Out of the Labor Force due to Health Reasons? An Analysis of the Survey of Income and Program Participation regarding Persons with Visual Impairments

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Abstract:

Persons with visual impairments (VI) have a high nonparticipation rate in the labor force. Information about factors influencing their labor force participation could provide insight into how to increase employment rates. We selected persons with VI from the Survey of Income and Program Participation to investigate factors that differentiate persons out of the labor force (OLF) for chronic health or disability reasons from those employed and those OLF due to other reasons. Persons with VI and OLF for chronic health or disability reasons were more likely to have additional disabilities; have physical, mental, or other health limitations to work; and receive SSI or SSDI. Compared with those employed, people with VI and OLF for chronic health or disability reasons appear to have multiple characteristics indicating poorer health, lower education attainment, and greater financial insecurity. Compared with those OLF due to other reasons, people with VI and OLF for chronic health or disability reasons were less likely to be female, but more likely to receive food assistance and to indicate disadvantaged health status. These results suggest that skills to accommodate vision disability or health conditions are essential to employment or further education, and additional education may expand vocational options. Benefits counseling, encouragement, and careful career planning may assist persons with VI in moving toward financial independence.

Keywords: blindness, visual impairment, low vision, employment, disability

Out of the Labor Force due to Health Reasons? An Analysis of the Survey of Income and Program Participation regarding Persons with Visual Impairments

People with visual impairments (VI) encounter many barriers to employment [1–5] and are more likely than those without VI to be out of the labor force [6]. Identifying issues potentially influencing nonparticipation in the labor force may provide valuable insight into how service providers could support persons with vision impairments in pursuing employment and economic self-sufficiency. This study uses national survey data to explore factors associated with being out of the labor force among people with VI in the United States.

Labor Force Participation

The U.S. federal government classifies workers into three categories: employed, unemployed, and not in the labor force [7]. Persons out of the labor force (OLF) are not employed and have not looked for work for the last four weeks; many are discouraged or disinterested in employment [7]. Groups with lower labor force participation include persons who are younger adults (age 18-24), non-Hispanic Blacks, less educated, and with disabilities; women are less likely to be in the labor force than men [8]. The 2019 American Community Survey (ACS) 1-year estimates indicated that the OFL rate was 22.0% for the civilian noninstitutionalized population (age 18-64), and the OLF rate was 18.1% for those without a disability [9].

Visual Impairment and Employment

The ACS [10] defines visual disabilities as “blind or having serious difficulty seeing, even when wearing glasses.” The OLF rate was 49.5% for the civilian noninstitutionalized population (age 18-64) with vision difficulty [9]. The employment rate for persons with VI,

currently around 44%, consistently lags the population without VI [6]. Two recent systematic reviews concerning employment among persons with VI found education was positively associated with employment [11,12]. More recent studies supported this link [13,14]. Consequently, people with VI and less education appear at a disadvantage in becoming employed.

The impact of health on employment among persons with VI continues to be explored. Kirchner et al. [15] and Cimarolli and Wang [16] found that persons with VI and poor health were less likely to be employed than persons with VI in better health. Diabetes, a major cause of blindness in the United States, negatively influenced employment among persons with VI [17]. Having poor health or a secondary disability was also an employment barrier in the United Kingdom [1]. More recent research found that although people with VI were more likely to report poor health, health was not a significant factor differentiating being employed from being OLF [18].

Lund and Cmar's review [11] found that vocational rehabilitation (VR) program participants with VI and secondary disabilities were less likely to be employed. McKnight et al. [19] found that persons with multiple disabilities, including VI, were less likely to return to work after acquiring a disability. When persons with VI have additional disabilities or health issues, their employment obstacles appear to increase. Persons with VI and health conditions or other disabilities may become discouraged about finding work that accommodates their health status. They may not feel physically able to participate in work on an ongoing basis or lack the skills to accommodate their disabilities and health conditions.

The U.S. Social Security Administration (SSA) operates two separate financial benefit programs for people with disabilities, Social Security Disability Insurance (SSDI) and

Supplemental Security Income (SSI). In general, SSDI eligibility is based on an individual's work history, while SSI is based on a limited income and financial need. To qualify for SSDI, people must have worked in jobs covered by Social Security but were unable to work for a year or more because of a disability [20,21]. People with VI may collect SSDI while working if their incomes fall within certain limits (maximum of $2,190/month in 2021) [22]. To qualify for SSI, people must have limited income and resources, and be disabled, blind, or age 65 or older [23]. SSI is not dependent on prior work experience. Persons with VI may exclude employment-related expenses, thus allowing a higher SSI payment [24], with maximum payments of $794 per month for a person living alone [25]. VR program participants receiving higher monthly SSDI benefits were more likely to work at VR case closure than those receiving less SSDI and those receiving SSI [26]. VR applicants with VI receiving SSDI who earned above the SSDI maximum at VR closure tended to be Black, male, younger, had more education, had no additional disabilities, and received higher SSDI at application [27].

Purpose of the Study

Persons OLF with VI may find it more challenging to become and stay employed. Examining the characteristics of this group may provide insight into factors influencing their workforce participation. Our research questions are: What are the characteristics of people with VI who are OLF due to chronic health or disability issues (from now on referred to as “due to health reasons”)? How do those characteristics compare to characteristics of employed persons with VI and those OLF for other reasons?

Method

Sample

Data for this study were derived from a nationwide longitudinal survey, the Survey of Income and Program Participation (SIPP), administrated by the U.S. Census Bureau since the 1980s to provide a nationally representative sample that allows researchers to evaluate the dynamics of income, labor force participation, social program participation and eligibility, and demographic characteristics [28]. This study used the most recently released dataset (SIPP 2018 Panel, Wave 1 December), consisting of 29,825 households and 67,994 persons interviewed between February and June 2018. We selected participants 18 to 65 years who reported being blind or having serious difficulty seeing. The final sample of 1,436 individuals included 611 employed, 47 unemployed, 431 OLF due to health reasons, and 347 OLF due to other reasons.

Dependent Variable

The dependent variable was labor force participation status. ***Employed*** individuals represented those with a job the entire month. ***Unemployed*** individuals represented those with no job during the month but looking for work. Individuals ***OLF*** represented those with no job during the month and not looking for work. We separated OLF individuals into two groups: OLF due to health reasons and OLF for other reasons (including temporary injury or illness, pregnancy/childbirth, caregiving, attending school, inability to find work, being laid off, uninterested in working, in a family business, or other reasons). Unemployed individuals were excluded from the model because of their small sample size. Hence, the dependent variable has three categories: employed, OLF due to health (reference group), and OLF for other reasons.

Independent Variable

Sixteen independent variables represented demographics, health status, and socioeconomic characteristics, including age, gender, race, education, professional certification, self-reported health, number of additional disabilities, physical/mental/other health limitation to

work, sick days per year, SSDI, SSI, food assistance, housing assistance, private insurance coverage, public insurance coverage, and a poverty indicator. Age was a continuous variable ranging from 18 to 65. Gender was a dichotomous indicator (0 = male; 1 = female). Race included White (reference group), Black, Asian, and other races. Education consisted of five levels: less than high school, high school degree or equivalent (reference group), some college but no degree, Associate degree, and Bachelor's degree or above. Having a professional certificate or license was a dichotomous variable (1 = Yes; 0 = No). Self-reported health included three levels: "excellent/very good," "good" (reference group), and "fair/poor." The number of additional disabilities was recoded as a continuous variable with values ranging from 0 to 5, indicating the number of disabilities in addition to a visual difficulty, such as hearing, cognitive (concentrating, remembering, or making decisions), ambulatory (walking or climbing stairs), self-care (dressing or bathing), or independent living difficulties (doing errands alone). Sick days per year was a continuous variable, indicating the number of days an individual had illness or injury keeping them in bed more than half a day. Six dichotomous variables indicated receipt of SSDI, SSI, food assistance, and housing assistance, and having private insurance coverage and public insurance coverage (1 = Yes; 0 = No). A poverty indicator was dichotomous and computed from the family income-to-poverty ratio: when the family income-to-poverty ratio was 1 or less, it was considered "in poverty" (1 = Yes, in poverty; 0 = No).

Statistical Analysis

Analyses in this study were conducted with SAS 9.4 software based on the 2018 SIPP user's guide published by the U.S. Census Bureau [28]. The SIPP data files include replicate weights variables so after applying personal weights we could achieve estimates of people in our target population—working-age (18-65) persons with VI in the United States.

We calculated means and standard errors for continuous variables using PROC SURVEYMEANS and frequencies for categorical variables using PROC SURVEYFREQ to investigate the characteristics of people with VI by labor force participation status. Then we used PROC SURVEYLOGISTIC to build a multinomial logistic regression model to examine the relationship between labor force participation status and independent variables. OLF for health reasons was the dependent variable reference group. The model respectively compared employed and OLF for other reasons groups to the reference group. In other words, two logistic regression models were defined in the multinomial regression: one compared the characteristics of the employed group to the reference group OLF due to health reasons, another compared the characteristics of OLF due to other reasons to the reference group OLF due to health reasons. We considered statistically significant factors in the model to interpret results at *p*-values smaller than 0.05.

Results

Table 1 displays descriptive statistics for the overall sample and by labor force participation status. Over half of the individuals were OLF, and there were more people OLF due to health reasons than those OLF for other reasons. The average age of people OLF due to health reasons was 53.0, almost five years older than the overall sample. The percentage of women OLF for other reasons was higher than other groups. Lower percentages of people OLF due to health reasons held a professional certificate (14.1%), while a higher percentage had limitations to work (91.7%). People OLF due to health reasons also had higher percentages of receiving SSDI, SSI, public insurance coverage, food assistance, and house assistance and living in poverty.

Table 2 shows estimates from two comparison models of independent variables in the multinomial logistic regression analysis. The first model compared employed people to those OLF due to health reasons. Results suggested that employed people were more likely to attend college (b=0.66, p=.01) and to possess a Bachelor's or higher degree (b=0.89, p=.01), had a professional certificate or licensure (b=0.58, p=.02), had fewer types of disabilities (b=-0.31, p<.01), and were less likely to have a limitation to work (b=-2.24, p<.01) and to receive SSDI (b=-2.11, p<.01) or SSI (b=-2.13, p<.01), experienced fewer days of illness or injury (b=-0.005, p=.03), and were less likely to have public insurance coverage (b=-0.69, p<.01) and to live in poverty (b=-1.04, p<.01) than persons OLF due to health reasons.

When comparing people OLF for other reasons to those OLF due to health reasons, the second comparison model indicated that people OLF due to other reasons were more likely to be female (b=0.71, p<.01) and to have fair/poor health (b=-0.98, p<.01), had fewer types of disabilities (b=-0.22, p<.01), and were less likely to have a limitation to work (b=-0.97, p<.01), to receive SSDI (b=-0.85, p<.01), SSI (b=-0.81, p<.01), or food assistance (b=-1.44, p<.01) than persons OLF due to health reasons. Overall, the multinomial logistic regression was significant (Wald Chi-Square, $F(44,240)=39.62$, p<.0001) and the two comparison models explained 61.3% (Max-rescaled R^2) of the total variation in labor force participation.

Discussion

We explored how people in the U.S. with VI and OLF for health reasons differed from those with VI employed and those OLF for other reasons. Persons with VI and OLF due to health reasons had multiple characteristics indicative of poor health. In this study, it appears that vision difficulties may be a contributing factor but were not the sole factor in their nonparticipation in the workforce. The presence of additional disabilities or health conditions has previously been

associated with unemployment for persons with VI [12,19], though those studies were limited to persons participating in the VR service delivery system. Persons OLF due to health reasons appear to have limited financial resources, which, based on previous research [29], will likely translate into long-term economic insecurity.

Employment can have physical and mental health benefits for persons with health and disability issues if the job is individualized to accommodate those issues [30]. It may be challenging for persons with VI and chronic health or disability issues to imagine work opportunities that accommodate their physical abilities. Service providers must ensure that persons with VI learn the necessary skills to accommodate their visual limitations and manage other health or disability concerns. Learning these skills may be difficult if training programs for people with VI are not equipped to serve those with complex needs. Programs that provide in-home training or training in shorter increments may be more manageable for persons with multiple health or disability concerns. Technological adaptations or innovations may be necessary to support persons with multiple disabilities or health issues [31]. Having the skills to accommodate VI will also be essential to pursue additional education. Education has been positively associated with employment for persons with VI [11–13]. Increasing education will likely expand vocational options for persons with multiple health and disability issues as this group has a substantially lower educational level than the other groups. Although increased education may increase the potential of employment, further research is necessary to determine the extent to which advanced education might influence economic self-sufficiency.

Because people with VI who are OLF due to health reasons tend to have additional disabilities and other health limitations, they may be unable to work a traditional 40-hour workweek. Part-time or self-employment, or employment that allows working from home, may be manageable.

Rehabilitation providers should be creative and flexible in exploring vocational options. Persons OLF reporting other health concerns or disabilities may need to consider how their employment could impact their SSDI or SSI benefits and health insurance and learn to track employment-related expenses. Previous research has found that financial motivation positively influences employment among persons with VI [32]. Rather than allowing persons with VI and other health concerns to withdraw from the labor market permanently, they should be encouraged to explore employment options. Encouragement to work is positively associated with employment outcomes for persons with VI [19].

Even though the SIPP data allowed us to explore factors influencing labor force participation among people with VI, some self-reported items, such as health condition and disability, were subject to participants' own experience and responses could be influenced by social desirability. Because this study was based on one wave of the SIPP data collected in 2018, we could not determine the length of time people with VI were OLF or whether they would return to the labor force. There may also be other factors that were not included in the dataset that influenced labor force participation. However, this is the first study to examine the characteristics of persons with VI who are not participating in the U.S. labor force based on a national representative sample rather than a sample from a benefits or service delivery program.

Conclusion

The working-age population of persons with VI who were not employed or looking for work due to self-reported chronic health or disability issues appears to have multiple indicators of poor health and financial stress. Their poor health may interfere with receiving the skills and training necessary to accommodate their visual difficulties. These skills are essential to pursue employment and the additional education that might expand their employment options.

Encouragement and benefits counseling may facilitate employment opportunities that could assist them in achieving financial security.

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Table 1

Descriptive Statistics of Variables for the Overall Sample and Labor Force Participation Status Sub-Groups

Variable	Overall		Employed		OLF: Health Reasons		OLF: Other Reasons	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Age	48.1	(0.4)	45.0	(0.6)	53.0	(0.5)	48.9	(0.8)
Female	3,960,082	58.3	1,605,869	53.6	1,085,052	54.2	1,114,958	71.4
Race								
White alone	4,945,924	72.8	2,232,086	74.6	1,426,845	71.2	1,123,716	72.0
Black alone	1,146,913	16.9	456,245	15.2	385,031	19.2	261,703	16.8
Asian alone	237,856	3.5	126,650	4.2	33,252	1.7	74,398	4.8
Other races	461,841	6.8	178,267	6.0	158,331	7.9	100,857	6.5
Education								
Less than HS	1,239,606	18.2	385,238	12.9	489,525	24.4	308,755	19.8
HS	2,395,216	35.3	918,829	30.7	826,104	41.2	563,868	36.1
College, no degree	1,443,582	21.3	669,331	22.4	396,263	19.8	326,370	20.9
AA	595,242	8.8	283,325	9.5	144,404	7.2	147,943	9.5
BS or higher	1,118,888	16.5	736,527	24.6	147,163	7.3	213,737	13.7
Professional certificate	1,442,299	21.2	881,911	29.5	283,231	14.1	241,369	15.5
Health (vs. good)								

Excellent/very good	1,831,943	27.0	1,241,768	41.5	159,114	7.9	350,075	22.4
Good	1,576,861	23.2	884,316	29.5	231,124	11.5	427,584	27.4
Fair/poor	3,383,730	49.8	867,165	29.0	1,613,220	80.5	783,014	50.2
Additional disabilities	1.5	(0.0)	0.7	(0.0)	2.6	(0.1)	1.6	(0.1)
Limitation to work	3,541,837	52.1	598,100	20.0	1,838,014	91.7	969,761	62.1
SSDI	1,310,555	19.3	82,319	2.8	897,634	44.8	304,820	19.6
SSI	851,820	12.5	41,088	1.4	599,254	29.9	192,996	12.4
Days of illness or injury	30.8	(2.2)	8.6	(1.4)	60.8	(5.1)	36.5	(5.3)
Private insurance coverage	3,160,366	46.5	1,931,867	64.5	485,574	24.2	671,620	43.0
Public insurance coverage	3,249,679	47.8	627,124	21.0	1,579,369	78.8	922,547	59.1
Food assistance	308,417	4.5	47,846	1.6	207,282	10.3	31,169	2.0
Housing assistance	389,797	5.7	57,780	1.9	197,065	9.8	100,983	6.5
Family in poverty	1,639,503	24.1	326,328	10.9	702,814	35.1	522,240	33.5

Note. OLF = out of the labor force. HS = high school. AA = associate degree. BS = Bachelor's degree. Values are frequencies or percentages. Values in parenthesis are standard errors of means for age, additional disabilities, and days of illness of injury. Weighted frequencies by employment status: employed, n = 2,993,249; unemployed, n = 235,152; OLF due to health reasons, n = 2,003,459; OLF due to other reasons, n = 1,560,674. All estimates are weighted to be nationally representative.

Table 2

Multinomial Logistic Regression Model

Variable	*b*	*SE*	*t*	*p*	*OR*	95% CI
Employed (reference = OLF due to health reasons)						
Intercept	4.96	0.55	9.09	<.01		
Age	-0.03	0.01	-3.82	<.01	0.97	(0.96, 0.99)
Female	-0.21	0.21	-0.96	.34	0.81	(0.53, 1.24)
Race (Black vs White)	-0.11	0.30	-0.36	.72	0.90	(0.49, 1.63)
Race (Asian vs. White)	0.38	0.67	0.56	.58	1.46	(0.39, 5.50)
Race (Other vs. White)	0.06	0.38	0.16	.88	1.06	(0.50, 2.25)
Education (less than HS vs. HS)	0.02	0.28	0.08	.94	1.02	(0.59, 1.78)
Education (college no degree vs. HS)	0.66	0.27	2.47	.01	1.94	(1.14, 3.29)
Education (AA vs. HS)	0.36	0.38	0.93	.35	1.43	(0.67, 3.02)
Education (BS or higher vs. HS)	0.89	0.36	2.49	.01	2.43	(1.20, 4.93)
Professional certificate or license	0.58	0.25	2.37	.02	1.79	(1.10, 2.92)
Health (excellent/very good vs. good)	-0.30	0.36	-0.82	.41	0.74	(0.36, 1.52)
Health (fair/poor vs. good)	-0.59	0.30	-1.96	.05	0.56	(0.31, 1.00)
Additional disability	-0.31	0.08	-3.77	<.01	0.74	(0.63, 0.86)
Limitation to work	-2.24	0.24	-9.37	<.01	0.11	(0.07, 0.17)
SSDI	-2.11	0.35	-6.02	<.01	0.12	(0.06, 0.24)
SSI	-2.13	0.46	-4.67	<.01	0.12	(0.05, 0.29)
Days of illness or injury	0.00	0.00	-2.16	.03	1.00	(0.99, 1.00)
Private coverage	0.37	0.25	1.49	.14	1.44	(0.89, 2.34)
Public coverage	-0.69	0.24	-2.84	<.01	0.50	(0.31, 0.81)
Food assistance	-0.50	0.54	-0.91	.36	0.61	(0.21, 1.78)
Housing assistance	0.02	0.46	0.04	.97	1.02	(0.41, 2.54)
Family in poverty	-1.04	0.28	-3.72	<.01	0.36	(0.21, 0.62)
OFL due to other reasons (reference = OLF due to health reasons)						

Intercept	1.96	0.51	3.85	<.01		
Age	-0.01	0.01	-1.75	.08	0.99	(0.97, 1.00)
Female	0.71	0.19	3.66	<.01	2.04	(1.39, 3.00)
Race (Black vs White)	-0.14	0.25	-0.56	.58	0.87	(0.54, 1.42)
Race (Asian vs. White)	0.71	0.63	1.12	.26	2.04	(0.59, 7.08)
Race (Other vs. White)	-0.10	0.36	-0.27	.79	0.91	(0.45, 1.85)
Education (less than HS vs. HS)	0.12	0.25	0.45	.65	1.12	(0.68, 1.85)
Education (college no degree vs. HS)	0.35	0.24	1.44	.15	1.41	(0.88, 2.27)
Education (AA vs. HS)	0.31	0.34	0.91	.36	1.36	(0.70, 2.67)
Education (BS or higher vs. HS)	0.44	0.34	1.30	.19	1.55	(0.80, 3.00)
Professional certificate or license	-0.14	0.24	-0.58	.56	0.87	(0.54, 1.40)
Health (excellent/very good vs. good)	-0.32	0.34	-0.93	.36	0.73	(0.37, 1.43)
Health (fair/poor vs. good)	-0.98	0.27	-3.67	<.01	0.37	(0.22, 0.63)
Additional disability	-0.22	0.07	-3.30	<.01	0.80	(0.71, 0.92)
Limitation to work	-0.97	0.24	-4.04	<.01	0.38	(0.24, 0.61)
SSDI	-0.85	0.22	-3.77	<.01	0.43	(0.28, 0.67)
SSI	-0.81	0.25	-3.23	<.01	0.44	(0.27, 0.73)
Days of illness or injury	0.00	0.00	0.49	.62	1.00	(1.00, 1.00)
Private coverage	0.43	0.22	1.92	.06	1.53	(0.99, 2.36)
Public coverage	0.12	0.22	0.57	.57	1.13	(0.74, 1.73)
Food assistance	-1.44	0.44	-3.27	<.01	0.24	(0.10, 0.56)
Housing assistance	0.06	0.44	0.14	.89	1.06	(0.44, 2.55)
Family in poverty	0.17	0.21	0.81	.42	1.19	(0.79, 1.79)

Note. SE = standard error. CI = confidence interval. HS = high school. AA = associate degree. BS = Bachelor's degree. OLF= out of the labor force.