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Beyond Employment Rates: Full-time vs. Part-time Employment for People with Visual Impairments

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Based on 2019 American Community Survey (ACS) data, the most current available at this writing, 46.2% of working-age people with blindness or low vision (henceforth referred to as people with visual impairments) were employed (U.S. Census Bureau, 2020a). While this rate is low compared to the general population, the percentage of people with visual impairments who are employed has steadily increased since 2012, after the Great Recession, and the employment rate gap between people without disabilities and those with visual impairments has steadily decreased (McDonnall & Sui, 2019). Although these statistics are certainly encouraging, looking beyond basic employment rates is important to more fully evaluate the status of employment for this population.

Employment rate data is typically a "point in time" statistic, based on the respondents' employment status the week prior to the survey. It does not reveal how long the person has been employed, whether they work full- or part-time, the appropriateness of their earnings, or, of course, whether they will be employed next month. This information would provide a more complete picture of employment stability and quality for people with visual impairments. Nationally-representative datasets are available to explore employment for this population but have rarely been utilized. The few studies that have used these datasets focused on likelihood of being employed, or being in the labor force, by characteristics of people with visual impairments (Houtenville, 2003; Kirchner et al., 1999; Authors, in press; Sherrod et al., 2014), but have not investigated employment beyond a dichotomous variable. One study utilized multiple national datasets to evaluate employment over time for this population (McDonnall & Sui, 2019), but also focused on employment and unemployment rates at specific points in time. Studying additional

facets of employment can inform future employment policies and programs for Americans with visual impairments.

As we begin a deeper exploration of the employment status of people with visual impairments, our first focus is full-time versus part-time work. We did not identify any studies that evaluated full-time versus part-time work, discussed hours worked, or considered voluntary versus involuntary part-time work for people with visual impairments. People may choose to work part-time for various reasons, including childcare, other family or household responsibilities, school attendance, health problems, and, for those who receive benefits such as Social Security Disability Insurance, to maintain their benefits. Women are substantially more likely to work part-time than men, and teenagers and older adults of both genders are also more likely to work part-time (Dunn, 2018). However, some people work part-time involuntarily, or for economic reasons (i.e., due to slack work or inability to find full-time work), which is one definition of underemployment used by the U.S. government (Dunn, 2018).

During the Great Recession of 2007-2009, the number of people who worked part-time involuntarily increased. Many people accepted any available job when unemployment rates were high, and there was a concern that this trend would continue (Valletta & van der List, 2015), but Current Population Survey (CPS) data documented that involuntary part-time work continued to decrease through 2019 (Kudlyak, 2019). In 2017, 2018, and 2019, the percentage of people working part-time who reported doing so involuntarily was 14.1%, 13.1%, and 12.1%, respectively (U.S. Bureau of Labor Statistics, n.d.).

The purpose of this study was to use national datasets to explore full-time and part-time work for people with visual impairments. We also examined underemployment, as indicated by involuntary part-time work. The following research questions were investigated:

1. What percentage of men and women with visual impairments work full-time vs. part-time?
2. Are people with visual impairments more likely to work part-time than people without visual impairments?
3. What is the average number of hours worked by employed people with visual impairments?
4. What percentage of people with visual impairments who work part-time do so involuntarily?
5. Are people with visual impairments more likely to work part-time involuntarily than people without visual impairments?

Method

Data Sources

ACS

The ACS is an ongoing annual survey conducted by the U.S. Census Bureau that provides information about the social, demographic, housing, and economic characteristics of the U.S. population (U.S. Census Bureau, 2020b). Census Bureau representatives collect data from a nationally representative sample of over 3.5 million U.S. households via mail, telephone, the Internet, and in-person interviews. ACS data are collected throughout the calendar year and pooled across 12 months to produce annual estimates.

For this study, we used the 2019 1-year Public Use Microdata Sample file, which includes de-identified data for approximately two-thirds of ACS respondents, representing about 1% of the U.S. population (U.S. Census Bureau, 2021). We limited the analysis sample to individuals who were (a) in the civilian labor force, (b) currently employed, and (c) 18 to 65 years old. We selected an upper age of 65 because Social Security retirement benefits start at age 66 for people born in 1954. We used responses to the question, “Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?” to classify respondents into

two groups: (a) 16,709 people with visual impairments (weighted *n* = 1,773,696) and (b) 1,383,887 people without visual impairments (weighted *n* = 147,021,545). Sample demographics are presented in Table 1.

Survey of Income and Program Participation

The Survey of Income and Program Participation (SIPP) is a longitudinal survey conducted by the U.S. Census Bureau that provides comprehensive information about income, labor force participation, and program participation in the United States (Smith et al., 2020). SIPP provides 4-year longitudinal panel data for a nationally representative sample of the U.S. civilian, non-institutionalized population. Each SIPP panel includes a group of households selected for periodic in-person interviews over four consecutive years. Most interview questions relate to the previous calendar year, referred to as the reference year. Employment data includes information about each job held during the reference year for up to seven jobs. SIPP produces monthly data across the calendar year, resulting in 12 data records per year for each employment variable.

We used Wave 1 data from the 2018 SIPP Panel for this study, which contains data collected in 2018 for the reference year 2017. Our sample included people who worked part-time during at least one month of the year and were 18 to 65 years old. This sample included 7,677 respondents (weighted *N* = 40,491,169) with 57,564 monthly observations. We used the question, “Is ... blind or does he/she have serious difficulty seeing?” to divide the sample into two groups: (a) 222 people with visual impairments (weighted *n* = 1,082,765) and (b) 7,455 people without visual impairments (weighted *n* = 39,408,404).

Variables

For this study, *employment* included working for an employer or self-employment. *Number of hours worked* was a continuous variable representing respondents' usual weekly work hours during the past 12 months. To identify full-time, part-time, and involuntary part-time workers, we used definitions from national surveys, including SIPP and CPS (Dunn, 2018; Smith et al., 2020; U.S. Bureau of Labor Statistics, 2020). We classified people as working either *full-time* (35+ hours per week) or *part-time* (1 to 34 hours per week) based on their reported work hours. *Involuntary part-time workers* included individuals who identified (a) inability to find full-time work or (b) slack work or material shortage as their main reason for working less than 35 hours per week.

Data Analysis

All analyses were conducted in SAS version 9.4 using survey procedures and sampling weights to obtain nationally representative estimates and adjusted standard errors. We utilized ACS data to address the first three research questions by (a) computing descriptive statistics for full-time and part-time employment rates by gender, (b) conducting a Rao-Scott chi-square test to examine the association between part-time employment and visual impairment, and (c) computing means and confidence intervals to estimate respondents' work hours. We used SIPP data to address the fourth and fifth research questions. We calculated annual averages for the calendar year by pooling monthly data records across 12 months and computed descriptive statistics for involuntary part-time work by visual impairment. To examine the association between involuntary (vs. voluntary) part-time work and visual impairment, we conducted a Rao-Scott chi-square test.

Results

Table 2 displays weighted frequencies and percentages of part-time and full-time workers with and without visual impairments based on the ACS sample. Almost a quarter (24.1%) of employed people with visual impairments worked part-time (18.5% of men and 29.9% of women). People with visual impairments were more likely to work part-time than people without visual impairments, Rao-Scott $\chi^2(1, N=1{,}400{,}569) = 172.02$, $p < .0001$. Table 3 provides average weekly work hours by visual impairment for part-time and full-time workers and overall. On average, employed people with visual impairments worked 1.14 fewer hours than those without visual impairments.

Among part-time workers in the SIPP sample, 16.3% (*SE* = 3.0%) of people with visual impairments involuntarily worked part-time due to inability to find full-time jobs (11.7%, *SE* = 2.7%) and slack work or material shortage (4.6%, *SE* = 1.7%). A smaller percentage (13.8% [*SE* = 0.5%]) of people without visual impairments involuntarily worked part-time: 8.5% (*SE* = 0.4%) due to inability to find full-time jobs and 5.3% (*SE* = 0.3%) due to slack work or material shortage. However, this difference was not statistically significant, and there was no association between involuntarily part-time work and visual impairment, Rao-Scott $\chi^2(1, N=57{,}564) = 0.76$, $p = 0.38$.

Discussion

The purpose of this study was to examine full-time, part-time, and involuntary part-time employment for people with visual impairments in the United States Nearly one-quarter of people with visual impairments worked part-time; this percentage was significantly higher than the percentage of people without visual impairments who worked part-time, by 5.4 percentage points. Both men and women with visual impairments were more likely to work part-time than men and women without visual impairments, and the gap between the groups was slightly larger

for men. People with visual impairments worked significantly fewer hours than people without visual impairments, although the difference was small – only about one hour per week. This difference in work hours primarily comes from differences between people who worked part-time in each group.

While these differences in part-time work between people with visual impairments and those without visual impairments are significant, they are not very large. It is important to consider the demographic differences between people with and without visual impairments when evaluating these findings. A slightly higher percentage of people with visual impairments were female, and this group was older and had lower levels of education. These demographic differences may explain, at least in part, the higher rates of part-time employment for people with visual impairments.

Evaluating the reasons for part-time work provides a more complete picture of whether working part-time is a negative aspect of employment for some people with visual impairments. More than 16% of people with visual impairments worked part-time involuntarily, or not by their own choice, in 2017, compared to less than 14% of people without visual impairments. The percentage of people without visual impairments working part-time involuntarily is very similar to the CPS general population estimate of 14.1% (U.S. Bureau of Labor Statistics, 2018). Although a slightly higher percentage of people with visual impairments worked part-time involuntarily than did people without visual impairments, this difference was not statistically significant. Our results suggest that underemployment, based on this measure, is similar for people with and without visual impairments.

It is worth noting that a higher proportion of involuntary part-time workers with visual impairments worked part-time because they could not find a full-time job (71.5% vs. 60.6% for

people without visual impairments). However, due to large standard errors for the visual impairment group, this difference is not statistically significant. This proportion is substantially higher than the 34.9% of the involuntary part-time general population workforce who reported inability to find a full-time job as the reason for working part-time, based on CPS data (U.S. Bureau of Labor Statistics, 2018). This finding may be relevant, as people who work part-time for this reason do so perpetually, whereas a portion of people who work part-time involuntarily due to slack work usually work full-time.

To summarize our findings, people with visual impairments were slightly more likely than people without visual impairments to work part-time, which appears to primarily be by choice rather than for economic reasons beyond their control. Although a slightly larger percentage of people with visual impairments worked part-time involuntarily, the difference is not statistically significant. Additional research is warranted to examine other measures of underemployment for the visually impaired population, including the match between their jobs and their education.

Limitations of this study are that these national datasets identify visual impairment based on self-report and do not include information about severity of visual impairment. National data that allows the identification of people with legal blindness, even if by self-report, is sorely needed. Also, we used the most current ACS and SIPP data available at the time of this study, but data collection took place before the COVID-19 pandemic. It will be important to examine the impact of the pandemic on involuntary part-time work for people with visual impairments when data from more recent years become available.

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Table 1
Demographic Information

	ACS				SIPP	
	With VI		Without VI		With VI	
Variable	Frequency	%	Frequency	%	Frequency	%
Gender						
Male	894,552	50.4	76,791,844	52.2	361,518	33.4
Female	879,144	49.6	70,229,701	47.8	721,247	66.6
Spanish, Hispanic, or Latino	365,477	20.6	26,887,559	18.3	252,229	23.3
Race						
White only	1,233,319	69.5	106,813,845	72.7	828,656	76.5
Black only	285,917	16.1	17,811,080	12.1	173,425	16.0
Other races	254,460	14.3	22,396,620	15.2	80,685	7.5
Education						
Less than HS	239,709	13.5	11,593,398	7.9	197,475	18.2
HS diploma or equivalent	510,546	28.8	36,275,578	24.7	357,402	33.0
Some college	617,712	34.8	45,949,666	31.3	360,346	33.3
Bachelor's or higher degree	405,729	22.9	53,202,903	36.2	167,543	15.5
Age[a]	44.0	0.14	40.7	0.01	41.6	0.98

Note. VI = visual impairment. HS = high school. Data from American Community Survey (ACS) 2019 1-year Public Use Microdata Sample and Survey of Income and Program Participation (SIPP) 2018 Panel, Wave 1. All estimates are weighted to be nationally representative.
[a]Values represent means and standard errors.

Table 2

Weighted Estimates of Part-Time and Full-Time Workers by Gender and Visual Impairment (VI)

Variable	With VI		Without VI	
	Frequency	% (*SE*)	Frequency	% (*SE*)
Total	1,773,696		147,021,545	
Part-time	428,347	24.1 (0.45)	27,529,377	18.7 (0.05)
Full-time	1,345,349	75.9 (0.45)	119,492,168	81.3 (0.05)
Men				
Part-time	165,108	18.5 (0.60)	9,755,417	12.7 (0.06)
Full-time	729,444	81.5 (0.60)	67,036,427	87.3 (0.06)
Women				
Part-time	263,239	29.9 (0.68)	17,773,960	25.3 (0.06)
Full-time	615,905	70.1 (0.68)	52,455,741	74.7 (0.06)

Note. Data from American Community Survey 2019 1-year Public Use Microdata Sample.

Table 3

Weighted Estimates of Hours Worked Per Week by Visual Impairment (VI)

Group	With VI[a]		Without VI[b]	
	M	95% CI	*M*	95% CI
Overall	38.51	(38.23, 38.79)	39.65	(39.63, 39.68)
Part-time workers	21.25	(20.92, 21.58)	21.99	(21.95, 22.03)
Full-time workers	44.00	(43.77, 44.24)	43.72	(43.70, 43.74)

Note. CI = confidence interval. Data from American Community Survey 2019 1-year Public Use Microdata Sample.

[a]Weighted n = 1,773,696. [b]Weighted n = 147,021,545.