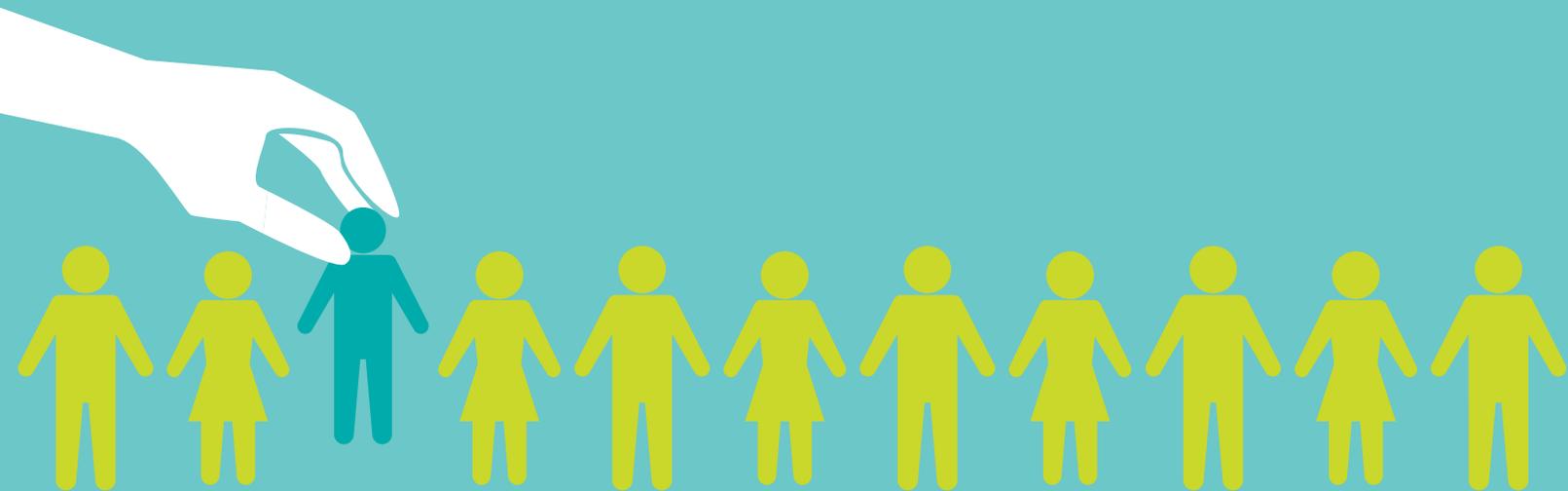


DEAF PEOPLE AND EMPLOYMENT IN THE UNITED STATES: 2016

Carrie Lou Garberoglio, Stephanie Cawthon
and Mark Bond



NDC
National Deaf Center
on Postsecondary Outcomes

The contents of this article were developed under a grant from the US Department of Education, #HD326D110003.
However, those contents do not necessarily represent the policy of the U.S. Department of Education,
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Introduction

Employment is the most commonly used metric for success in the United States today. When you meet a new person, one of the first few questions asked is typically... so, what do you do? Vast amounts of federal funding dollars are bookmarked for employment training, placement, and rehabilitation programs across the country. In order to assess the needs of a specific population, we often use employment data as an outcome measure. Despite positive postsecondary enrollment trends and improvements in legal policies surrounding access, anti-discrimination, and the workforce, particularly through the Americans with Disabilities Act, employment outcomes for deaf adults remain mixed, and the data appears to vary wildly across sources.

This report provides a comprehensive overview of the most current data on employment trends and trajectories for deaf individuals in the United States, serving as a resource for community members, advocates, educators, researchers, and policy makers. We used data from the 2014 American Community Survey (ACS), a national survey conducted by the U.S. Census Bureau. We limited our sample to individuals aged 21 to 64 years, or what is typically considered the “working age” population. More information about this dataset and the analyses are shared in the Methods section of this report.

Key findings are summarized below.

- 48% of deaf people were employed in 2014.
- Unemployment rates are similar for deaf and hearing people.
- A large percentage (47%) of deaf people are not in the labor force.
- Deaf people who work full time report average annual earnings that are comparable to the general population.
- Educational attainment appears to narrow employment gaps.
- Employment experiences are not the same for all deaf people.
- Deafdisabled individuals appear to experience the most employment challenges.
- It is necessary to recognize intersectional identities of deaf people when thinking about employment experiences and outcomes.

In this report, we use the term ‘deaf’ in an all-encompassing manner, including individuals who may identify as Deaf; hard of hearing; hearing impaired; late deafened; or deafdisabled.

GENERAL EMPLOYMENT STATISTICS

The employment gap between deaf and hearing people in the United States is a significant area of concern. In 2014, only 48% of deaf people were employed, compared to 72% of hearing people. That is a significant gap. It is important to understand, however, that not everyone else is unemployed, according to federal definitions of employment. National federal data counts those individuals who reported being currently, or recently, looking for work as unemployed, and calculates unemployment rates based on this group of people. People who are not employed, nor looking for work, are counted as not in the labor force. This group may include students, parents, caretakers, or retired individuals, for example.

This definition of unemployment, as those individuals actively looking for work, reveals that deaf and hearing people have similar unemployment rates, of 4.6% and 4.9%, respectively. This means that very similar numbers of deaf and hearing

people are actively looking for work. The largest disparity between hearing and deaf people is that of labor force involvement. Almost half of deaf people (47%) were not in the labor force, compared to less than a quarter (23%) of hearing people. We will talk about this group in more detail later on in this report. (*Table 1*)

Among people in the labor force, deaf people were as likely to work full time as their hearing peers. (*Table 2*) This suggests that once deaf people obtain employment, they are just as likely to work full time as their hearing peers. If deaf people work full-time, they also earn a similar average annual wage as their hearing peers, \$52,650 and \$52,980, respectively. However, employment rates and average annual earnings vary widely within the deaf community, just as it does in the hearing population. We will be discussing this in more detail throughout this report.

Table 1
RATES OF UNEMPLOYMENT, EMPLOYMENT, AND NOT IN LABOR FORCE

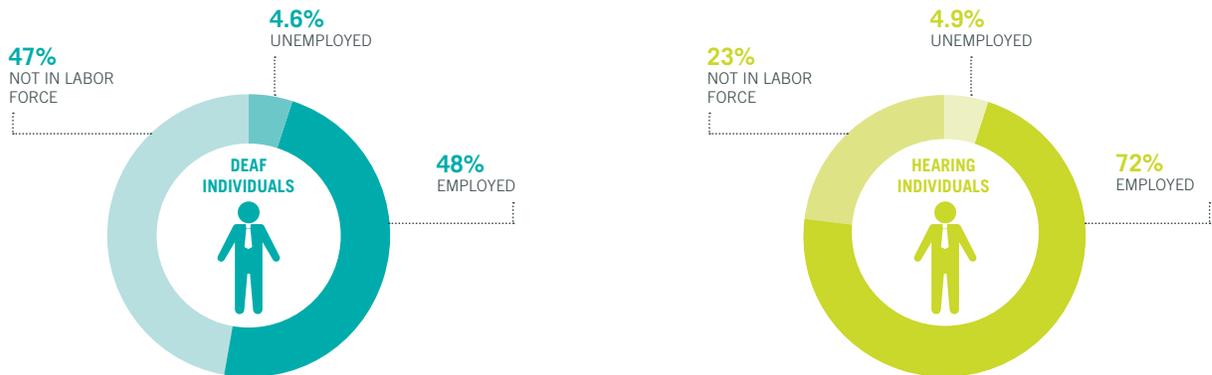
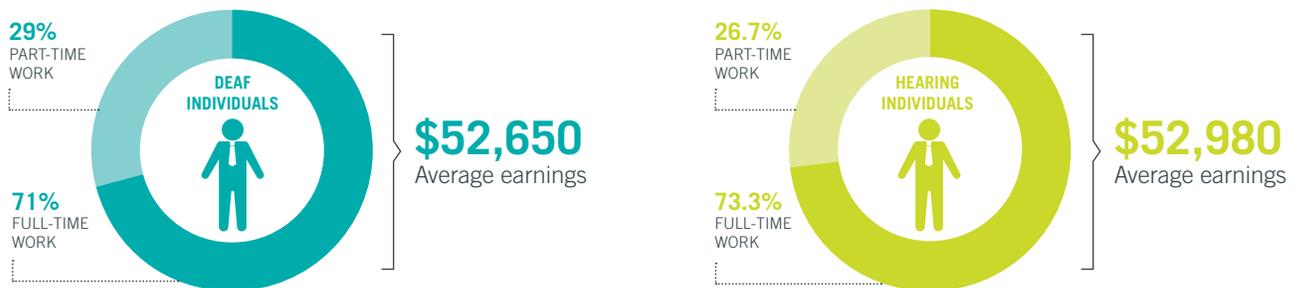


Table 2
FULL-TIME AND PART-TIME WORK STATUS



LABOR FORCE PARTICIPATION

Not all deaf people participate in the labor force at similar rates. Some subgroups of deaf individuals may be more likely to opt out of the labor force. (Table 3) For example, 56% of deaf men are in the labor force, while only 47.7% of deaf women are in the labor force; this is a statistically significant difference. Also, only 40.6% of deaf African Americans and 42.5% of deaf Native Americans are in the labor force, compared to 54.9% of deaf Whites. If the baseline number of deaf individuals who are not in the labor force is 47%, that rate increases by 5% for females and veterans, by 10% for individuals between the ages of 56-65; by 11% for Native Americans, by 12% for African Americans, and by 21% for deafdisabled individuals. By far the largest difference between those deaf individuals who are and are not in the labor force is the presence of additional disabilities. Overall, 72% of deaf individuals without an additional disability were in the labor force, while only 31.7% of deafdisabled individuals were in the labor force. This difference is statistically significant.

An understanding of how labor force participation rates vary within the population of deaf individuals can help researchers, policy-makers, and educators design research, policy, or instructional strategies that takes those differences into account. Ultimately, further research is needed to understand why large numbers of deaf individuals have opted out of the labor force.

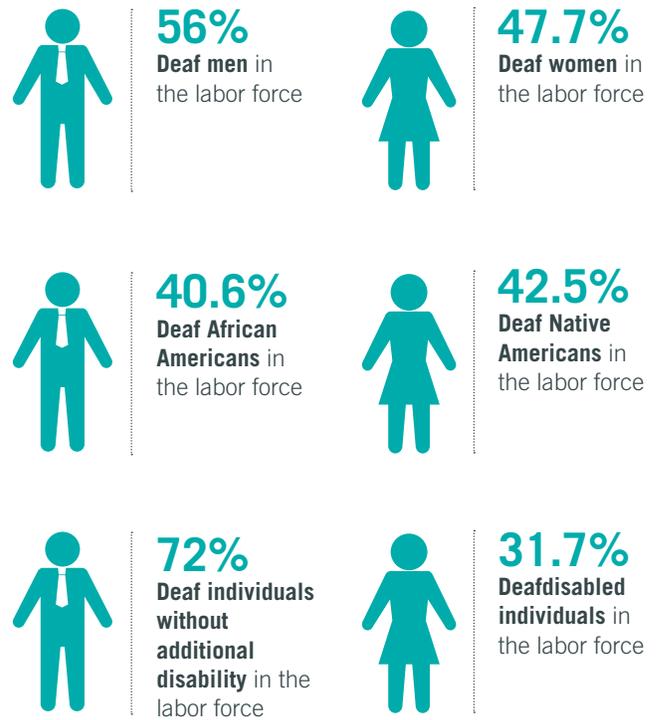
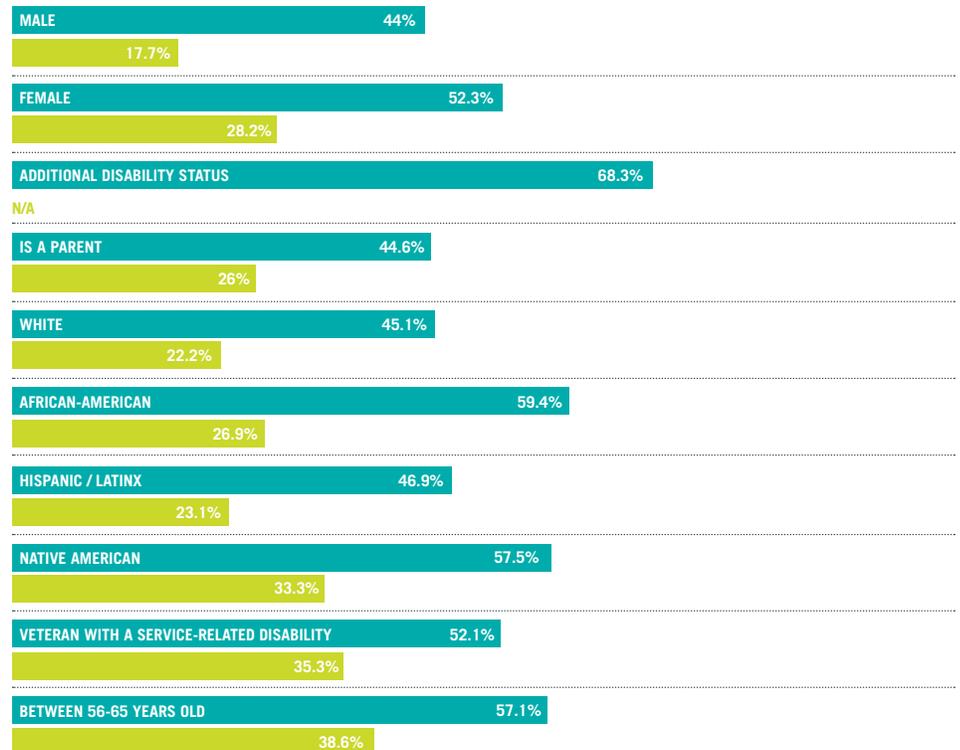
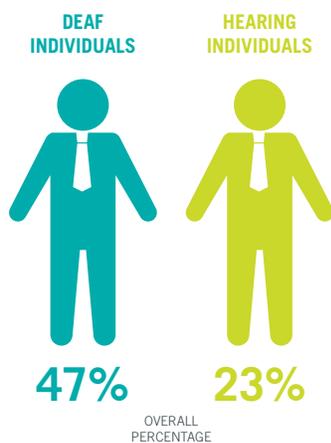


Table 3
PERCENTAGE OF A GIVEN DEMOGRAPHIC THAT IS NOT IN THE LABOR FORCE



EMPLOYMENT AMONG DEAFDISABLED INDIVIDUALS

The largest employment disparities were found for deafdisabled individuals. In this dataset, 47.3% of the deaf population had some sort of additional disability, each combination of which results in unique strengths and challenges. Employment rates and average annual earnings vary across type of disability.

Deaf people with any type of additional disability earn \$11,530 less per year, on average, than do their deaf peers without an additional disability. Some groups of deafdisabled individuals experience far greater earning disparities, earning as much as \$15,800 less than deaf individuals without additional disabilities. Recall that the average annual earnings were calculated only from individuals who were working full-time. Thus, these data points about earnings do not reflect the number of deafdisabled individuals who are not working full time (*Table 4*).

In our analyses, we were limited to the disability categories that are used by the U.S. Census, which does not recognize group identity preferences or complex differences within broad disability categories. The U.S. Census focuses on functional abilities, and does not attend to more

complex issues surrounding identity. This is a limitation of this dataset. However, at a minimum, it is necessary to recognize that employment experiences continue to be significantly more challenging for deafdisabled individuals.

Table 4
AVERAGE SALARY BY ADDITIONAL DISABILITY STATUS

ADDITIONAL DISABILITY STATUS	AVERAGE SALARY
Deaf + no additional disabilities	\$55,186
Deaf + ambulatory disability	\$43,365
Deafblind	\$42,610
Deaf + cognitive disability	\$40,075
Deaf + independent living difficulty	\$39,349

EMPLOYMENT EXPERIENCES BY RACE, ETHNICITY, AND GENDER

Employment experiences also vary across gender, race, and ethnicity. (*Table 5*) Overall, the disparities between groups of particular genders by ethnicity and race are similar in the hearing and deaf populations. For example, among hearing people, 77.1% of men and 67.2% of women are employed, with a 9.9% disparity. On the other hand, among deaf people, 53.8% of males are employed, while 44.6% of females are employed, with a disparity of around 9.2%. The difference between the 9.9% disparity and the 9.2% disparity is statistically indistinguishable from noise; in other words, there is no evidence to suggest that the gender gap in employment is any different between hearing and

deaf people. Overall, the difference in employment rates does not change much as a function of race and gender; but for a particular combination of gender and ethnicity, the employment disparity varies between twenty-five to thirty-five percent.

When examining average annual wages by gender, race, and ethnicity, there are few to no statistically significant differences in earnings between hearing and deaf people (*Table 6*). Similar wage gaps between men and women are found in both populations. On average, Deaf women earn 76 cents for each dollar that deaf men earn, while hearing women earn 82 cents for each dollar that hearing men earn. While the demographic characteristics of deaf people may

qualitatively differentiate smaller subpopulations of deaf people, the differences in employment experiences between groups remains similar to the general population.

Clearly, employment experiences for deaf people vary widely across race, ethnicity, and gender. For example, Hispanic or Latina deaf women have the lowest average annual income, earning 60 cents for each dollar that White deaf people earn, while Native American deaf women have the lowest employment rates, of 27%. The complex intersections of race, ethnicity, and gender are important factors to consider when thinking about employment experiences and outcomes for deaf individuals.

(continued on page 5)

Table 5
EMPLOYMENT RATES BY RACE, ETHNICITY, AND GENDER



Table 6
INCOME BY RACE, ETHNICITY, AND GENDER



100

0

0

\$70,000

EDUCATIONAL ATTAINMENT AND EMPLOYMENT

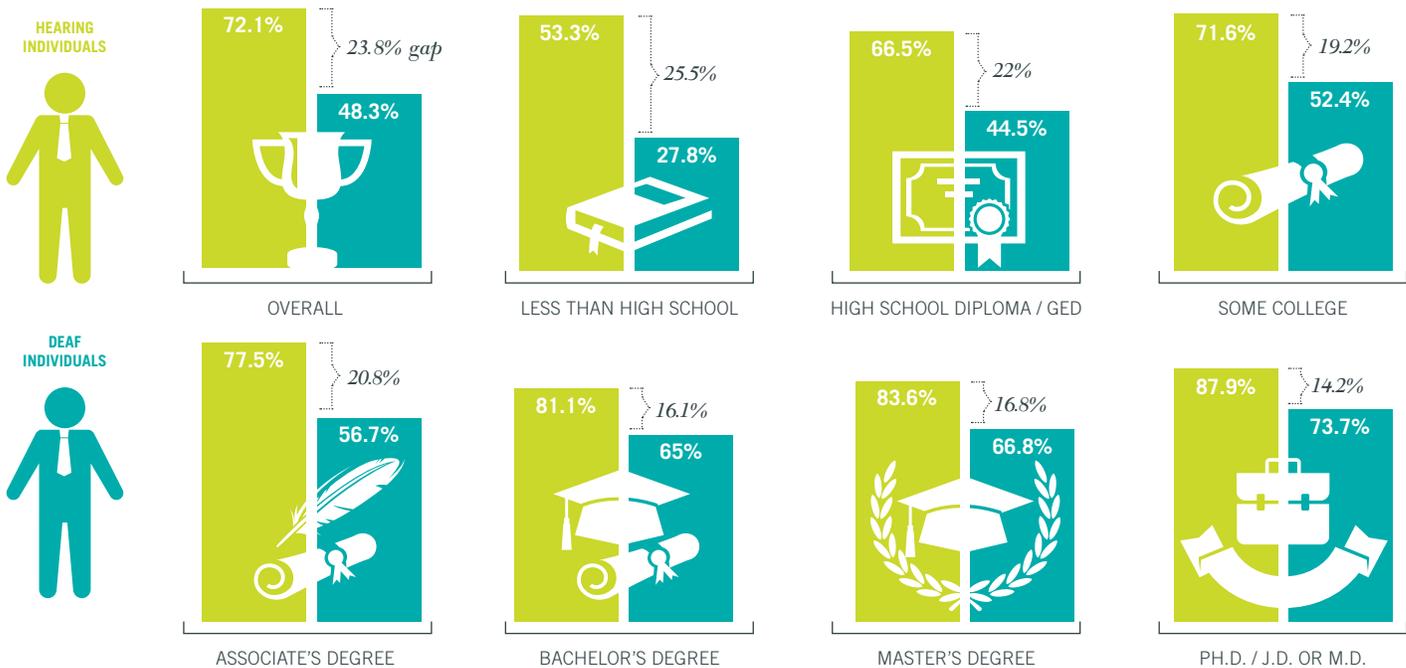
Employment experiences are closely tied to individuals' educational attainment. The employment rates of deaf individuals increase as their levels of educational attainment increases, from 28% for those who did not complete a high school education, to 74% for those with a terminal degree. This increase in employment rates is also found in the general population. However, the employment gap between hearing and deaf people does narrow as levels of educational attainment increase. The largest employment gap between deaf and hearing people is found in individuals who did not complete high

school education (26%), and the smallest employment gap is found in individuals with a terminal degree (14%). Having a bachelors' or masters' degree appears to reduce the employment gap to 16-17%. (Table 7)

For deaf people with college degrees, the field of those degrees plays a small, but meaningful role in their employment possibilities. Deaf people with degrees in the following fields: military technologies, architecture, journalism, and electrical biology, had the highest employment rates, of over 74%. The least-employed

fields include fine arts, foreign languages, physical fitness, and the physical sciences, all with employment rates under 60%. Hearing people with degrees in the following fields: geological/geophysical engineering, naval architecture, and metallurgical engineering, had the highest employment rates, of over 90%. The least-employed degrees include art history, social psychology, and industrial production technology, with employment rates under 75%. As you might expect, the most-employed and least-employed degrees are not exactly the same for deaf and hearing people.

Table 7
EMPLOYMENT BY EDUCATION LEVEL



Average annual earnings vary widely, depending on field of degree and level of educational attainment. Deaf and hearing people with college degrees in a specific field report similar average annual earnings. Deaf people's average annual earnings also increase as their educational attainment increases, just as in the general population. (Table 8) Once we accounted for educational attainment and field of degree, average annual earnings did not differ significantly between hearing and deaf people. This may indicate that once deaf people have obtained specialized degrees and full time

employment, they have the same earning power as hearing people. Again, recall that these data points exclude individuals who are not working full time, or those who have left the labor force.

Table 8
ANNUAL SALARIES

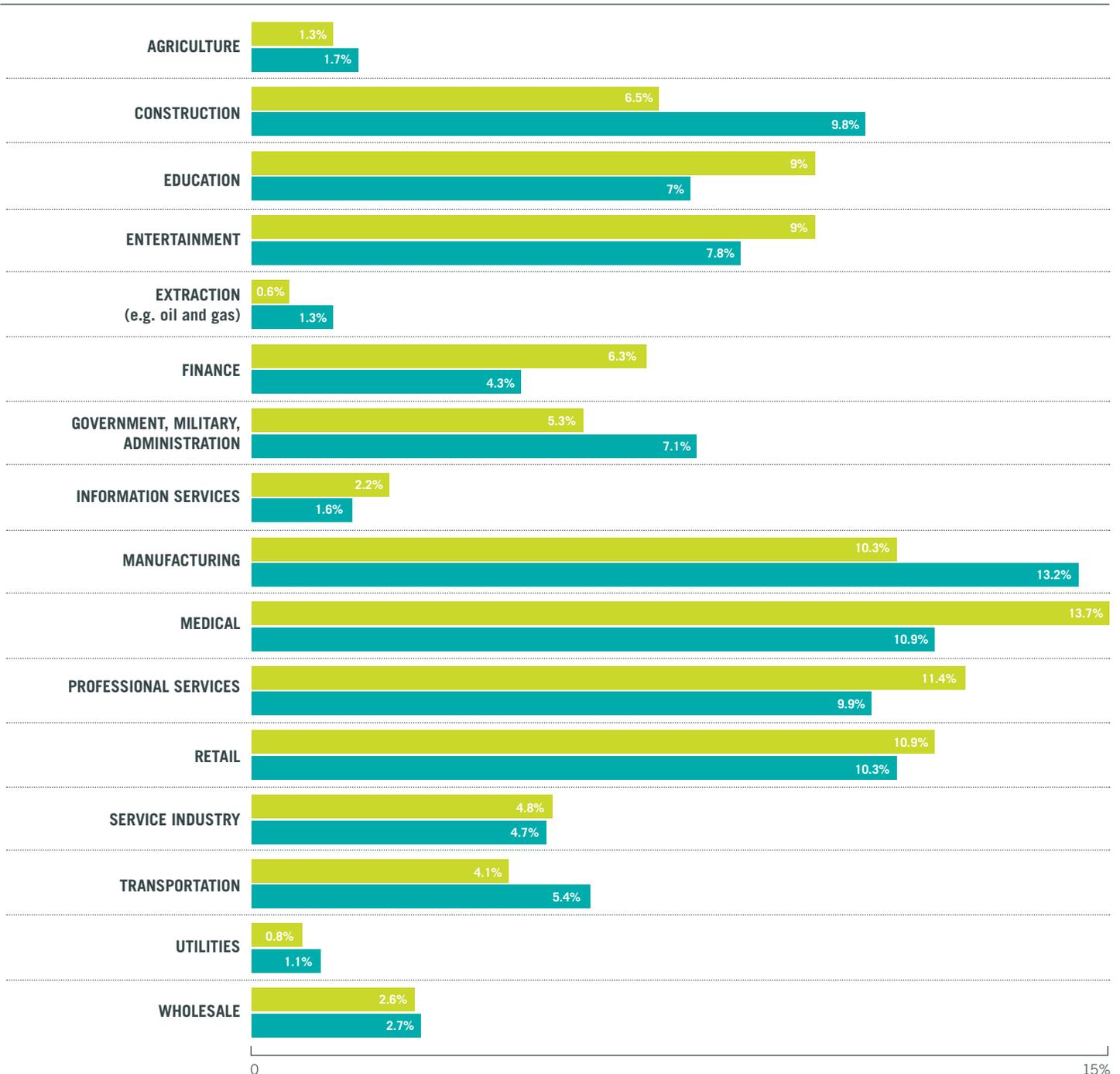
		 LESS THAN BACHELOR'S DEGREE	 BACHELOR'S DEGREE	 MORE THAN BACHELOR'S DEGREE
	HEARING INDIVIDUALS	\$41,545	\$66,336	\$84,976
	DEAF INDIVIDUALS	\$45,410	\$69,022	\$88,113

EMPLOYMENT BY OCCUPATION



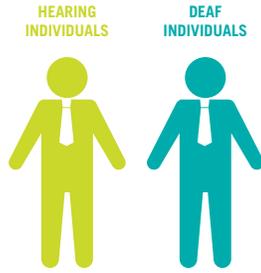
People in the United States work in a wide range of occupations, and the most common occupations appear to be different for hearing and deaf people. The most common occupational field for hearing people is the medical industry, with 13.7% of hearing people employed in this field; while the least common field is in extraction, with 0.6 % of hearing people employed in this field. On the other hand, for deaf people, the most common field is manufacturing, with 13.2% of deaf people employed in this field, and the least common field is utilities, with 1.1% of deaf people working in this field. (Table 9)

Table 9
OCCUPATIONAL FIELDS



EMPLOYMENT ACROSS THE LIFESPAN

Although the ages of 21-64 are considered “working age,” according to common federal guidelines, employment rates vary across the lifespan. Hearing individuals between the ages of 36-55 are employed at significantly higher rates than those who are younger than 36 and older than 55. (Figure 1) For hearing people, employment rates appear to increase dramatically at the age of 36. This change in employment rates does not emerge for deaf people, whose employment rates appear to hold steady across the lifespan, dropping around the age of 55-65, as would be expected based on employment trends in the general population.



Average annual income also varies across the lifespan. For deaf and hearing people alike, income increases as people age. (Figure 2) However, there are some qualitative differences in these income gains across time for deaf and hearing people. First, the average annual income for deaf people demonstrates much more within-group variation, which may partly be due to the smaller sample size. Although, this data point could also indicate that there is greater income instability for deaf people in the United States.

Second, income gains over time are significantly stronger for hearing people than for deaf people. Wages are more strongly correlated with age for hearing people, at 0.23, than for deaf people, at 0.19. This indicates that income gains related to age and experience are weaker for deaf people than for hearing people. It is also a possibility that deaf people have fewer opportunities for promotion and raises over time, as the research literature would have us expect.

Figure 1
AGE VERSUS EMPLOYMENT

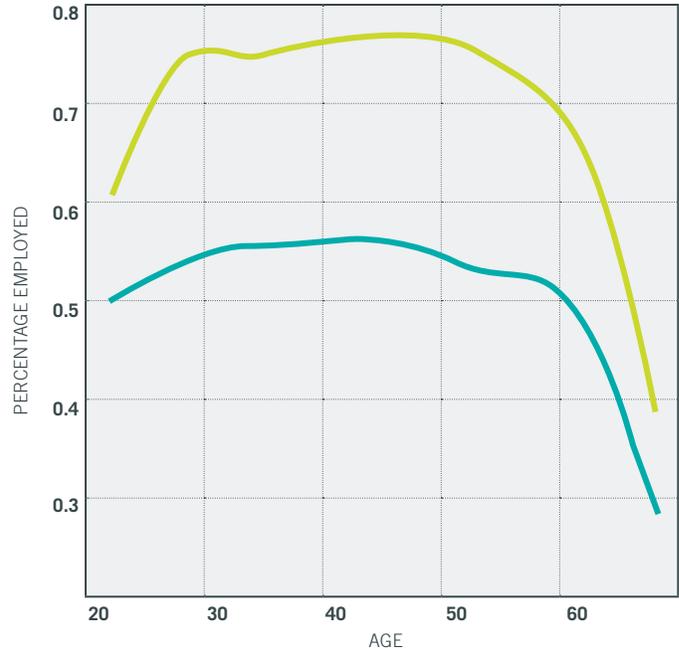
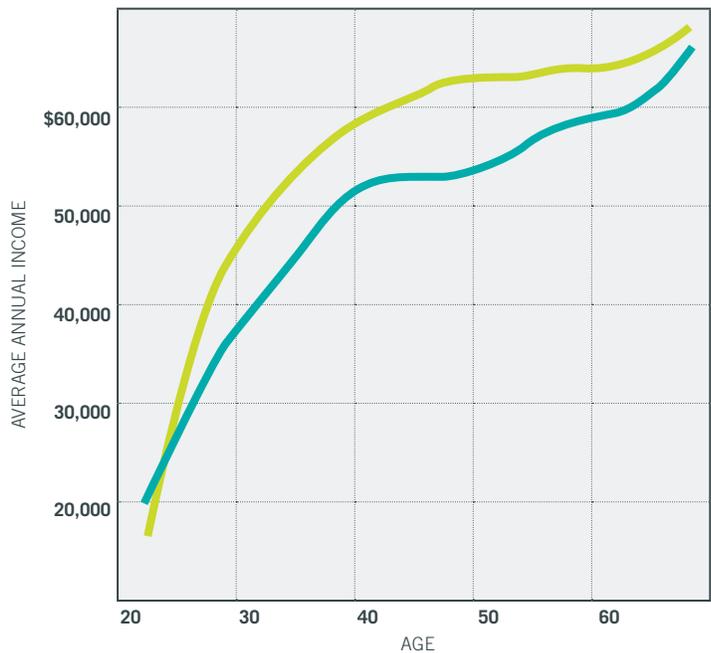


Figure 2
AGE VERSUS INCOME



METHODS

The data for this project were taken from the public use microsurveys (PUMS) of the 2014 American Community Survey (ACS), conducted by the United States census. The PUMS provides a confidential subset of the ACS for the public to analyze. The ACS is a legally mandated questionnaire that is typically used to determine how federal funds may be allocated from region to region. As such, addresses of homes and group quarters, rather than individuals, are sampled, meaning that these data are meant to generalize to housing units, not individuals. Although the PUMS provide data on both individuals and housing units, for this project only individual-level data were used, meaning that the data used here are a convenience sample. More information on the ACS may be found at <http://www.census.gov/programs-surveys/acs/about.html>.

The sample of interest in these analyses was between the ages of 21 and 64. Recall that the U.S. Census collects data on functional limitations and not disability or identity labels, thus we used the

variable “hearing difficulties” to track deaf individuals. The survey respondents who stated that they had “hearing difficulties” were used to represent the deaf population in these analyses. More than 43,500 deaf individuals were in the final sample. The comparison group was those who did not report having any “hearing difficulties,” what we label as hearing individuals. For the most part, the data for the group of hearing individuals are largely comparable to data for the general population. But for comparison purposes, this analysis focuses on individuals in the general population that did not report any type of “hearing difficulties,” which allows for an understanding of what employment experiences may be unique to the deaf population, and what may not be. For analyses assessing wages, individuals earning more than \$300,000 annually were excluded, as were individuals who worked less than forty hours per week. After these exclusion criteria were applied, data from more than 16,500 deaf individuals were used to report average annual earnings.

The descriptive statistics in this report are all corrected by the person-level survey weights provided by the census. These survey weights are intended to account for the intricacies involved in getting a sample that is representative of the United States population. When numbers are compared to each other in this report, we used a survey-corrected t-test or ANOVA to determine if difference in the numbers were due to statistical noise. These statistical tests are purely descriptive in nature, and we do not intend to suggest that any of the associations described are causal in nature. As such, we did not correct for any other variables in providing these descriptive statistics.

THIS REPORT MAY BE CITED AS:

Garberoglio, C.L., Cawthon, S., & Bond, M. (2016). *Deaf People and Employment in the United States: 2016*. Washington, DC: U.S. Department of Education, Office of Special Education Programs, National Deaf Center on Postsecondary Outcomes.

