5%	63,019	62	57,027	-1.3%	61,794
43	58,594	0.8%	63,523	63	56,484	-1.0%	61,176
44	59,184	1.0%	64,158	64	56,102	-0.7%	60,748
45	59,809	1.1%	64,864	65	55,395	-1.3%	59,958
46	60,477	1.1%	65,578	66	53,816	-2.9%	58,219
47	61,102	1.0%	66,234	67	51,344	-4.6%	55,541
48	61,461	0.6%	66,631	68	48,500	-5.5%	52,486

Figure 6. Application of Percent Growth

Adapt to Occupation

Now consider a twenty-two year old male completing a baccalaureate in economics. From an outside source (e.g., Occupational Employment Statistics), assume we know that all such economists in a given labor market have median earnings of \$85,400, regardless of age. We can construct an age-earnings profile for the subject despite his young age and consequently limited work history. First, consult the standard age earnings profile for males with baccalaureate degrees in Appendix B. In this appendix, note that we also provide the lifetime (regardless of age) median earnings for each category. For this particular category, note that the median is \$73,000. Comparing the lifetime value to the age-specific values, we may evaluate the percentage of lifetime median earnings for males with baccalaureate degrees achieved at each age.

Figure 7 demonstrates application of these percentages year by year to the economist's expected lifetime median earnings to construct his complete age earnings profile. As in the previous example, the age and profile columns reveal the standard age-earnings profile—this time for a male with a baccalaureate degree. The next column measures these annual earnings as a percentage of the median value (\$73,000) for males of the given educational level. The applied column uses this factor to determine the more tailored age-earnings profile for the aspiring economist by applying it to the median earnings for his specific occupation (\$85,400).

Summary

The wealth of data provided by the ACS provides an unprecedented tool in the construction of age earnings

Age	Profile	% of \$73,000	Applied	Age	Profile	% of \$73,000	Applied
22	31,211	42.8%	36,551	46	87,332	119.6%	102,138
23	35,711	48.9%	41,761	47	88,320	121.0%	103,334
24	39,867	54.6%	46,628	48	88,549	121.3%	103,590
25	43,613	59.7%	50,984	49	88,516	121.3%	103,590
26	46,990	64.4%	54,998	50	88,500	121.2%	103,505
27	50,031	68.5%	58,499	51	88,512	121.2%	103,505
28	52,768	72.3%	61,744	52	88,562	121.3%	103,590
29	55,326	75.8%	64,733	53	88,629	121.4%	103,676
30	57,928	79.4%	67,808	54	88,469	121.2%	103,505
31	60,523	82.9%	70,797	55	87,521	119.9%	102,395
32	62,852	86.1%	73,529	56	85,664	117.3%	100,174
33	65,172	89.3%	76,262	57	83,775	114.8%	98,039
34	68,123	93.3%	79,678	58	82,438	112.9%	96,417
35	71,535	98.0%	83,692	59	81,141	111.2%	94,965
36	74,568	102.1%	87,193	60	79,676	109.1%	93,171
37	76,752	105.1%	89,755	61	78,727	107.8%	92,061
38	77,975	106.8%	91,207	62	78,484	107.5%	91,805
39	78,648	107.7%	91,976	63	78,381	107.4%	91,720
40	79,781	109.3%	93,342	64	78,086	107.0%	91,378
41	81,641	111.8%	95,477	65	77,389	106.0%	90,524
42	83,367	114.2%	97,527	66	75,672	103.7%	88,560
43	84,301	115.5%	98,637	67	72,203	98.9%	84,461
44	84,824	116.2%	99,235	68	67,141	92.0%	78,568
45	85,846	117.6%	100,430				

Figure 7. Application of % of Median

profiles through cross sectional analysis. Using our extraction criteria, these profiles can be used to provide valuable insight into the effects of age, gender, education, and disability status on an individual's earnings, and thus provide useful applications in a forensic setting.

Our examination of the effects of education on lifetime earnings reveals many interesting trends. Not only do we echo earlier research showing higher levels of education associated with higher earnings, but we also demonstrate higher levels of growth in the establishment phase of career development. Additionally, gender plays a role on the impact of education. Not only do males make more than their equally educated female counterparts, we note a greater inequality in the distribution of income across educational levels in males than in females.

Next, we explored the impacts of disability, demonstrating the detrimental effect of disability on lifetime earnings. We noted the relatively larger impact of cognitive limitations compared to mobility limitations and showed that the impact of disability increases with educational level.

Finally, we provide applications in a forensic setting of the useful properties of age earnings profiles for predicting earnings of those who have not yet entered the labor market as well as projecting future earnings changes for established workers. Examples were provided for specific cases, showing how the general age earnings profiles for a given educational level could be adjusted to meet individual criteria.

Appendix A Extraction Methodology

Figure 8 identifies the variables from the 2010 – 2014 PUMS files and the related values used to extract the earnings summarized in this paper.

Sample Size

The ACS offers an unprecedented statistical wealth in terms of its large sample size. However, due to the specific criteria by which we separate profiles, there remain certain categories with an insufficient sample size. When sample size for an entire category (before segregating by age) is less than 800, we consider it to be insufficient and do not develop an age-earnings profile.⁹ We also exclude a profile for females with a mobility limitation and less than a ninth grade education. Although the overall sample size was sufficient (1,606), the data at certain ages was insufficient to the point that even after implementing the centering and imputation measures described below, no meaningful value could be discerned. Figure 10 and Figure 11 show the sample sizes for each of the series generated.

Statistical Adjustments

After extracting our data through the method described above, we made the following adjustments:

- For disability categories where the sample size by age was less than 40 participants —typically at either early or advanced ages where one might expect labor force participation to be limited— we used forward or backward imputation to estimate median earnings. For example, if we find only 20 observations for 20-year-olds in a given category, we impute the value as a percentage of 21-year-old earnings consistent with the observation for the education level as a whole.
- For disability categories where forward or backward imputation was required for at least 25% of the tabulated ages, we used age-centering to determine median values by using the data of previous and past ages centered around the desired value. For example, rather than relying upon the earnings of only 25-year-olds to determine the median provided, we may use the earnings of all those 24 to 26 years of age. From here if imputation was still required for at least 25%, we increased centering by another year (e.g., for the 25-year-old we use the earnings of all those 23 to 27 years of age) and so on. Figure 12 details which categories rely on this process and how many years they draw upon.
- We smoothed the raw medians using the T4253H algorithm (Velleman, 1980).

Earnings Adjustment to 2016 Dollars

We restated all earnings from the 2010 – 2014 PUMS in terms of 2016 dollars. To measure wage growth from 2014 to 2016, we use a wage index from the U. S. Bureau of Labor Statistics (*National Employment, Hours, and Earnings: Average Hourly Earnings of Production Workers*, 2016). The average index for 2014 is 20.61. The preliminary index for January 2016¹⁰ is 21.26. Thus, the growth between the two periods is 3.2%. This value is used for the Growth to 2016 column in Figure 13 below.

The growth in earnings from 2010 – 2013 to 2014 is measured as the observed average of all full-time, year-round workers in the respective 2010 – 2013 PUMS data to the same value in the 2014 data. These values are shown in Figure 13 below as “Growth to 2014.” When compounded¹¹ by the 3.2% adjustment factor discussed above, we derive the adjustment shown in “Growth to 2016.” This adjustment is applied to the PUMS earning data in each year when pooling the years into a single sample.

Variable	Description	Use
AGEP	Age	All ages 18-89 by age, with starting age delayed depending upon education; ages 68-89 are grouped and reported as 68.
SCHL	Educational attainment	See Figure 9 below
ESR	Employment status	Civilians: use 1, 2, 3, or 6
SEX	Gender	1 for males, 2 for females
PWGTP	Weight	Use weight to determine median
DPHY	Mobility disability (1 for yes, 2 for no)	1 when measuring mobility, 2 for no disability, 1 or 2 otherwise
DREM	Cognitive disability (1 for yes, 2 for no)	1 when measuring cognitive, 2 for no disability, 1 or 2 otherwise
DEYE	Vision disability (1 for yes, 2 for no)	1 when measuring vision, 2 for no disability, 1 or 2 otherwise
DEAR	Hearing disability (1 for yes, 2 for no)	1 when measuring hearing, 2 for no disability, 1 or 2 otherwise
WKHP	Usual hours worked per week in past 12 months	>= 35 for full-time
WKW	Weeks worked in past 12 months	>= 50 for year-round
ADJINC	Seasonal adjustment factor	Multiplied by PERNP
PERNP	Total earnings (wage & self-employment)	Use as earnings value, multiplied by ADJINC and adjusted to current year as discussed on page 17.

Figure 8. Earnings Extraction Criteria

SCHL Values	Education Level
0 – 11	Less than 9 th grade
12-15	Some high school
16	High school graduate
17	GED or alternative
18-19	Some college, no degree
20	Associate degree
21	Baccalaureate degree
22-24	Master's + (Master's, Professional, or Doctorate degrees) ¹⁴
0 – 24	All levels of education

Figure 9. Education Level Classification¹³

Education	Not Disabled	Cognitive	Mobility	Vision	Hearing
Less Than 9th grade	82,000	1,552	2,131	1,814	2,497
Some High School	130,182	2,451	3,426	2,408	4,279
GED or Alt. Credential	82,832	1,552	2,169	1,216	2,997
High School Graduate	576,678	6,828	10,692	6,428	17,559
Some College, No Degree	530,081	6,189	10,084	5,591	15,763
Associate Degree	208,194	1,818	3,244	1,883	5,462
Baccalaureate Degree	564,048	3,181	5,327	3,396	9,098
Master's Plus	346,322	1,524	3,361	2,096	6,148

Figure 10. Male Sample Size

Education	Not Disabled	Cognitive	Mobility	Vision	Hearing
Less Than 9th grade	35,689	921	1,606	993	685
Some High School	62,874	1,506	2,972	1,465	1,253
GED or Alt. Credential	50,606	1,076	2,202	922	956
High School Graduate	381,317	4,489	11,423	4,630	5,574
Some College, No Degree	441,150	5,471	12,641	5,371	6,157
Associate Degree	217,707	2,014	4,769	2,083	2,586
Baccalaureate Degree	474,952	2,670	6,082	3,026	3,938
Master's Plus	298,671	1,328	3,782	1,800	2,739

Figure 11. Female Sample Size

	Males				Females			
	Mobility	Cognitive	Vision	Hearing	Mobility	Cognitive	Vision	Hearing
< 9th Grade	2	1	2	2		3	4	
Some HS	1	1	1	1	2	1	2	2
GED / Alt. Cred.	1	1	2	1	3	1	2	3
HS Graduate								
Some College								
Associate	1	1	1		1			1
Baccalaureate					1	1	1	1
Master's Plus	1	1	1	1	1	1	1	1

Figure 12. Age-Centered Categories¹⁵

Year	Avg. Earn	Growth to 2014	Growth to 2016
2010	\$57,006	8.1%	11.5%
2011	\$58,565	5.2%	8.5%
2012	\$59,239	4.0%	7.3%
2013	\$60,719	1.5%	4.7%
2014	\$61,617	-	3.2%

Figure 13. Earnings Growth Adjustment Rates

Appendix B Age-Earnings Profiles

The tables in this appendix provide the age-earnings profiles for each group described in this paper. Each figure represents one educational level in ascending order, and from there, profiles are separated by gender and disability status using the extraction and adjustment methodology described in Appendix A Extraction Methodology. Each figure listed below contains the all-age earnings and age-specific earnings by gender and disability status.

- Figure 14. Age-Earnings Profile Less Than 9th Grade
- Figure 15. Age-Earnings Profile Some High School
- Figure 16. Age-Earnings Profile GED or Alternate Credential
- Figure 17. Age-Earnings Profile High School Graduate
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Endnotes

¹ Rather than deal with awkward he/she and his/her references throughout this paper, we adopt masculine pronouns for convenience only.

² Our analyses make a similar assumption.

³ For a profile for both genders combined, please contact the authors.

⁴ The master's plus category includes all those with the equivalent of at least a master's degree.

⁵ The Americans with Disabilities Act (ADA) also relies upon functional limitations, defining a disability as a physical or mental impairment that substantially limits one or more major life activities.

⁶ See Gibson (Gibson, *Use of ACS to Improve Occupational Earnings Estimates*, 2015) for a fuller discussion of gender differences controlled for age, education, and occupation.

⁷ While the following trend holds true for the majority of the data, an exception can be seen in the data which present earnings of males with less than a high school

education. In this scenario, the earnings for those with a mobility limitation remain very close—and at times even surpass—the profile for those with no disability. However, this can likely be explained by differences in the distribution of jobs sought and maintained by those with disabilities (Gibson, *Use of ACS to Estimate Lifetime Loss of Earning Capacity as a Result of Disability*, 2015). In this case, a person with a mobility limitation is more likely to pursue sedentary employment than his able-bodied peers—a career path which typically leads to higher pay than more physically demanding employment.

⁸ There are multiple surveys that provide market-specific earnings from which to derive such an adjustment. See for example Gibson (*Use of ACS to Improve Occupational Earnings Estimates*, 2015).

⁹ This is the case for females with a hearing limitation and less than a ninth grade education.

¹⁰ This is the most current release at the time of this article.

¹¹ The compound growth is computed as $1.032 \times (1 + G14)$, where G14 is the respective value from the Growth to 2014 column.

¹² Note that the disability profiles exhibit an irregular, “wavy” progression. This is more likely due to the smaller sample sizes available to measure disability-specific earnings than to the actual profile. As noted in , the profiles have been adjusted for statistical smoothing to the degree possible.

¹³ The education levels encompass all the SCHL values tracked by the ACS.

¹⁴ Sample sizes limit the ability to generate profiles for each of these detailed education levels for some disability types. Further information is available from the authors.

¹⁵ The numbering refers to the number of years on each side of the desired age required to attain the value. For example where the chart denotes 1, a total of three years was used to determine the earnings at each age—the year itself, the year before, and the year after. Blank spaces in the table denote that no centering was required.

Age	Males				Females					
	No Dis.	Cog.	Mobil.	Vision	Hear	No Dis.	Cog.	Mobil.	Vision	Hear
All Ages	27,000	27,000	29,000	26,500	29,000	21,000	21,500	21,000	21,000	21,000
18	17,000	15,776	23,407	15,349	18,036	16,000	19,436	-	18,987	-
19	18,277	16,918	25,102	16,461	19,343	16,445	19,842	-	19,384	-
20	19,273	17,826	26,449	17,345	20,381	16,742	20,220	-	19,750	-
21	19,934	18,436	27,355	17,938	21,078	16,906	20,596	-	20,108	-
22	20,375	18,842	27,976	18,341	21,551	17,176	21,008	-	20,519	-
23	20,791	19,192	28,533	18,695	21,967	17,699	21,354	-	21,006	-
24	21,217	19,701	29,126	19,076	22,414	18,250	21,499	-	21,526	-
25	21,611	20,927	29,785	19,461	22,879	18,672	21,517	-	21,998	-
26	22,137	22,773	30,455	19,857	23,289	18,953	21,454	-	22,342	-
27	22,758	24,002	30,905	20,506	23,741	19,078	21,037	-	22,524	-
28	23,150	24,191	31,035	21,626	24,562	19,162	19,898	-	22,584	-
29	23,344	23,768	30,722	22,906	25,731	19,236	18,424	-	22,623	-
30	23,670	23,199	29,386	23,805	26,629	19,277	17,539	-	22,681	-
31	24,121	22,961	27,340	24,164	26,906	19,316	17,344	-	22,711	-
32	24,451	23,676	26,002	24,186	26,609	19,367	17,703	-	22,611	-
33	24,688	25,137	25,678	24,109	25,670	19,551	18,916	-	22,299	-
34	25,066	25,914	25,658	24,080	24,682	19,855	20,549	-	21,941	-
35	25,598	25,859	25,783	24,086	24,336	20,070	21,707	-	21,740	-
36	26,094	25,688	26,365	24,295	24,660	20,182	22,180	-	21,658	-
37	26,512	25,602	27,629	24,994	25,498	20,248	22,260	-	21,508	-
38	26,840	26,168	29,592	25,891	26,336	20,297	22,150	-	20,953	-
39	27,064	28,098	31,566	26,422	27,006	20,389	21,820	-	20,188	-
40	27,332	30,258	32,580	26,568	27,945	20,479	21,371	-	19,820	-
41	27,705	31,055	32,766	26,668	29,293	20,508	21,020	-	19,873	-
42	28,107	30,713	32,236	26,834	30,512	20,539	20,807	-	20,041	-
43	28,510	29,682	30,943	27,016	31,070	20,633	20,729	-	20,125	-
44	28,898	28,645	29,850	27,377	31,154	20,758	20,758	-	20,125	-
45	29,273	28,297	29,299	28,070	30,885	20,916	20,855	-	20,123	-
46	29,652	28,297	28,762	28,717	30,102	21,170	21,105	-	20,117	-
47	30,043	28,297	28,207	28,938	29,305	21,514	21,621	-	20,143	-
48	30,438	28,098	27,922	28,729	29,031	21,791	22,168	-	20,234	-
49	30,797	27,492	27,906	28,174	29,330	21,883	22,414	-	20,359	-
50	31,031	26,879	28,328	27,660	30,021	21,910	22,445	-	20,484	-
51	31,080	26,672	29,447	27,461	30,508	21,965	22,398	-	20,641	-
52	31,037	26,801	30,545	27,447	30,623	21,992	22,271	-	20,830	-
53	30,977	27,152	30,914	27,496	30,666	21,992	22,127	-	20,959	-
54	30,836	27,469	30,846	27,541	30,719	22,029	22,031	-	20,996	-
55	30,672	27,555	30,371	27,523	30,891	22,166	22,000	-	21,004	-
56	30,609	27,539	29,477	27,396	31,141	22,328	22,000	-	21,057	-
57	30,609	27,500	28,838	27,174	31,250	22,371	22,000	-	21,154	-
58	30,680	27,396	28,688	26,922	31,199	22,395	22,004	-	21,203	-
59	30,820	27,283	28,801	26,633	30,973	22,531	21,949	-	21,141	-
60	30,902	26,980	29,113	26,242	30,672	22,699	21,668	-	21,016	-
61	30,965	26,217	29,434	25,607	30,547	22,869	21,156	-	20,953	-
62	30,930	25,469	29,709	24,885	30,832	23,018	20,598	-	21,023	-
63	30,625	25,217	30,043	24,539	31,527	23,070	19,988	-	21,225	-
64	30,188	25,242	30,283	24,580	32,063	22,994	19,346	-	21,416	-
65	29,664	25,436	30,344	24,775	32,188	22,775	18,939	-	21,477	-
66	29,055	25,828	30,238	24,949	31,840	22,566	18,836	-	21,389	-
67	28,625	26,357	29,816	25,000	30,449	22,500	18,836	-	21,182	-
68	28,500	27,055	29,078	25,000	28,016	22,500	18,836	-	21,000	-

Figure 14. Age-Earnings Profile Less Than 9th Grade

Age	No Dis.	Cog.	Males Mobil.	Vision	Hear	No Dis.	Cog.	Females Mobil.	Vision	Hear
All Ages	31,000	28,000	33,000	31,000	35,000	24,000	22,000	23,000	22,000	23,000
18	17,000	16,526	17,236	14,827	15,341	14,000	13,498	11,886	15,436	13,802
19	18,281	17,644	18,784	15,985	16,741	15,250	15,211	13,176	17,365	15,300
20	19,500	18,874	20,126	16,883	17,955	16,525	17,490	14,258	18,793	16,557
21	20,406	20,375	21,154	17,599	19,014	17,295	19,597	14,957	19,264	17,365
22	20,994	21,688	21,889	18,412	20,076	17,486	20,369	15,287	19,089	17,738
23	21,576	22,266	22,509	19,538	21,030	17,631	20,048	15,514	18,478	17,990
24	22,539	22,238	23,486	20,834	21,613	18,109	19,043	15,863	17,780	18,444
25	23,947	22,063	25,012	21,955	21,803	18,902	17,725	16,431	17,519	19,103
26	25,266	22,043	26,419	22,846	22,070	19,729	16,781	17,415	17,919	19,848
27	26,053	22,281	27,124	23,553	22,977	20,299	16,436	18,663	19,018	20,816
28	26,523	22,846	27,508	24,330	24,070	20,602	16,398	19,570	20,176	21,765
29	26,994	24,014	28,164	25,521	24,584	20,891	17,199	19,922	20,914	22,133
30	27,471	25,666	28,852	26,578	24,756	21,273	19,652	19,977	21,350	21,479
31	27,861	26,943	29,074	26,799	24,934	21,592	22,188	19,949	21,531	20,105
32	28,256	27,453	29,051	26,465	25,547	21,736	23,102	19,912	21,553	19,322
33	28,961	27,510	29,242	26,166	27,246	21,793	22,963	19,889	21,428	19,258
34	30,037	27,391	29,990	26,203	29,457	21,867	22,561	20,070	20,953	20,066
35	31,014	27,113	31,209	26,826	31,031	21,934	22,234	20,686	20,357	22,322
36	31,578	26,768	32,453	27,949	31,730	21,982	21,992	21,459	20,117	24,408
37	31,967	26,617	33,684	28,957	32,066	22,072	21,727	21,910	20,150	25,047
38	32,336	26,846	34,641	29,643	32,516	22,227	21,408	22,047	20,328	24,898
39	32,627	27,303	34,898	30,367	33,078	22,523	20,865	22,172	20,615	24,496
40	32,906	27,531	34,361	31,102	33,609	22,961	20,383	22,357	20,820	23,910
41	33,281	27,516	33,316	31,451	33,953	23,320	20,242	22,479	21,002	23,045
42	33,719	27,305	32,619	31,494	34,035	23,471	20,648	22,506	21,326	22,020
43	34,156	26,930	32,375	31,563	34,004	23,553	21,834	22,500	21,770	21,303
44	34,592	26,750	31,924	31,740	33,969	23,797	23,018	22,494	22,191	21,039
45	34,922	26,842	31,350	31,939	33,957	24,174	23,453	22,523	22,438	21,000
46	35,182	27,139	31,117	32,023	34,004	24,463	23,396	22,652	22,500	21,000
47	35,578	27,520	31,154	32,055	34,172	24,664	23,219	22,848	22,500	21,031
48	36,047	27,814	31,514	32,117	34,676	24,912	23,127	22,977	22,510	21,221
49	36,590	27,990	32,184	32,242	35,648	25,170	23,125	23,008	22,529	21,730
50	37,271	28,250	32,594	32,578	36,676	25,375	23,125	23,006	22,508	22,432
51	37,756	29,088	32,619	32,988	37,359	25,588	23,125	23,002	22,357	22,945
52	37,881	30,404	32,266	33,176	37,797	25,746	22,877	23,000	22,146	23,180
53	37,818	31,367	31,670	33,182	38,047	25,799	22,350	23,045	22,051	23,313
54	37,699	31,594	31,391	33,092	38,172	25,875	22,039	23,260	22,078	23,492
55	37,604	31,453	31,836	32,656	38,385	26,000	22,020	23,711	22,301	23,820
56	37,496	31,461	33,008	32,000	38,623	26,125	22,186	24,205	22,813	24,217
57	37,385	32,057	34,078	31,703	38,711	26,219	22,482	24,475	23,412	24,457
58	37,336	32,967	34,465	31,957	38,529	26,250	22,625	24,527	23,873	24,568
59	37,336	33,375	34,613	32,629	38,135	26,250	22,656	24,516	24,148	24,850
60	37,383	32,875	35,125	33,332	37,891	26,328	22,906	24,490	24,229	25,367
61	37,557	31,813	36,387	33,797	37,861	26,604	23,593	24,455	24,119	25,926
62	37,844	31,188	38,410	34,100	38,053	26,922	24,580	24,465	24,098	26,473
63	38,045	31,240	40,172	34,295	38,430	27,045	25,431	24,648	24,578	26,900
64	37,969	31,600	40,766	34,031	38,523	27,016	25,851	25,201	25,582	27,047
65	37,418	31,973	39,672	32,664	37,648	26,723	25,942	25,869	26,559	26,961
66	36,230	31,758	36,492	30,510	35,486	25,980	25,587	26,141	27,156	26,742
67	34,496	30,383	32,309	28,572	32,857	25,250	24,169	26,141	27,531	26,489
68	32,500	27,977	28,000	27,000	30,500	25,000	21,688	26,141	27,688	26,141

Figure 15. Age-Earnings Profile Some High School

Age	Males				Females					
	No Dis.	Cog.	Mobil.	Vision	Hear	No Dis.	Cog.	Mobil.	Vision	Hear
All Ages	39,500	34,500	39,000	35,500	41,000	29,000	26,000	28,500	26,000	27,500
18	18,023	18,260	21,518	20,170	20,536	16,359	15,110	18,863	12,683	13,063
19	19,555	19,352	22,782	21,434	21,743	16,703	15,647	19,533	13,134	13,508
20	20,867	20,411	24,046	22,611	22,949	17,766	16,429	20,510	13,791	14,168
21	21,973	21,288	25,325	23,475	24,173	19,113	17,409	21,730	14,612	15,003
22	22,996	21,830	26,663	24,230	25,457	20,121	18,390	22,948	15,431	15,838
23	24,133	22,239	28,161	24,985	26,889	20,873	19,338	24,116	16,216	16,638
24	25,625	22,972	29,938	25,477	28,616	21,906	20,312	25,417	17,073	17,507
25	27,516	24,106	31,953	25,741	30,508	23,322	21,137	26,919	17,994	18,618
26	29,289	25,391	33,835	25,977	31,832	24,547	21,692	28,107	18,775	20,124
27	30,408	26,561	35,008	26,393	32,223	25,203	22,302	28,521	19,337	21,666
28	31,115	27,422	35,341	26,975	31,825	25,484	23,302	28,428	19,891	22,594
29	31,984	28,160	34,803	27,361	31,027	25,736	24,524	27,810	20,583	22,906
30	33,123	28,980	33,306	27,646	30,628	26,271	25,358	26,540	21,483	23,428
31	34,291	29,781	31,874	28,514	31,885	27,023	25,573	25,294	22,764	25,270
32	35,314	30,563	31,346	30,150	34,399	27,500	25,560	24,611	24,124	27,619
33	36,131	31,279	31,614	31,922	35,656	27,514	25,560	24,344	24,969	28,583
34	36,881	31,705	33,304	33,434	35,229	27,455	25,541	24,271	25,324	28,186
35	37,768	32,156	36,904	34,895	34,262	27,703	25,503	24,455	25,500	27,140
36	38,645	33,525	40,322	36,682	33,611	28,318	25,484	25,236	25,543	26,225
37	39,381	35,404	41,508	38,807	33,656	29,080	25,299	26,617	25,516	25,945
38	40,100	36,375	41,393	40,387	35,041	29,539	24,928	27,787	25,514	25,957
39	40,625	36,324	40,863	40,867	38,766	29,617	24,742	28,184	25,514	26,076
40	40,875	35,973	39,432	39,402	42,686	29,529	24,785	28,262	25,539	26,322
41	41,188	35,762	36,988	35,375	44,109	29,400	25,010	28,453	25,736	26,697
42	41,625	35,609	34,855	31,715	43,451	29,344	25,363	28,807	26,180	27,154
43	42,135	35,346	34,148	30,617	41,602	29,396	25,725	29,201	26,674	27,563
44	42,748	35,135	34,969	31,025	39,877	29,631	26,258	29,367	26,996	27,957
45	43,195	35,070	37,295	32,852	39,344	30,084	26,828	29,320	27,133	28,637
46	43,299	35,563	39,994	36,307	39,389	30,561	27,094	29,182	27,152	29,391
47	43,287	36,797	41,727	39,746	39,666	30,811	27,164	29,045	26,953	29,688
48	43,422	37,902	42,297	41,523	40,211	30,824	27,307	28,969	26,258	29,617
49	43,732	38,475	42,225	41,887	40,711	30,768	27,498	28,795	25,254	29,391
50	44,010	38,967	41,639	41,230	40,992	30,730	27,391	28,461	24,594	29,082
51	44,105	39,563	40,447	39,859	41,273	30,750	26,586	28,189	24,430	28,797
52	44,113	40,031	39,408	39,039	42,002	30,852	25,164	28,109	24,512	28,488
53	44,117	40,219	39,078	38,955	43,127	30,963	23,934	28,262	24,857	28,109
54	43,994	40,250	39,582	38,975	43,910	31,006	23,457	28,643	25,443	27,781
55	43,748	40,547	40,590	38,984	44,109	31,008	23,469	28,947	25,979	27,588
56	43,625	41,141	41,094	38,760	44,021	31,006	23,932	29,023	26,414	27,451
57	43,625	41,438	41,018	38,170	43,689	30,920	24,857	28,979	26,912	27,285
58	43,625	40,871	40,650	37,404	43,166	30,660	25,570	28,857	27,313	27,121
59	43,496	38,855	40,145	36,744	42,764	30,359	25,762	28,750	27,424	27,055
60	43,238	36,160	39,930	36,484	42,641	30,203	25,988	28,746	27,232	27,131
61	43,109	34,551	40,152	36,945	42,697	30,168	26,977	28,801	26,759	27,322
62	43,166	34,188	40,850	37,930	43,082	30,164	28,358	28,766	26,254	27,477
63	43,416	34,972	42,244	38,516	43,918	29,980	29,042	28,500	25,898	27,521
64	43,746	36,541	43,832	38,574	44,662	29,484	29,110	28,027	25,659	27,539
65	43,539	37,326	44,500	38,238	44,898	28,947	28,914	27,504	25,541	27,557
66	42,189	37,104	43,949	37,516	43,750	28,523	28,405	27,000	25,548	27,438
67	39,807	36,219	41,746	37,063	40,377	28,193	27,890	26,500	25,676	26,938
68	37,000	34,670	37,891	37,000	36,000	28,000	27,516	26,000	25,900	26,063

Figure 16. Age-Earnings Profile GED or Alternate Credential

Age	No Dis.	Cog.	Males Mobil.	Vision	Hear	No Dis.	Cog.	Females Mobil.	Vision	Hear
All Ages	41,500	33,500	39,500	37,500	43,500	31,000	27,500	30,000	28,000	30,500
18	17,031	15,453	17,555	14,638	15,322	16,000	15,414	17,633	15,510	17,616
19	19,313	17,643	19,615	16,336	17,128	16,695	16,017	18,239	16,542	18,708
20	21,063	19,426	21,398	17,834	18,765	17,773	16,599	18,602	17,633	19,599
21	22,438	20,446	22,940	19,553	20,445	18,971	17,223	18,741	18,793	20,271
22	23,813	20,975	24,362	21,989	22,420	20,008	17,965	19,013	19,905	21,016
23	25,369	21,434	25,806	25,088	24,774	21,047	19,181	20,106	20,765	22,262
24	27,215	22,107	27,823	28,103	27,583	22,465	20,875	21,916	21,513	23,819
25	29,174	23,289	29,884	30,004	30,387	24,135	22,231	23,180	22,549	24,922
26	30,750	24,830	30,688	30,650	32,258	25,391	22,883	23,502	24,313	25,301
27	31,793	25,975	30,350	30,544	32,975	26,100	23,139	23,424	26,219	25,275
28	32,594	26,484	29,674	30,209	33,158	26,662	23,193	23,258	26,992	25,264
29	33,348	26,938	29,336	30,016	33,398	27,156	23,316	23,387	26,711	25,551
30	34,219	27,561	29,217	29,953	33,693	27,449	23,797	23,969	25,924	26,102
31	35,375	28,166	29,010	30,094	33,807	27,664	24,328	24,816	25,192	26,582
32	36,625	28,791	29,082	30,469	33,623	28,008	24,672	25,969	24,967	27,168
33	37,656	29,750	29,371	31,125	33,236	28,477	25,078	27,203	25,029	27,992
34	38,527	31,006	29,938	32,098	33,008	29,012	25,441	27,918	25,160	28,430
35	39,457	31,998	31,762	33,168	33,297	29,639	25,605	28,131	25,584	28,424
36	40,357	32,510	34,723	34,092	34,533	30,225	25,688	28,236	26,376	28,059
37	41,035	32,797	36,953	34,525	36,551	30,563	25,844	28,289	26,962	27,439
38	41,521	32,984	37,734	34,473	38,746	30,719	26,156	27,814	27,147	27,148
39	41,951	33,047	37,848	34,115	40,842	30,844	26,502	26,865	27,153	27,326
40	42,473	33,109	37,730	33,818	42,242	30,969	27,053	26,391	27,154	28,012
41	43,084	33,252	37,625	33,906	42,602	31,129	27,867	26,645	27,578	29,273
42	43,578	33,572	37,625	34,313	42,477	31,324	28,414	27,246	28,635	30,451
43	43,926	34,646	37,719	35,715	42,398	31,453	28,412	27,719	29,594	30,875
44	44,344	36,313	37,945	37,803	42,682	31,547	28,109	27,854	29,891	30,584
45	44,893	37,365	38,211	38,959	43,311	31,797	27,885	27,842	29,469	29,307
46	45,414	37,584	38,656	39,166	43,719	32,172	27,836	27,914	28,346	27,625
47	45,891	37,434	39,375	39,063	43,709	32,461	28,180	28,488	27,365	26,930
48	46,408	37,102	40,250	38,865	43,564	32,695	28,867	29,611	27,086	27,193
49	46,920	36,867	41,156	38,789	43,617	33,016	29,211	30,572	27,135	28,125
50	47,338	36,834	41,938	38,789	44,336	33,328	29,131	30,953	27,299	29,395
51	47,543	37,115	42,469	38,973	45,633	33,482	28,684	31,014	27,488	30,363
52	47,535	38,258	42,656	39,572	46,602	33,508	27,984	31,010	27,695	31,025
53	47,500	39,977	42,256	40,379	46,930	33,502	27,607	31,006	28,109	31,445
54	47,500	41,010	41,455	41,031	47,021	33,500	27,563	31,002	28,674	31,529
55	47,500	41,203	41,055	41,396	47,049	33,500	27,967	30,965	29,178	31,402
56	47,469	40,848	41,139	41,469	46,930	33,500	28,967	30,814	29,492	31,271
57	47,311	39,537	41,363	40,924	46,625	33,500	29,754	30,605	29,586	31,227
58	46,926	37,570	41,594	39,406	46,367	33,500	29,945	30,498	29,586	31,354
59	46,287	36,146	41,801	37,881	46,305	33,500	29,611	30,484	29,107	31,766
60	45,500	35,734	42,002	37,359	46,322	33,500	28,943	30,625	28,150	32,240
61	44,844	36,117	42,086	37,523	46,420	33,553	28,578	31,141	27,672	32,461
62	44,564	36,883	41,963	38,199	46,221	33,691	28,516	31,930	27,809	32,488
63	44,645	37,266	41,498	39,061	45,311	33,811	28,484	32,523	28,113	32,369
64	44,768	36,441	40,715	39,506	44,303	33,813	28,061	32,703	28,313	32,010
65	44,438	34,793	39,602	39,693	43,439	33,609	27,214	32,418	28,344	31,508
66	43,205	33,969	37,848	39,744	41,629	33,104	26,791	31,434	28,471	31,000
67	40,869	33,969	35,758	39,586	38,104	32,252	26,791	29,844	28,979	30,500
68	37,742	33,969	34,000	39,313	33,500	31,086	26,791	28,000	29,867	30,000

Figure 17. Age-Earnings Profile High School Graduate

Age	Males					Females				
	No Dis.	Cog.	Mobil.	Vision	Hear	No Dis.	Cog.	Mobil.	Vision	Hear
All Ages	49,000	41,000	46,500	42,000	50,500	36,500	31,000	35,000	32,500	35,500
20	20,000	20,008	21,211	15,640	21,229	17,500	17,500	16,888	18,742	14,666
21	21,746	21,008	23,105	17,834	23,147	19,428	17,982	18,551	18,742	16,133
22	23,551	22,227	25,133	20,813	24,728	20,908	18,885	19,920	18,742	17,441
23	25,609	23,945	27,055	24,756	26,424	22,242	19,887	20,894	19,338	18,685
24	28,121	26,008	28,206	27,936	28,294	24,002	20,760	21,779	21,182	20,065
25	30,867	28,039	28,468	28,942	29,633	26,096	21,727	22,983	23,484	21,884
26	33,305	29,633	28,598	28,562	31,011	27,848	23,328	24,360	25,090	24,349
27	35,332	30,605	29,279	27,877	33,122	29,016	25,281	25,501	25,945	26,564
28	37,156	31,436	31,103	28,391	35,324	29,928	26,586	26,511	26,531	27,516
29	38,813	32,584	34,108	31,156	36,951	30,773	27,180	27,661	26,959	27,641
30	40,328	34,209	36,982	35,221	37,840	31,475	27,602	28,876	27,158	27,500
31	41,705	36,277	38,656	38,896	38,537	32,014	28,008	29,716	27,336	27,219
32	42,912	37,924	38,994	40,898	39,406	32,498	28,289	30,082	27,805	27,078
33	44,133	38,504	38,641	41,057	40,230	33,023	28,414	30,859	28,930	27,258
34	45,650	38,676	38,670	40,328	41,598	33,617	28,783	32,297	30,531	28,016
35	47,420	39,217	39,297	39,803	43,875	34,252	29,754	33,359	31,736	29,432
36	48,986	40,322	40,467	39,695	46,000	34,928	30,682	33,641	32,311	31,500
37	50,078	41,926	42,359	40,803	47,297	35,625	30,977	33,510	32,844	33,803
38	50,969	43,404	44,447	43,455	47,949	36,250	30,777	33,148	33,633	35,156
39	51,842	44,041	45,844	45,438	48,119	36,717	30,379	32,818	34,273	35,332
40	52,477	44,109	46,307	45,703	48,154	37,023	30,180	32,719	34,430	34,506
41	52,863	43,754	46,193	44,875	48,266	37,322	30,529	32,801	33,943	33,170
42	53,285	42,885	45,727	43,734	48,393	37,711	31,322	33,057	33,088	32,555
43	53,799	42,211	45,191	43,250	48,518	38,102	31,859	33,322	32,680	32,912
44	54,357	42,021	44,973	43,426	48,797	38,492	31,828	33,377	32,680	33,840
45	55,031	41,996	45,273	44,074	49,234	38,953	31,467	33,279	32,711	34,842
46	55,656	42,152	46,650	44,875	49,725	39,422	31,119	33,207	32,809	35,648
47	55,963	42,865	48,467	45,291	50,486	39,797	31,195	33,207	32,928	36,229
48	56,006	44,201	49,219	45,486	51,648	40,111	31,988	33,313	33,334	36,482
49	56,016	45,344	49,129	45,645	53,031	40,469	33,613	34,072	34,055	36,531
50	56,195	45,742	48,889	45,695	54,262	40,807	35,484	35,621	34,453	36,656
51	56,680	45,736	48,678	45,346	55,012	41,012	36,586	36,908	34,416	36,906
52	57,211	45,631	48,617	44,516	55,242	41,172	36,820	37,438	34,279	37,094
53	57,414	45,438	48,617	43,904	55,080	41,359	36,449	37,557	34,117	37,277
54	57,332	45,219	48,617	43,773	54,648	41,484	35,713	37,430	33,930	37,457
55	57,064	44,863	48,707	43,773	54,271	41,514	35,082	37,121	33,836	37,516
56	56,744	44,254	48,900	43,930	54,164	41,510	34,436	36,787	33,867	37,398
57	56,512	43,820	49,018	44,324	54,195	41,471	33,852	36,586	33,930	37,164
58	56,215	43,734	49,031	44,738	54,299	41,314	33,664	36,520	34,055	37,047
59	55,727	44,578	48,805	45,182	54,412	41,113	33,736	36,582	34,404	37,375
60	55,094	46,391	48,211	45,623	54,297	41,031	33,982	36,891	34,852	38,379
61	54,469	47,484	47,703	45,797	53,859	41,098	34,299	37,346	35,076	39,402
62	54,094	47,410	47,563	45,814	53,453	41,338	34,552	37,666	35,108	39,758
63	53,939	47,011	47,531	45,850	53,432	41,619	34,724	37,773	35,108	40,041
64	53,641	46,771	47,406	45,707	53,639	41,729	34,771	37,693	35,128	40,721
65	53,100	46,692	46,672	45,387	53,367	41,545	34,598	37,330	35,167	41,262
66	52,234	46,393	44,703	45,227	51,346	40,818	33,861	36,586	35,187	40,742
67	50,359	45,351	42,281	45,227	47,139	39,217	32,108	35,367	35,187	38,117
68	47,297	43,528	40,500	45,227	42,000	36,742	29,444	33,617	35,187	33,523

Figure 18. Age-Earnings Profile Some College, No Degree

Age	No Dis.	Cog.	Males Mobil.	Vision	Hear	No Dis.	Cog.	Females Mobil.	Vision	Hear
All Ages	52,000	43,500	49,000	48,000	54,000	41,500	34,000	39,000	38,000	40,000
21	24,813	18,987	21,947	22,602	22,247	20,461	21,542	17,003	13,665	19,543
22	26,531	20,886	23,644	24,352	23,968	22,461	22,117	18,737	15,968	21,539
23	28,625	24,125	25,609	26,378	25,960	24,617	22,617	20,608	19,551	23,556
24	31,307	27,949	27,955	28,781	28,338	27,158	23,307	22,623	23,912	25,306
25	34,295	30,516	30,525	31,432	30,940	29,709	24,447	24,546	27,156	26,874
26	37,070	31,891	32,964	33,997	33,400	31,563	26,167	26,093	28,820	29,002
27	39,445	33,578	34,932	35,952	35,452	32,719	28,014	27,394	30,055	31,188
28	41,352	36,064	36,205	37,037	36,909	33,656	29,094	29,038	31,521	32,155
29	42,758	38,287	36,833	37,630	37,577	34,686	29,320	31,001	32,965	32,093
30	44,012	39,273	37,263	38,273	37,555	35,838	29,336	32,311	33,977	31,691
31	45,525	39,311	37,946	39,408	37,542	36,930	29,438	32,647	34,516	31,355
32	47,197	39,041	38,991	41,406	38,763	37,746	29,924	32,500	34,885	31,859
33	48,672	39,141	40,473	44,559	42,529	38,254	30,959	32,164	35,402	34,254
34	50,078	40,137	42,451	48,453	48,177	38,695	31,789	31,906	35,977	37,730
35	51,578	41,670	44,547	51,285	52,744	39,291	32,070	32,031	36,443	39,938
36	52,891	42,969	46,102	52,125	54,729	40,057	32,352	32,793	37,045	40,490
37	53,961	43,795	46,760	51,658	55,125	40,928	33,441	34,098	37,723	40,471
38	54,852	44,203	46,795	50,197	54,928	41,725	34,996	35,359	38,078	40,416
39	55,578	44,197	46,797	48,514	54,105	42,289	35,680	36,068	38,129	40,354
40	56,453	43,898	47,078	47,662	53,053	42,729	35,295	36,240	38,094	40,141
41	57,434	43,600	47,547	47,254	52,625	43,150	34,525	36,301	38,047	39,621
42	58,020	43,656	47,891	46,488	52,664	43,426	34,141	36,555	37,926	39,006
43	58,318	44,488	48,111	45,695	53,008	43,568	35,207	37,139	37,742	38,713
44	58,877	46,486	48,828	45,422	53,754	43,863	37,340	37,998	37,656	38,773
45	59,820	48,830	50,131	46,285	54,371	44,381	38,406	38,652	37,988	39,463
46	60,930	50,070	51,094	48,367	54,547	44,867	38,178	38,844	39,018	41,033
47	61,688	50,236	51,250	49,973	54,371	45,188	37,477	38,738	40,080	42,480
48	61,918	49,684	51,063	50,521	54,020	45,457	36,697	38,426	40,445	42,953
49	62,137	48,736	50,969	50,971	53,844	45,791	36,328	38,117	39,869	41,957
50	62,416	48,289	51,430	51,570	54,539	46,150	36,234	38,047	38,561	39,965
51	62,514	49,178	52,352	52,164	55,930	46,445	36,141	38,814	37,672	38,969
52	62,516	50,955	52,813	52,570	56,625	46,770	36,086	40,506	37,531	39,387
53	62,484	51,844	52,594	52,689	56,063	47,168	36,133	41,711	37,639	40,637
54	62,369	51,074	52,066	52,566	54,938	47,465	36,279	41,867	37,807	42,111
55	62,107	48,750	51,668	52,295	54,375	47,598	36,912	41,680	37,961	43,141
56	61,547	46,168	51,578	51,916	55,340	47,627	37,949	41,648	38,242	43,830
57	60,615	44,898	51,691	51,510	57,270	47,615	38,555	42,105	38,977	44,539
58	59,498	44,656	51,971	51,328	58,234	47,609	38,576	42,832	40,736	45,207
59	58,434	44,684	52,189	51,490	58,125	47,609	38,432	43,164	43,205	45,469
60	57,594	45,090	52,211	51,988	57,600	47,715	38,359	42,943	44,863	45,379
61	57,094	46,181	51,779	52,498	56,596	47,953	38,297	42,471	45,281	45,029
62	56,920	47,597	51,010	52,641	55,664	48,125	37,984	42,188	44,926	44,516
63	56,986	48,776	50,641	52,016	55,285	48,145	36,889	42,195	43,844	44,098
64	57,230	49,385	50,668	50,529	55,027	47,813	34,605	42,285	42,556	43,695
65	57,293	49,366	50,723	49,289	53,617	46,695	31,985	42,285	41,805	43,107
66	56,289	48,347	50,469	48,330	49,787	44,992	30,153	41,609	41,614	42,473
67	53,258	45,755	49,344	45,938	44,006	43,406	28,995	39,672	41,614	42,094
68	48,320	42,000	47,375	41,781	38,000	42,094	27,972	36,859	41,614	42,000

Figure 19. Age-Earnings Profile Associate Degree

Age	Males				Females					
	No Dis.	Cog.	Mobil.	Vision	Hear	No Dis.	Cog.	Mobil.	Vision	Hear
All Ages	73,000	57,000	63,500	60,500	68,500	52,000	44,500	48,500	48,500	51,000
22	31,211	29,944	22,370	26,559	32,567	27,172	23,517	27,601	20,904	23,460
23	35,711	33,985	25,530	30,531	37,287	31,203	27,253	31,680	25,097	26,880
24	39,867	37,433	28,501	34,932	41,668	34,953	30,223	35,460	29,097	30,043
25	43,613	39,914	31,200	39,024	45,169	38,203	32,156	38,724	32,798	32,919
26	46,990	41,516	33,629	41,621	47,401	40,762	34,008	41,388	36,789	35,798
27	50,031	43,053	35,807	43,030	48,344	42,754	36,289	43,080	40,916	38,740
28	52,768	45,360	37,780	44,406	48,452	44,512	38,320	43,593	43,539	41,325
29	55,326	47,818	39,614	45,563	48,443	46,105	39,723	42,520	43,908	43,337
30	57,928	49,188	41,393	46,504	49,109	47,438	40,486	40,307	43,271	44,973
31	60,523	49,605	43,622	48,984	50,695	48,680	40,682	39,099	42,953	46,506
32	62,852	50,092	47,494	52,992	52,828	50,055	40,891	39,031	44,240	48,274
33	65,172	51,279	52,171	56,549	56,418	51,422	41,953	39,602	47,584	49,835
34	68,123	53,311	55,159	59,041	61,355	52,697	44,172	41,375	50,598	50,403
35	71,535	56,104	56,270	60,633	64,711	54,027	47,023	43,512	51,805	50,193
36	74,568	58,859	56,536	61,076	65,289	55,229	49,320	45,396	51,955	49,413
37	76,752	60,609	56,736	60,096	64,740	56,008	50,234	47,029	51,693	48,484
38	77,975	61,578	57,813	58,742	64,564	56,561	50,189	47,836	51,531	48,125
39	78,648	62,203	59,906	58,500	65,109	57,125	49,395	48,096	51,531	49,613
40	79,781	62,578	61,922	59,031	66,758	57,578	48,221	48,271	51,668	52,590
41	81,641	62,850	63,359	59,344	69,148	57,848	47,703	48,313	51,941	54,078
42	83,367	62,805	64,344	59,652	70,609	58,131	48,893	48,313	51,605	53,395
43	84,301	62,494	64,762	60,207	70,857	58,594	51,271	48,313	50,660	52,027
44	84,824	62,344	65,098	60,484	70,762	59,184	52,461	48,201	50,328	51,344
45	85,846	62,344	65,941	61,154	70,605	59,809	51,352	47,844	50,547	51,945
46	87,332	62,656	66,887	62,838	70,697	60,477	49,133	47,463	50,563	53,332
47	88,320	63,564	67,188	64,240	71,645	61,102	48,023	47,547	50,500	54,344
48	88,549	64,607	67,063	64,715	73,502	61,461	48,998	48,793	50,395	54,613
49	88,516	66,188	66,959	65,061	75,768	61,547	51,104	50,691	50,184	54,531
50	88,500	68,289	66,877	66,652	77,961	61,547	52,391	51,656	50,297	53,744
51	88,512	69,258	66,893	69,619	79,430	61,555	52,551	51,701	51,621	52,545
52	88,563	69,119	67,078	71,775	79,883	61,541	52,465	51,572	53,613	52,008
53	88,629	68,330	67,248	72,297	79,676	61,459	52,188	51,711	54,500	52,076
54	88,469	66,418	67,164	71,139	78,934	61,305	51,906	52,521	54,480	52,781
55	87,521	63,969	66,281	68,553	78,121	61,023	51,438	53,486	54,441	54,736
56	85,664	62,281	64,859	66,762	77,721	60,586	49,811	53,859	54,283	56,867
57	83,775	61,763	64,195	66,355	77,338	60,055	47,123	53,609	53,975	57,742
58	82,438	61,906	64,232	66,557	76,352	59,461	44,880	52,996	53,742	57,805
59	81,141	62,260	64,307	66,748	74,557	58,900	43,756	52,488	53,375	56,881
60	79,676	63,605	64,355	66,449	72,563	58,404	43,300	52,188	52,547	53,920
61	78,727	68,002	64,441	66,016	70,688	57,770	42,954	51,906	51,273	50,770
62	78,484	74,249	64,703	64,772	68,928	57,027	42,495	51,781	49,383	49,656
63	78,381	78,083	65,326	61,547	67,865	56,484	41,988	51,500	47,301	50,070
64	78,086	78,915	66,072	57,201	67,533	56,102	41,465	50,313	45,962	50,898
65	77,389	78,443	66,383	54,031	66,898	55,395	40,764	48,465	45,273	51,313
66	75,672	75,705	65,986	52,916	65,117	53,816	39,200	47,102	43,585	50,234
67	72,203	68,056	64,400	52,796	61,711	51,344	35,552	46,363	38,608	48,078
68	67,141	55,496	61,625	52,796	56,648	48,500	29,681	45,625	30,248	47,000

Figure 20. Age-Earnings Profile Baccalaureate Degree

Age	No Dis.	Cog.	Males Mobil.	Vision	Hear	No Dis.	Cog.	Females Mobil.	Vision	Hear
All Ages	99,000	72,000	78,000	81,000	92,000	67,500	56,500	61,000	61,500	66,500
24	45,570	36,992	33,894	38,878	42,285	40,539	32,728	32,953	36,298	40,734
25	50,820	40,919	37,492	42,992	47,058	44,205	35,405	35,783	39,063	44,158
26	55,164	44,474	40,727	46,566	51,153	47,291	37,504	38,374	40,730	47,258
27	58,723	47,668	43,486	49,173	54,010	49,979	38,673	40,653	41,187	49,794
28	61,924	50,610	45,951	50,589	55,447	52,494	39,393	43,004	41,562	51,652
29	65,150	53,146	48,448	51,151	55,965	54,717	40,995	46,159	43,977	53,128
30	68,795	55,397	51,539	52,336	56,612	56,654	44,064	49,410	49,828	54,862
31	72,846	58,053	54,643	55,665	58,398	58,547	47,110	51,070	55,906	56,872
32	76,844	61,053	56,136	60,383	61,898	60,486	48,586	51,115	58,195	58,660
33	80,805	63,652	56,187	64,086	66,977	62,514	48,898	50,594	57,732	59,984
34	85,281	66,143	55,916	66,492	72,258	64,758	48,930	50,254	56,699	60,588
35	89,900	68,264	55,875	70,092	76,023	66,953	49,014	50,475	56,115	60,527
36	93,939	69,031	57,770	76,225	78,070	68,648	49,494	51,254	56,102	60,307
37	97,598	68,699	62,313	82,270	78,936	69,859	50,672	52,201	56,492	60,242
38	100,813	67,998	66,090	85,141	79,057	70,869	52,453	53,391	57,939	60,484
39	102,996	67,592	67,406	85,445	78,979	71,857	54,547	55,408	60,715	61,047
40	104,229	68,523	68,234	84,734	78,777	72,836	56,801	58,039	63,643	61,641
41	105,174	72,324	69,109	83,805	78,736	73,656	59,189	60,605	65,195	62,078
42	106,352	77,238	70,281	83,422	79,703	74,188	61,111	62,908	65,438	62,750
43	107,852	79,539	73,207	83,645	82,480	74,578	61,867	64,506	64,027	64,234
44	109,439	79,662	77,600	84,090	86,285	75,086	61,689	65,008	61,350	66,137
45	110,896	76,967	81,545	84,313	89,217	75,742	60,865	63,576	59,943	67,363
46	112,016	71,863	83,805	83,832	91,553	76,594	59,938	60,713	60,500	67,719
47	112,609	69,359	84,287	81,516	94,855	77,453	59,594	59,281	64,176	67,777
48	112,891	70,725	83,658	78,324	99,326	77,859	60,398	60,027	69,652	67,777
49	113,441	74,469	82,828	76,969	102,994	77,906	62,715	62,033	72,078	67,689
50	114,279	77,961	82,484	78,037	104,219	77,857	64,934	63,869	71,617	67,746
51	114,771	79,875	82,992	81,604	103,635	77,748	65,641	64,508	69,273	68,174
52	114,852	82,498	84,111	86,684	101,869	77,676	65,189	64,506	65,354	68,859
53	114,365	85,641	84,826	90,418	99,965	77,676	63,381	64,094	62,701	69,641
54	113,205	87,160	84,930	91,570	99,086	77,709	60,264	63,346	62,086	70,625
55	112,188	87,359	83,930	91,025	98,904	77,770	57,586	62,828	62,184	72,072
56	111,547	83,791	81,373	88,715	98,791	77,855	56,604	62,711	62,828	73,453
57	111,016	76,654	79,260	85,729	98,172	77,826	56,633	63,395	64,383	73,967
58	110,531	73,086	78,703	84,508	96,635	77,469	57,973	65,178	66,221	73,531
59	109,848	73,709	79,008	84,752	94,498	76,863	61,381	66,693	67,322	71,402
60	108,977	76,779	80,010	86,029	92,416	76,369	64,553	67,109	67,594	68,332
61	108,191	81,514	81,162	88,527	90,975	76,059	65,563	66,859	67,426	66,828
62	107,656	84,264	81,717	90,668	90,258	75,748	65,335	66,047	66,887	66,754
63	107,639	84,445	81,854	91,344	89,750	75,516	63,773	65,016	66,219	67,873
64	107,760	80,510	81,889	90,906	89,281	75,564	60,654	64,469	65,828	69,959
65	107,461	71,826	81,885	89,035	89,063	75,787	57,893	64,438	65,734	70,977
66	106,885	64,828	81,883	85,418	88,938	75,305	56,231	63,922	65,359	70,768
67	105,771	62,547	81,883	80,266	88,563	72,930	54,529	61,766	63,859	69,932
68	104,000	62,234	81,883	73,734	87,906	68,773	52,263	58,047	61,234	68,469

Figure 21. Age-Earnings Profile Master's Degree Plus