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## IN THIS ISSUE:

- ▶ **Female Veterans: Socioeconomic Characteristics and Disability Patterns Among Social Security Beneficiaries**
- ▶ **Occupational Requirements and Worker Physical and Mental Health Functioning: How Measuring Workplace Accommodation Use May Inform Disability Policy**

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# SOCIAL SECURITY BULLETIN

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## Article

**1 Female Veterans: Socioeconomic Characteristics and Disability Patterns Among Social Security Beneficiaries**

*by Christopher R. Tamborini and Patrick J. Purcell*

Using data collected by the Census Bureau in its American Community Survey during the period 2015–2019, the authors examine the socioeconomic and demographic characteristics of female veterans, focusing on those who receive Social Security income. They first compare key demographic and economic traits of female veterans with those of female nonveterans and male veterans. Then they present results for female veteran beneficiaries, female nonveteran beneficiaries, and male veteran beneficiaries.

## Perspectives

**17 Occupational Requirements and Worker Physical and Mental Health Functioning: How Measuring Workplace Accommodation Use May Inform Disability Policy**

*by Megan Henly, Debra L. Brucker, and Andrew J. Houtenville*

Workplace accommodations may enable Social Security Disability Insurance beneficiaries and other workers with disabilities to maintain or return to work, but the extent to which accommodations keep those workers employed is unknown because of limited data availability. In this article, the authors outline a method of measuring and analyzing the interrelationship between workplace accommodations, worker functional ability, and a job's functional requirements. They also present survey-based descriptive statistics using those measures for three specific occupations (cashiers, nurses, and receptionists) to assess whether individuals with functional limitations might be able to work if appropriate accommodations are provided.



# FEMALE VETERANS: SOCIOECONOMIC CHARACTERISTICS AND DISABILITY PATTERNS AMONG SOCIAL SECURITY BENEFICIARIES

by Christopher R. Tamborini and Patrick J. Purcell\*

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*In 2020, approximately 2 million women were veterans of military service. Female veterans constitute a growing proportion of Social Security beneficiaries. Using American Community Survey data for the period 2015–2019, we present a detailed study of the socioeconomic characteristics of female veterans, focusing on Social Security beneficiaries. We assess and compare the employment, earnings, income, and disability status of female veterans, female nonveterans, and male veterans. Female veterans were more likely than female nonveterans to have a college degree and, among those employed, to have higher median earnings. Female veterans younger than 62 were more likely than female nonveterans to be Social Security beneficiaries. Among all female beneficiaries, veterans were more likely than nonveterans to report having one or more functional limitations. More than half of female veteran beneficiaries aged 25–54 reported having a service-connected disability.*

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## Introduction

Female veterans constitute a growing share of the Social Security beneficiary population. This growth results from the rising number of women who have served in the armed forces over the last several decades. There were 19.5 million veterans of active-duty military service in 2020 (Department of Veterans Affairs [VA] 2020b). Of this number, approximately 2 million—just over 10 percent—were women (VA 2020a). The VA projects that women will constitute 16.3 percent of veterans by 2042 (VA 2017).

As the female share of veterans increases, it becomes more important for policymakers to understand how they are served by the nation’s social insurance programs. One needed step is to clarify the socioeconomic and demographic characteristics of female veterans who receive Social Security income.<sup>1</sup> However, few studies have focused on female veterans, and fewer still have looked at those who are Social Security beneficiaries (Tamborini, Purcell, and Olsen 2016). To address this research gap, we present a detailed study of female veterans’ life circumstances,

focusing on the socioeconomic characteristics and disability patterns of Social Security beneficiaries.

We examine female veterans aged 25 or older using a large, nationally representative dataset collected annually by the Census Bureau in its American Community Survey (ACS). We use ACS results for the 5-year period 2015–2019. The analysis assesses a range of characteristics including employment, earnings, income, and disability status, while examining differences in these characteristics across two comparison groups—female nonveteran beneficiaries and male veteran beneficiaries.

### Selected Abbreviations

ACS	American Community Survey
CPS	Current Population Survey
DI	Disability Insurance
FRA	full retirement age
SSA	Social Security Administration
VA	Department of Veterans Affairs

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## **Background**

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We position our analysis of female veteran beneficiaries within a broader body of research that has demonstrated important differences between veterans and nonveterans (London and Wilmoth 2016; Tamborini, Purcell, and Olsen 2016; Teachman 2004; Wilmoth and London 2011). Prior research described the demographic and economic characteristics of veterans who receive Social Security benefits (Olsen 2006; Olsen and O’Leary 2011) and examined trends in the socioeconomic characteristics of male veterans aged 55 or older (Tamborini, Purcell, and Olsen 2019) based on data from the Current Population Survey (CPS). This article focuses on recent cohorts of female veterans, using data for 2015–2019 from the ACS.

The literature on female veterans’ socioeconomic and demographic characteristics is limited, and to our knowledge, no study has focused systematically on female veterans who receive Social Security income. To date, the relatively small share of female veterans in the overall population has made sufficient survey sample sizes difficult to obtain. In recent years, however, researchers have used large, nationally representative surveys such as the ACS (or pooled years of the CPS), which provide sufficient samples for analyzing smaller groups such as female veterans. In addition, several studies have employed unique audit surveys of prospective employers to gauge the effect of military experience on hiring patterns (for example, Kleykamp 2010).

Below, we summarize some of the main findings of the existing literature examining a range of aspects important to understanding the life circumstances of female veterans. Important characteristics include labor market outcomes, such as employment and earnings, and disability status.

### **Labor Market Outcomes**

Labor market outcomes are an important indicator of female veterans’ resources. Existing analyses mainly focus on female veterans overall, but they are informative for this study’s focus on female veteran beneficiaries. Research on female veterans’ employment patterns has shown mixed results. Some research shows little difference between veterans and nonveterans in women’s employment (VA 2017; Gumber and Vespa 2020), but other research shows that female veterans are more likely than female nonveterans to be employed full time and work year-round, even when controlling for a variety of

demographic characteristics (Lofquist 2017; Prokos and Cabage 2017; Vespa 2020). Other research, such as Kleykamp (2010), using data from an audit study of employer responses to employment applications, has found that employers were more likely to hire female veterans than equally qualified female nonveterans, for both White and Black applicants.

Female veterans’ earnings are also of interest. Recent research has found that women’s earnings are higher among veterans than nonveterans (Lofquist 2017; Vespa 2020). Using data from the 2008–2010 ACS, Padavic and Prokos (2017) estimated that female veterans earned about 8 percent more than female nonveterans.

The literature addresses the extent to which the positive association between earnings and veteran status among women is attributable to their educational attainment, occupation, and/or industry of employment rather than to their veteran status in itself. Much of the association is driven by occupation. Gumber and Vespa (2020) found that female veterans who had served after September 11, 2001, had higher median annual earnings than nonveteran women, mainly because veteran women were more likely to work in male-dominated occupations that have higher earnings. Makridis and Hirsch (2021), analyzing data from the CPS for 2005–2018, found that mean earnings of female veterans and nonveterans were roughly equivalent once controls were introduced for demographic characteristics, industry, and occupation. Research also shows substantial within-group variation in veterans’ earnings (Vick and Fontanella 2017; Renna and Weinstein 2019).

### **Disability Status**

Disability and health limitations can be problematic for veterans. Medical researchers have conducted studies to examine a range of aspects related to female veterans’ health (Runnals and others 2014; Sairsingh and others 2018). For this study, we look at research examining female veterans’ disability statuses using nationally representative data. Recent work in this strand analyzes data collected from the ACS, including two sets of questions related to disability. One set asked survey respondents about functional disabilities and difficulties with self-care and independent living.<sup>2</sup> We refer to these as ACS-defined disabilities. A second set asked veterans specifically about VA-certified service-connected disabilities.<sup>3</sup> These disabilities refer to a health condition resulting from military service and are assigned a rating, in 10-percent increments



from 0 to 100 percent, based on the Veterans Affairs Schedule for Rating Disabilities (VASRD).

Recent evidence shows that for ACS-defined disabilities, there is a higher prevalence of health limitations among female veterans than for their nonveteran counterparts (Gumber and Vespa 2020). Widespread prevalence of service-connected disabilities also has been found among female veterans. Using the 2018 ACS, Vespa (2020) found that after accounting for period of service and demographic and social characteristics, female veterans were significantly more likely than male veterans to report a VA disability rating of 70 percent or higher.

Not all veterans with an ACS-defined disability also have a service-connected disability, nor do all those with a service-connected disability also have an ACS-defined disability. For instance, Holder (2016) analyzed 2014 ACS data and found that 28.8 percent of veterans reported having an ACS-defined disability and 19.6 percent reported having a service-connected disability. Prokos and Cabage (2017), using 2008–2010 ACS data, found that among female veterans aged 18–55, about 20 percent had a service-connected disability, but only 4.4 percent reported both a service-connected disability and an ACS-defined disability.<sup>4</sup>

Participation in the Social Security Disability Insurance (DI) program is also relevant to understanding veterans' lives. Although both the VA and the Social Security Administration (SSA) operate programs that provide income for qualifying individuals, the programs serve different purposes and use different definitions of disability. A veteran who qualifies for VA compensation for a service-connected disability might not qualify for DI benefits because the "VA maintains a disability compensation program, while SSA maintains an income replacement program" (Muller, Early, and Ronca 2014). Using administrative data from both the VA and SSA to examine allowance rates for DI benefits among veterans with a service-connected disability, Muller, Early, and Ronca found that after all appeals, cumulative DI allowance rates were 73.4 percent for veterans with VA ratings of 100 percent, compared with 58.7 percent for all DI applicants. Using 2008 data from the Survey of Income and Program Participation, Wilmoth, London, and Heflin (2015) found that 13.2 percent of veterans received VA compensation only and 6.7 percent received only DI benefits. Only 3.6 percent of veterans received both VA compensation and DI benefits.

## **Data and Methods**

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We examine the demographic and socioeconomic characteristics of female veterans receiving Social Security benefits, using data from the 2015–2019 iterations of the ACS, available as a database from the University of Minnesota's Integrated Public Use Microdata Series (IPUMS).<sup>5</sup> Administered by the Census Bureau, the ACS collects data on the demographic, economic, and housing characteristics of the resident U.S. population in an annual nationwide survey of more than 3 million household addresses. The ACS sample includes persons living in households and those living in group quarters such as nursing homes, college dormitories, and group homes. The population under study in this article includes only persons living in households; that is, it excludes people who live in group quarters or institutions.

We used the 5-year combined ACS sample for 2015–2019, rather than an individual survey year, to increase the sample size of female veteran beneficiaries. Our analysis sample comprises persons aged 25 or older in the survey year. Respondents are grouped as veterans or nonveterans using ACS questions that ask if they ever served on active duty in the military and when they served. To identify Social Security beneficiaries, we looked at whether they reported receiving their own Social Security benefit. Because the ACS does not ask respondents the reason for receiving Social Security benefits, we cannot differentiate between disability and retirement benefits. We can infer, however, that most beneficiaries younger than 62 would be DI beneficiaries, given their age.<sup>6</sup>

To account for age effects, we split the analysis sample into three age groups (25–54, 55–61, and 62 or older). Our final analytic sample of the Social Security beneficiary population consists of 21,285 female veteran beneficiaries aged 25 or older. For comparative purposes, we present analogous estimates for female nonveteran beneficiaries ( $n = 1,624,286$ ) and male veteran beneficiaries ( $n = 525,811$ ).

We use descriptive statistics to document the demographic and socioeconomic characteristics of female veterans who receive Social Security benefits. The analysis does not attempt to account for the differences in characteristics across study groups that might explain the outcomes. For example, we do not explore how female veterans' higher educational attainment can explain why they have higher median earnings than female nonveterans. Likewise, we do not address

the causal effect of military service on outcomes such as income or earnings.

We look at a number of key variables that highlight the life circumstances of female veteran beneficiaries. First, we present demographic and socioeconomic profiles of female veterans overall, female veteran beneficiaries, and the comparison groups. Key characteristics include educational attainment, race/ethnicity, marital status, and period of service.

We also examine differences in economic resources across the examined groups by measuring employment, individual earnings, family income, and poverty status. To account for economies of scale as family size increases, we use income equivalence scaling for family income measures.<sup>7</sup>

We look specifically at female veteran Social Security beneficiaries, determining their Social Security income at selected key percentiles and how much they rely on it for family income. We also assess the share of female veteran beneficiaries receiving 50 percent or more and 90 percent or more of their family income from Social Security. We compare these income measures to those for female nonveteran beneficiaries and male veteran beneficiaries.

We also document the disability patterns of veteran Social Security beneficiaries by exploring two measures. First, we examine ACS-defined disabilities by looking at self-assessed disability based on six ACS questions. These questions were designed to identify people who have any of the six following functional limitations that can interfere with their capacity for independent living and self-care:

- Hearing difficulty—deafness or serious difficulty hearing
- Vision difficulty—blindness or serious difficulty seeing, even when wearing glasses
- Cognitive difficulty—difficulty remembering, concentrating, or making decisions
- Ambulatory difficulty—serious difficulty walking or climbing stairs
- Self-care difficulty—difficulty bathing or dressing
- Independent living difficulty—difficulty doing errands alone, such as visiting a doctor’s office

Second, we assess service-connected disability among veteran beneficiaries and the severity rating of any such disability. The ACS asks all veterans of active-duty service in the armed forces if they have a service-connected disability determined by the VA

or Department of Defense.<sup>8</sup> If they answer “yes,” a follow-up question asks for the respondent’s disability rating. Ratings are grouped into one of the five following categories:

- 0 percent
- 10 percent or 20 percent
- 30 percent or 40 percent
- 50 percent or 60 percent
- 70 percent or higher

As previously noted, some individuals who receive VA compensation or DI benefits—or even both—might not report a functional disability on the ACS. Likewise, many people who have a functional disability are able to work and do not have a service-connected disability, so they do not receive DI benefits or VA compensation. There is no single definition of disability that applies to all people in all situations. Even if it is defined as objectively as possible, disability is typically measured *relative* to a function (such as hearing or memory) or to an activity (such as employment or housekeeping), rather than as an absolute and quantifiable metric (Couch, Tamborini, and Reznik 2015).

All estimates presented below are weighted using the ACS sample weights. After weighting, the sample represents 358,000 female veteran Social Security beneficiaries, 27.8 million female nonveteran beneficiaries, and 8.5 million male veteran beneficiaries. All dollar amounts have been indexed to 2019 values using the Consumer Price Index. Note that survey data are subject to sampling and nonsampling error. Sampling error occurs if the sample selection and sample weighting do not accurately represent the population. Nonsampling errors are errors in the collection and processing of survey data.<sup>9</sup>

## Results

In the following tables, we derive average annual estimates for the 5-year period 2015–2019 based on ACS data. Each table compares female veterans with female nonveterans and male veterans. Each of those three groups is in turn subdivided into three age groups: 25–54, 55–61, and 62 or older.

### All Female Veterans

Table 1 shows selected socioeconomic and demographic characteristics for female veterans and the comparison groups. Below, we summarize the results for each socioeconomic and demographic category.



**Table 1.**  
**Characteristics of female veterans and nonveterans and male veterans, by age, average annual estimates for 2015–2019**

Characteristic	Female veterans			Female nonveterans			Male veterans		
	25–54	55–61	62 or older	25–54	55–61	62 or older	25–54	55–61	62 or older
Number (thousands)	879	274	396	62,789	15,097	32,991	4,642	1,899	9,458
Percent	56.8	17.7	25.6	56.6	13.6	29.8	29.0	11.9	59.1
Education (%)									
Did not finish high school	1.9	2.4	5.1	9.5	10.7	15.1	2.2	5.0	8.1
High school graduate	12.8	18.6	25.0	21.8	28.4	33.2	24.6	31.9	30.4
Some college	44.7	43.6	36.5	30.8	31.7	27.1	45.3	39.3	32.4
College graduate	40.5	35.3	33.4	37.9	29.2	24.6	27.9	23.9	29.2
Race/ethnicity (%)									
White (non-Hispanic)	59.0	68.7	78.4	58.1	69.1	75.0	69.2	71.9	84.9
Black (non-Hispanic)	22.1	20.3	12.0	13.2	11.9	9.9	14.1	16.7	7.8
Hispanic (any race)	11.3	5.8	5.1	18.6	11.7	8.8	11.0	7.0	4.3
Asian	3.0	1.8	1.9	7.2	5.3	4.8	2.4	1.6	1.4
Other <sup>a</sup>	4.6	3.5	2.5	2.9	2.0	1.5	3.5	2.8	1.6
Marital status (%)									
Married	53.9	52.2	45.8	56.0	61.3	48.6	60.9	64.0	69.3
Divorced or separated	26.4	31.0	23.9	14.8	22.4	17.5	19.7	23.6	14.0
Widowed	1.4	6.0	21.3	1.2	6.3	28.2	0.8	2.7	12.4
Never married	18.2	10.8	9.0	28.0	10.0	5.7	18.6	9.7	4.4
Employment status (%)									
Employed	73.3	61.8	21.1	73.8	63.3	20.2	83.4	68.5	19.5
Unemployed	3.8	2.4	1.0	3.6	2.2	0.6	3.7	3.0	0.7
Not in the labor force	23.0	35.8	77.8	22.6	34.5	79.1	12.9	28.5	79.8
Median earnings of employed persons (2019 \$)	40,000	42,000	35,000	35,000	37,000	28,000	53,000	55,000	37,800
Median scaled family income <sup>b</sup> (2019 \$)	45,000	50,700	38,749	40,305	47,285	35,400	48,500	49,600	41,050
Income below poverty line (%)	9.3	8.8	8.7	13.3	11.0	10.6	6.3	9.7	5.6
Most recent active duty <sup>c</sup> (%)									
September 2001 or later	55.3	11.4	3.1	...	...	...	51.7	10.9	0.9
August 1990–August 2001	32.0	20.1	8.3	...	...	...	32.2	16.0	3.3
May 1975–July 1990	12.7	62.7	21.7	...	...	...	16.0	62.5	8.6
August 1964–April 1975	...	5.9	38.6	...	...	...	...	10.6	53.1
February 1955–July 1964	...	...	13.2	...	...	...	...	...	16.6
June 1950–January 1955	...	...	8.5	...	...	...	...	...	11.5
Before June 1950	...	...	6.6	...	...	...	...	...	6.0
Number of observations, unweighted	40,611	15,618	23,959	2,860,757	836,029	1,939,300	215,386	104,606	588,362

SOURCE: Authors' calculations using ACS.

NOTES: Estimates are weighted using ACS sample weights.

Rounded components of percentage distributions do not necessarily sum to 100.0.

... = not applicable.

a. Consists primarily of respondents identifying as multiracial or American Indian/Alaska Native.

b. Calculated by dividing total family income by the square root of the number of persons in the family.

c. Includes periods of active-duty service in the National Guard and Reserve forces.

**Age.** The age structure of a population has substantive consequences for outcomes including income. Among both veteran and nonveteran women, almost 57 percent were aged 25–54 but the age distribution differed slightly among older women. Specifically, slightly more female veterans were aged 55–61, while slightly more female nonveterans were aged 62 or older.

By contrast, female veterans' age distribution was substantively different from male veterans', with women much more likely than men to be in the younger age groups. This pattern reflects the growth in the share of women in the armed forces among younger cohorts. For instance, only 29.0 percent of male veterans in the sample were aged 25–54 years old and 59.1 percent were aged 62 or older. Among female veterans, 56.8 percent were aged 25–54 and only 25.6 percent were aged 62 or older. Olsen and O'Leary (2011) noted that the increasing numbers of women serving in the military may be related to recruitment efforts targeted toward women, in addition to changes in labor market opportunities.

**Education.** Female veterans' educational attainment is comparatively high across all three age groups. Most notably, female veterans were more likely to have graduated from college. In the period 2015–2019, 40.5 percent of female veterans aged 25–54 had a college degree, compared with 37.9 percent of female nonveterans and 27.9 percent of male veterans. Because the armed forces generally require recruits to have earned a high school diploma or its equivalent, high school noncompletion rates were substantially lower for male and female veterans than for nonveterans.

**Race/ethnicity.** Table 1 indicates that the racial/ethnic composition of female veterans and nonveterans differed in substantive ways. A higher share of female veterans self-identified as non-Hispanic Black, particularly among women aged 25–54. By contrast, fewer veterans self-identified as Hispanic or Asian. Female veterans were more likely to self-identify as non-Hispanic Black and less likely to report non-Hispanic White ethnicity than male veterans in the same age range. Among veterans aged 25–54, 22.1 percent of women identified as non-Hispanic Black, compared with 14.1 percent of men. Roughly similar proportions of both male and female veterans were of Hispanic origin.

**Marital status.** The marital status of female veterans differed from female nonveterans in significant ways. Female veterans were less likely to be married and more likely to be divorced or separated.

Among women aged 25–54, veterans were less likely than nonveterans to have never married. Compared with male veterans, fewer female veterans were married, and more were divorced or separated.

**Employment status.** Employment rates among women differed little by veteran status. Among women aged 25–54, 73.3 percent of veterans and 73.8 percent of nonveterans were employed, while 61.8 percent of veterans and 63.3 percent of nonveterans aged 55–61 were employed. Compared with male veterans, female veterans and nonveterans younger than 62 were less likely to be employed and more likely not to be in the labor force, probably because women take time off from paid employment to care for children or other dependents more often than men do. Female veterans and nonveterans aged 62 or older were slightly more likely than male veterans in that age group to be employed.

**Earnings and income.** In all three age groups, employed female veterans had substantially higher median annual earnings than their nonveteran counterparts.<sup>10</sup> For instance, female veterans aged 25–54 had median annual earnings of \$40,000, compared with \$35,000 for female nonveterans of the same ages. Employed male veterans aged 25–54 had median annual earnings of \$53,000.

Median family income (adjusted for family size) followed a similar pattern. Female veterans aged 25–54 had a median scaled family income about 10 percent higher than nonveterans of the same age (\$45,000 and \$40,305, respectively).<sup>11</sup> Veteran men aged 25–54 had a median scaled family income of \$48,500.

**Poverty status.** Female veterans were less likely than female nonveterans to have family incomes below the federal poverty threshold. Among women aged 25–54, 9.3 percent of veterans and 13.3 percent of nonveterans were in poverty. The poverty rate was about 9 percent among female veterans aged 55–61 and those aged 62 or older, while among female nonveterans in both age groups, it was about 11 percent. Compared with male veterans of the same ages, the poverty rates among female veterans younger than 55, and those aged 62 or older, were about 3 percentage points higher; but among veterans aged 55–61, the poverty rate was slightly lower for women.

**Most recent military service.** Compared with male veterans, female veterans aged 25–54 were more likely to have served most recently after September 2001. Those aged 55–61 were more likely

to have served most recently after August 1990, and those aged 62 or older were more likely to have served most recently after May 1975.

### **Female Veterans Who Are Social Security Beneficiaries**

Table 2 repeats Table 1 for female veterans, female nonveterans, and male veterans who are Social Security beneficiaries.

**Age.** In the period 2015–2019, an estimated annual average of 358,000 female veterans aged 25 or older received Social Security benefits, of whom 83.5 percent were aged 62 or older. Of an estimated annual average of 27.8 million female nonveteran beneficiaries, 90.2 percent were aged 62 or older. Of an estimated annual average of 8.5 million male veteran beneficiaries, 95.9 percent were aged 62 or older.

The ACS does not ask respondents why they received Social Security benefits, but administrative data from SSA show that, in general, most beneficiaries younger than 62 receive benefits because of a disability. In December 2020, 6.3 million adults aged 18–61 received Social Security benefits, and 5.9 million of those beneficiaries—93.3 percent—were disabled workers. Among the 3.3 million adult female beneficiaries younger than 62, 88.4 percent were disabled workers, and of 3.0 million adult male beneficiaries younger than 62, 98.8 percent were disabled workers (SSA 2021, Table 5.A16).

**Education.** Female veteran beneficiaries had the highest educational attainment of the beneficiary groups examined; for example, they were more likely than female nonveteran beneficiaries to have earned a 4-year college degree. Female veteran beneficiaries also had higher percentages of college graduates than male veteran beneficiaries for the two age groups younger than 62. The college graduation rates were similar among female and male veteran beneficiaries aged 62 or older.

**Race/ethnicity.** A striking difference between the beneficiary groups is their racial/ethnic compositions. Female veteran beneficiaries younger than 62 were more likely to self-identify as non-Hispanic Black and less likely to self-identify as Hispanic and non-Hispanic White than female nonveteran beneficiaries. Compared with male veteran beneficiaries, female veteran beneficiaries in all three age groups were less likely to identify themselves as non-Hispanic White and more likely to report being non-Hispanic Black.

**Marital status.** Female veteran beneficiaries aged 25–54 were more likely to be married than their nonveteran counterparts, but they also were more likely to be divorced or separated. Among female beneficiaries aged 55–61 and those aged 62 or older, the proportions of currently married veteran and nonveteran beneficiaries were roughly similar, but veteran beneficiaries were more likely to be divorced than nonveteran beneficiaries. Compared with male veteran beneficiaries, female veteran beneficiaries in all three age groups were substantially less likely to be married and were more likely to be either divorced or widowed.

**Employment status.** Social Security benefits insure workers and dependents against the loss of earnings because of disability, retirement, or death. Because most beneficiaries have retired, have a disability, or are dependent children, the employment rates shown in Table 2 are substantially lower than the employment rates shown in Table 1, which includes nonbeneficiaries. In all three age groups in all three beneficiary groups, employment rates were lower than 20 percent.

Female veteran beneficiaries younger than 62 were slightly less likely to be employed than their nonveteran counterparts. Among those aged 62 or older, the employment rates of female veteran and nonveteran beneficiaries were nearly the same. Employment rates differed relatively little between female and male veteran beneficiaries. All beneficiaries in all three age groups were much more likely not to be in the labor force than they were to be either employed or unemployed.

**Earnings and income.** SSA pays DI benefits to insured workers who are unable to work or who have a terminal medical condition. In general, beneficiaries whose earnings over a period of several months exceed specified amounts are no longer eligible to receive DI benefits. Similarly, federal law requires Social Security retired-worker benefits to be reduced if a beneficiary who is younger than the full retirement age (FRA) has annual earnings above specified amounts.<sup>12</sup> Because of these limitations, the median earnings of Social Security beneficiaries shown in Table 2 are substantially lower than those shown in Table 1.

In all three age groups, the median earnings of female veteran beneficiaries exceeded the median earnings of female nonveteran beneficiaries. Female veteran beneficiaries aged 25–54 who worked had median earnings of \$18,000, compared with \$14,300 for female nonveteran beneficiaries. Among beneficiaries aged 62 or older, female veterans had modestly

**Table 2.**  
**Characteristics of Social Security beneficiaries: Female veterans and nonveterans and male veterans, by age, average annual estimates for 2015–2019**

Characteristic	Female veterans			Female nonveterans			Male veterans		
	25–54	55–61	62 or older	25–54	55–61	62 or older	25–54	55–61	62 or older
Number (thousands)	30	29	299	1,533	1,189	25,055	156	194	8,115
Percent	8.4	8.1	83.5	5.5	4.3	90.2	1.8	2.3	95.9
Education (%)									
Did not finish high school	3.3	3.5	5.2	18.3	17.6	14.9	4.5	8.6	8.3
High school graduate	19.1	24.0	27.1	35.3	35.6	35.6	32.4	38.8	30.9
Some college	52.5	51.5	37.1	33.1	33.8	27.6	48.4	41.2	32.0
College graduate	25.0	21.0	30.6	13.3	13.0	21.9	14.7	11.4	28.8
Race/ethnicity (%)									
White (non-Hispanic)	57.1	62.1	80.5	62.0	66.1	77.8	67.1	67.3	86.1
Black (non-Hispanic)	29.0	27.2	10.9	19.7	18.8	9.5	18.2	21.0	7.2
Hispanic (any race)	7.2	5.0	4.6	12.3	10.2	7.6	9.5	7.2	4.0
Asian	1.7	1.4	1.6	2.2	1.8	3.6	1.3	0.8	1.2
Other <sup>a</sup>	4.9	4.2	2.5	3.7	3.1	1.5	4.0	3.7	1.5
Marital status (%)									
Married	39.9	38.5	44.8	31.0	37.5	46.7	50.1	49.3	69.5
Divorced or separated	36.1	34.6	22.5	25.6	30.8	16.8	28.8	32.2	13.4
Widowed	6.5	11.7	24.4	7.8	16.8	31.7	3.1	5.3	13.1
Never married	17.6	15.3	8.3	35.7	14.9	4.9	18.0	13.2	3.9
Employment status (%)									
Employed	14.5	7.5	12.5	18.5	9.9	12.6	11.8	7.5	14.7
Unemployed	1.7	1.6	0.9	3.2	1.2	0.5	2.7	1.4	0.6
Not in the labor force	83.8	90.9	86.6	78.3	88.9	86.9	85.5	91.2	84.7
Median earnings of employed persons (2019 \$)	18,000	16,000	18,500	14,300	13,000	16,500	27,000	18,000	25,000
Median scaled family income <sup>b</sup> (2019 \$)	33,163	30,830	36,699	19,658	22,000	33,500	30,335	26,000	40,305
Income below poverty line (%)	16.7	16.7	7.3	29.9	24.8	9.2	16.2	17.9	4.4
Most recent active duty <sup>c</sup> (%)									
September 2001 or later	36.6	9.1	2.6	...	...	...	39.9	6.1	0.6
August 1990–August 2001	37.9	18.6	7.0	...	...	...	32.4	12.2	2.7
May 1975–July 1990	25.5	62.1	17.2	...	...	...	27.7	63.8	7.0
August 1964–April 1975	...	10.2	39.9	...	...	...	...	17.9	52.5
February 1955–July 1964	...	...	15.7	...	...	...	...	...	18.3
June 1950–January 1955	...	...	9.9	...	...	...	...	...	12.4
Before June 1950	...	...	7.9	...	...	...	...	...	6.5
Number of observations, unweighted	1,431	1,601	18,253	69,505	62,611	1,492,170	7,285	10,450	508,076

SOURCE: Authors' calculations using ACS.

NOTES: Estimates are weighted using ACS sample weights.

Rounded components of percentage distributions do not necessarily sum to 100.0.

... = not applicable.

a. Consists primarily of respondents identifying as multiracial or American Indian/Alaska Native.

b. Calculated by dividing total family income by the square root of the number of persons in the family.

c. Includes periods of active-duty service in the National Guard and Reserve forces.

higher median annual earnings (\$18,500) than female nonveterans (\$16,500). Male veteran beneficiaries had higher median earnings than female veteran beneficiaries in all three age groups.

Estimates of scaled family income, which adjusts for family size and economies of scale, followed a different pattern. Among Social Security beneficiaries younger than 62, female veterans had higher family income than either nonveteran women or veteran men. Among beneficiaries aged 62 or older, male veterans had the highest scaled median family income. Nonveteran women had the lowest scaled median family income in all three age groups.

**Poverty status.** There are important differences in poverty status across the three beneficiary groups. Female veteran beneficiaries were less likely than female nonveteran beneficiaries to have family income below the federal poverty threshold. For example, among nonveteran beneficiaries, 29.9 percent of those aged 25–54 and 24.8 percent of those aged 55–61 were in poverty, compared with 16.7 percent of female veteran beneficiaries in both age groups. Among female beneficiaries aged 62 or older, 7.3 percent of veterans and 9.2 percent of nonveterans had family

income below the poverty threshold. By contrast, the poverty rates of male and female veteran beneficiaries younger than 62 differed relatively little. Male veteran beneficiaries aged 62 or older had a lower poverty rate than both veteran and nonveteran female beneficiaries.

**Most recent military service.** Compared with men, female veteran beneficiaries aged 25–54 were less likely to have served most recently after 2001, and were more likely to have served most recently during 1990–2001. Female veteran beneficiaries aged 62 or older were more likely than men to have served most recently after May 1975 (26.8 percent versus 10.3 percent)—a period of service roughly coinciding with the beginning of the all-volunteer military in 1973.

### Reliance on Social Security Benefits

Table 3 shows Social Security benefits at the 75<sup>th</sup>, 50<sup>th</sup>, and 25<sup>th</sup> percentiles for veteran and nonveteran women and veteran men by age.

Because Social Security was not designed to provide benefits that replace a worker’s entire earnings, the median benefit amounts displayed in Table 3 are substantially lower than the median earnings shown in Table 1. For example, the median annual Social

**Table 3.**  
**Measures of Social Security income of female veteran and nonveteran beneficiaries and male veteran beneficiaries, by age: Average annual estimates for 2015–2019**

Measures	Female veterans			Female nonveterans			Male veterans		
	25–54	55–61	62 or older	25–54	55–61	62 or older	25–54	55–61	62 or older
Number (thousands)	30	29	299	1,533	1,189	25,055	156	194	8,115
Annual individual Social Security income <sup>a</sup> (2019 \$)									
75th percentile	15,900	16,500	17,800	12,800	14,800	16,600	16,900	19,100	21,600
Median	12,000	12,500	12,900	9,400	10,800	12,000	12,600	14,000	17,000
25th percentile	8,400	8,800	8,700	6,000	7,300	8,400	8,800	10,000	12,000
Median percentage of family income from Social Security <sup>b</sup>	29.4	35.9	40.5	43.1	50.2	47.0	32.3	47.4	42.8
Percentage of beneficiaries receiving—									
50% or more of family income from Social Security <sup>b</sup>	30.9	39.7	40.2	44.9	50.6	47.1	34.7	48.2	41.8
90% or more of family income from Social Security <sup>b</sup>	14.1	20.8	15.7	23.9	28.3	20.0	18.2	27.3	14.6

SOURCE: Authors' calculations using ACS.

NOTE: Estimates are weighted using ACS sample weights.

a. Annual individual Social Security benefit received by disabled worker, retired worker, spouse, and survivor beneficiaries.

b. Social Security benefits received by all family members as a percentage of total family income.



Security benefit received by female veteran beneficiaries aged 25–54 over the period 2015–2019 was \$12,000. This was equal to 30 percent of the median annual earnings of all female veterans aged 25–54 with earned income during that period. Most of the beneficiaries in this age range were receiving DI benefits.

Comparisons across the three beneficiary groups show substantial differences. Among female beneficiaries, veterans had higher benefit levels. For example, female veteran beneficiaries aged 62 or older had a median annual Social Security benefit of \$12,900, compared with \$12,000 among nonveterans of the same ages. This was, however, less than the \$17,000 median benefit among male veteran beneficiaries in the same age range.

The estimates for the 75<sup>th</sup> percentile show that one-fourth of female veteran beneficiaries aged 62 or older received annual Social Security benefits of \$17,800 or more. The 25<sup>th</sup> percentile estimate, by contrast, reveals that one-fourth of female veteran beneficiaries in all three age groups received benefits of \$8,800 or less. The percentile thresholds are lower still for female nonveteran beneficiaries: One-fourth of those aged 62 or older received benefits of \$16,600 or more and one-fourth received benefits of \$8,400 or less. Annual Social Security income of male veteran beneficiaries aged 62 or older was \$21,600 at the 75<sup>th</sup> percentile and \$12,000 at the 25<sup>th</sup> percentile.

Family reliance on Social Security income is a key socioeconomic indicator. Because this measure accounts for the income of all family members, it is influenced by variables including the respondent’s marital status and family size. Many Social Security beneficiaries have other sources of income or live with family members who have income. Our estimates, like any survey-based estimates, are also subject to possible measurement error in income reporting. Insofar as pension income is underreported in surveys (Dushi and Trenkamp 2021; Tamborini and Kim 2020), the true mean reliance on Social Security income among persons aged 62 or older might be somewhat lower than what is presented here. Comparisons with tax returns and administrative program data confirm that household survey participants tend to underreport the income they receive from most sources. Respondents report their earnings and Social Security income more accurately than their income from interest, dividends, rent, pensions, and means-tested income support programs (Dushi and Trenkamp 2021; Kim and Tamborini 2014).

Table 3 shows differences in Social Security income reliance across the groups. The median percentage of family income represented by the Social Security benefits received by all family members ranged from a low of 29.4 percent among female veteran beneficiaries aged 25–54 to a high of 50.2 percent among female nonveteran beneficiaries aged 55–61. In all three age groups, the median share of family income provided by Social Security was comparatively lower for female veteran beneficiaries than for the other two beneficiary groups. The median share of family income from Social Security was highest among female nonveteran beneficiaries.

Overall, a substantial proportion of beneficiaries received at least half of their total family income from Social Security. This proportion ranged from a low of 30.9 percent among female veterans aged 25–54 to a high of 50.6 percent among female nonveterans aged 55–61. In all three age groups, female veterans were less likely than female nonveterans or male veterans to receive half or more of their family income from Social Security. Some beneficiaries received 90 percent or more of their family income from Social Security. This proportion ranged from a low of 14.1 percent among female veterans aged 25–54 to a high of 28.3 percent among female nonveterans aged 55–61. Among male veteran beneficiaries, the proportion who received 90 percent or more of family income from Social Security ranged from 14.6 percent among those aged 62 or older to 27.3 percent among those aged 55–61.

### ***Disability Prevalence***

Table 4 shows the prevalence of ACS-defined and service-connected disabilities of female veterans who receive Social Security income and of the two beneficiary comparison groups. As noted above, the ACS questionnaire asks all respondents, regardless of veteran status, whether they have difficulty in any of six functional limitation categories. We estimate that female veteran beneficiaries in all three age groups have a higher prevalence of having at least one ACS-defined limitation (63.5 percent among ages 25–54, 64.1 percent among ages 55–61, and 40.7 percent among ages 62 or older) than their nonveteran female counterparts. The largest gap is among women aged 62 or older (40.7 percent among veterans versus 34.0 percent among nonveterans).

Recall that about nine-tenths of adult Social Security beneficiaries younger than 62 received benefits because of a disability in 2020 (SSA 2021). Functional

**Table 4.**  
**Disability prevalence among female veteran and nonveteran Social Security beneficiaries and male veteran beneficiaries, by age: Average annual estimates for 2015–2019 (in percent)**

Characteristic	Female veterans			Female nonveterans			Male veterans		
	25–54	55–61	62 or older	25–54	55–61	62 or older	25–54	55–61	62 or older
Number (thousands)	30	29	299	1,533	1,189	25,055	156	194	8,115
ACS-defined functional limitation									
Cognitive difficulty	37.4	29.8	10.4	32.8	24.8	8.7	39.9	26.0	8.8
Ambulatory difficulty	41.1	46.1	27.9	35.4	46.5	24.1	41.3	48.6	21.7
Independent living difficulty	34.6	30.9	17.1	33.5	29.7	16.0	33.9	26.3	12.1
Self-care difficulty	18.1	15.0	9.4	16.0	16.3	8.3	18.9	16.9	7.2
Vision difficulty	7.8	10.2	7.7	9.4	9.9	6.4	8.5	9.7	6.3
Hearing difficulty	6.0	9.3	15.1	6.0	7.1	10.7	14.1	16.0	23.9
Any of these	63.5	64.1	40.7	58.3	61.0	34.0	66.6	65.8	40.5
VA service-connected disability									
0% or unknown rating	3.1	2.4	1.7	...	...	...	3.4	3.4	1.8
10% or 20% rating	5.3	3.6	4.4	...	...	...	4.1	6.7	6.2
30%, 40%, 50%, or 60% rating	5.9	6.3	5.0	...	...	...	6.0	7.7	5.3
70% rating or higher	37.7	26.7	6.2	...	...	...	37.4	17.9	7.0
Any of these	52.0	39.0	17.3	...	...	...	50.8	35.6	20.3
ACS-defined and VA service-connected disability	36.4	27.2	8.3	...	...	...	38.1	26.2	11.5

SOURCE: Authors' calculations using ACS.

NOTE: ... = not applicable.

limitations like those identified on the ACS and work-limiting disabilities that qualify an insured worker for DI benefits are often, but not always, present simultaneously. In contrast with beneficiaries younger than 62, those aged 62 or older are most often retired workers or the spouses or widows of retired workers.

The prevalence of an ACS-defined disability differed relatively little between female and male veteran beneficiaries. Among beneficiaries aged 25–54, 63.5 percent of female veterans and 66.6 percent of male veterans reported having one or more functional limitations, while among beneficiaries aged 55–61, 64.1 percent of female veterans and 65.8 percent of male veterans reported at least one functional limitation. Among beneficiaries aged 62 or older, the proportions of female veterans and male veterans who reported one or more functional limitations were nearly the same at 40.7 percent and 40.5 percent, respectively.

The ACS-defined disability rate was higher among male and female veteran beneficiaries than among female nonveteran beneficiaries. In all three groups of beneficiaries and in all three age categories, ambulatory difficulty was the most frequently reported

functional limitation. Difficulty seeing even when wearing glasses was the least frequently reported functional limitation.

Table 4 also shows the prevalence of a service-connected disability among veterans who receive Social Security income. As discussed earlier, the ACS asks all veterans if they have a VA service-connected disability rating. If they answer “yes,” they are asked to classify their disability rating into one of five categories (0 percent, 10 percent or 20 percent, 30 percent or 40 percent, 50 percent or 60 percent, or 70 percent or higher).

We estimate that the prevalence of a service-connected disability is lower than that of an ACS-defined disability among both male and female Social Security beneficiaries. This is expected because service-connected disability is more narrowly defined, requiring that the disability was “incurred or aggravated” while on duty in the armed forces and certified by the VA.<sup>13</sup> Functional limitations on the ACS, by contrast, are self-reported and may have initially occurred at any time, although most of them likely began after discharge from the armed forces.

The percentage of veteran beneficiaries who reported having a service-connected disability was substantially similar by sex across the three age groups. Among those aged 25–54, 52.0 percent of women and 50.8 percent of men had a service-connected disability. More female veterans than male veterans aged 55–61 reported having a service-connected disability,<sup>14</sup> while more men than women aged 62 or older reported having a service-connected disability. In both age groups, however, the percentages of male and female veteran beneficiaries with a service-connected disability differed by only about 3 percentage points.

Some veteran beneficiaries reported having at least one ACS-defined disability as well as a service-connected disability. Among veteran beneficiaries aged 25–54, 36.4 percent of women and 38.1 percent of men reported having both a functional limitation and a service-connected disability, while among beneficiaries aged 55–61, the proportions of men and women with both types of disability were 27.2 percent and 26.2 percent, respectively. Among veteran beneficiaries aged 62 or older, only 8.3 percent of women and 11.5 percent of men reported having both a functional limitation and a service-connected disability. The pattern of declining rates of disability by age among veteran beneficiaries is likely because of SSA's eligibility rules. As noted earlier, approximately nine-tenths of adult beneficiaries younger than 62 receive DI benefits. Beginning at age 62, workers can claim retirement benefits, which do not require a disability as a basis for eligibility.

## ***Discussion***

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As the female share of veterans continues to increase, so does the importance of understanding female veteran Social Security beneficiaries' life circumstances. VA (2017) projects that by 2042, there will be 2.2 million female veterans, who will comprise 16.3 percent of living veterans. VA also projects that the proportion of female veterans who are aged 60 or older will increase from 31 percent to 51 percent. Most of these veterans will receive Social Security benefits in later life. Increasing the information available about female veterans' employment, earnings, income, and disability prevalence will help policymakers better understand how Social Security does, and might better, serve them.

In this article, we presented evidence from the 2015–2019 iterations of the ACS to describe the socioeconomic and demographic characteristics of

female veterans, particularly those who receive Social Security income. Our analysis explored various characteristics and resources important to a person's life circumstances, including employment, earnings, income, and disability status. We also assessed the degree to which Social Security benefits contribute to family income.

We found that female veterans are more likely than female nonveterans to have a college degree. We found that rates of employment, unemployment, and labor force participation are similar among female veterans and nonveterans; but, consistent with previous research, we found that employed female veterans had higher median annual earnings than female nonveterans.

We also found evidence that Social Security is a significant component of family income for veteran beneficiaries. Yet female veteran beneficiaries rely on Social Security income somewhat less than their female nonveteran and male veteran counterparts do. Given that female veterans have higher earnings and a higher scaled median family income, it is not surprising that their median share of family income from Social Security is smaller than that of nonveterans. For example, for female veteran beneficiaries aged 25–54, the median percentage of family income received from Social Security was 29.4 percent, compared with 43.1 percent for female nonveteran beneficiaries. Similarly, among the much more numerous beneficiaries aged 62 or older, the median percentage of family income received from Social Security income was 40.5 percent for female veterans, while among female nonveteran beneficiaries and male veteran beneficiaries, the median percentages of family income from Social Security were 47.0 percent and 42.8 percent, respectively.

We also found important differences in disability patterns. Overall, female veteran beneficiaries were more likely to report having one or more functional limitations than female nonveteran beneficiaries across the three age groups. The ACS-defined functional disability rates for male veteran beneficiaries were similar to those of female veteran beneficiaries. Among veteran beneficiaries younger than 62, approximately 64 percent of women and 66 percent of men reported having one or more functional limitations, compared with about 60 percent of female nonveterans younger than 62.

We also found that a sizable percentage of female veteran beneficiaries have a service-connected disability. Slightly more than half of both the female and male veteran beneficiary populations aged 25–54

(52 percent and 51 percent, respectively) reported that they had a service-connected disability. Among those aged 55–61, the proportions dropped to 39 percent for female veterans and 36 percent for male veterans. Among beneficiaries aged 62 or older, 17 percent of female veteran beneficiaries and 20 percent of male veteran beneficiaries reported having a service-connected disability. This lower percentage for beneficiaries aged 62 or older is due to the much higher proportion of beneficiaries aged 62 or older who receive retirement benefits rather than DI benefits.

The number of veteran Social Security beneficiaries who are women is likely to increase in the near term because of broad demographic and social changes in the U.S. population. Although the projected population of 2.2 million female veterans 20 years from now will be relatively small compared to the 86 million individuals that SSA estimates will be receiving Social Security benefits at that time (Board of Trustees 2022, Tables V.C4 and V.C5), some will have special needs because of their service-connected disabilities, and all will be members of a group deserving the highest levels of attention and interest from SSA.

## Notes

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<sup>1</sup> In this article, “Social Security” is synonymous with Old-Age, Survivors, and Disability Insurance.

<sup>2</sup> ACS respondents reporting a serious difficulty in cognition, hearing, mobility, and vision, or any difficulty in self-care and independent living, are considered to have a functional disability.

<sup>3</sup> A service-connected disability is a disability, disease, or injury incurred or aggravated during active military service. This can include combat injuries such as hearing loss, physical injuries, and posttraumatic stress disorder.

<sup>4</sup> Gumber and Vespa (2020), using data from the 2014–2018 ACS, found that among female veterans whose most recent period of service occurred after September 11, 2001, 29.5 percent of those who were employed and 44.1 percent of those who were not employed reported that they had a service-connected disability. About 8 percent of those who were employed and 22.7 percent of those who were not employed reported having a functional disability. Among female nonveterans, only 4.3 percent of the employed and 16.6 percent of the nonemployed had a functional disability.

<sup>5</sup> For more information about the ACS, see <https://www.census.gov/programs-surveys/acs/about.html>. The ACS data were downloaded from IPUMS USA (<https://www.ipums.org>). The IPUMS version 11.0 dataset, which we used for this analysis, was compiled by Ruggles and others (2021).

<sup>6</sup> Some other household surveys include a question about the basis of eligibility for Social Security benefits, and administrative data from SSA also include this information. The specific work-limiting disabilities that qualify an individual for DI benefits are defined in statute and regulation and do not correlate exactly with either ACS functional disabilities or VA service-connected disabilities.

<sup>7</sup> Census Bureau (2021) defines family as a group of two persons or more (one of whom is the householder) residing together and related by birth, marriage, or adoption.

<sup>8</sup> See the questions at <https://www.census.gov/acs/www/about/why-we-ask-each-question/veterans/>.

<sup>9</sup> For more information on sampling and nonsampling error in the ACS, see <https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists.html>.

<sup>10</sup> As we describe in more detail later, income data reported by survey participants are less accurate than income data from sources such as tax returns and administrative records. However, there is no evidence that veterans report their income any more or less accurately than nonveterans, which would complicate a comparison of their incomes.

<sup>11</sup> Scaled family income is total family income divided by the square root of the number of persons in the family. This adjusts income for economies of scale that occur as family size increases. Median earnings in Table 1 were calculated only among individuals with earnings. Scaled median family income was calculated among all families with any income.

<sup>12</sup> The earliest eligibility age for retired-worker benefits is 62. Benefits claimed between age 62 and FRA are permanently reduced by actuarial adjustment factors, as specified by law. FRA is 67 for individuals born after 1959. For more information, see <https://www.ssa.gov/pressoffice/IncRetAge.html>.

<sup>13</sup> Chapter 38, § 3.1 of the Code of Federal Regulations states, “Service-connected means, with respect to disability or death, that such disability was incurred or aggravated, or that the death resulted from a disability incurred or aggravated, in line of duty in the active military, naval, or air service.”

<sup>14</sup> The only category in which rates of service-connected disability differed greatly between men and women was the proportion of beneficiaries aged 55–61 who reported having a disability rating of 70 percent or higher. Nearly 27 percent of female beneficiaries aged 55–61 reported having a disability rating of 70 percent or higher, compared with 17.9 percent of male beneficiaries in that age group. The data available from the ACS lacked the detail necessary to suggest a possible explanation for this difference.



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# OCCUPATIONAL REQUIREMENTS AND WORKER PHYSICAL AND MENTAL HEALTH FUNCTIONING: HOW MEASURING WORKPLACE ACCOMMODATION USE MAY INFORM DISABILITY POLICY

by Megan Henly, Debra L. Brucker, and Andrew J. Houtenville\*

*This study explores the role of workplace accommodations in enabling workers with disabilities to maintain or return to employment. It examines the interplay between accommodations, worker physical and mental functioning, and job requirements, focusing on workers in three occupations with relatively high proportions of Social Security Disability Insurance (DI) applicants. To test our hypothesis that the use of accommodations mitigates lower functioning, we surveyed 802 workers currently or recently employed as cashiers, receptionists, or nurses. We report the average levels of self-assessed functioning among these workers in each of four physical domains and four mental domains and compare results for respondents who use accommodations and those who do not need them. Our findings suggest that the Social Security Administration might consider how a measure of accommodation availability could provide better understanding of which occupations are primed either for worker retention or reentry after DI receipt.*

## Introduction

The disability determination process used by the Social Security Administration (SSA) to evaluate eligibility for disabled-worker benefits under its Disability Insurance (DI) program includes steps in which adjudicators compare an individual's mental and physical functioning to the occupational requirements for the individual's past job. If worker functioning and job requirements do not match, adjudicators consider whether the applicant is capable of making vocational adjustments—for example, involving the use of tools or alternative work settings or processes—to meet the requirements of any other jobs available in the national economy and thus remain employed (Wixon and Strand 2013; Code of Federal Regulations 2008). In contrast to a *vocational adjustment*, which is undertaken by a worker, a *workplace accommodation* is provided by an employer to enable the worker to meet

the job requirements. SSA's disability determination process considers vocational adjustments, but it does not consider workplace accommodations.

Integrating workplace accommodations into the determination of work capability would be challenging because the need for accommodation is a personal

### Selected Abbreviations

ACS	American Community Survey
DI	Disability Insurance
OIS	Occupational Information System
O*NET	Occupational Information Network
ORS	Occupational Requirements Survey
SSA	Social Security Administration
WD-FAB	Work Disability Functional Assessment Battery

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characteristic, but the availability of accommodation is a job characteristic. Yet we can envision a scenario in which a workplace accommodation would enable a worker to be reclassified from *able to do light work* to *able to do heavy duty work*, as defined in SSA's medical-vocational guidelines (a set of tables that adjudicators consult, when applicable, during the determination process). However, to date, information about workplace accommodation has not been collected systematically during the disability determination process, and such data collection is not featured in any new determination-system tools currently in development.

Two workers who have similar levels of functional capacity and who hold jobs with similar functional expectations may receive different levels of accommodation from their employers. Such variations in accommodation availability may influence whether a particular worker will leave the workforce and apply for DI benefits. Not only are accommodations provided inconsistently from one employer to another, a single employer might also provide them inconsistently. Nonetheless, knowing the relationship between disability, physical and mental functioning, and use of workplace accommodations within a given occupation may illuminate whether and when such accommodations are useful and effective. However, to date, researchers have lacked evidence linking the provision of accommodations to both a standardized measure of functional capacity and the statutorily defined occupational requirements that SSA uses in disability determinations.

This article does not examine the effects of accommodations on DI application rates. Instead, it lays important groundwork for further study by (1) linking receipt of workplace accommodations to worker capacity as defined by a standardized functional assessment tool and (2) examining the gap between self-reported need and use of accommodations. To do so, we focus on three occupations that are among those most frequently appearing in the work histories of DI claimants: cashiers, receptionists, and nurses.<sup>1</sup>

To date, few studies have closely examined how worker functional abilities align with both job demands and the presence of workplace accommodations, and how a successful alignment might support current and prospective workers with a disability. The relationship between functional capacity, job requirements, and accommodation is relevant to Social Security policy, as mismatches may cause individuals to switch occupations, leave the labor force, or apply

for DI benefits. In 2020, SSA received 1.8 million DI disabled-worker benefit applications (SSA, n.d. b). No data are available to indicate whether the provision of workplace accommodations could, or did, affect this number.

Workplace accommodations might mitigate some of the mismatch between worker functional ability and job requirements, and thus could play an important role in the disability determination process, as we describe below. The Americans with Disabilities Act (ADA) defines “a reasonable accommodation” as “any change or adjustment to a job or work environment that permits a qualified applicant or employee with a disability to...perform the essential functions of a job.” Accommodations can include a wide range of supports, including assistive technology (such as communication devices or ergonomic workstations), personal assistance, changes to the physical environment (such as ramps and accessible bathrooms, kitchens, and offices), and changes to workplace policies (such as flexible work schedules and teleworking) (Anand and Sevak 2017; Gates 2000; Padkapayeva and others 2017; Sundar 2017; Wong and others 2021; Yeager and others 2006). The ADA mandates employers with 15 or more employees to provide reasonable accommodations to employees with disabilities (Department of Justice, n.d.). However, many employees either are not aware of their rights under the ADA or do not want to disclose their disabilities and thus do not formally request accommodations from their employers (Gamble, Dowler, and Hirsh 2004; Gioia and Brekke 2003; Trotter, Matt, and Wojnar 2014; Wheeler-Scruggs 2002). For their part, employers are often not knowledgeable about accommodations, which further limits their ability to help workers meet job requirements (Padkapayeva and others 2017; Stoddard 2006; Inge and others 2000).

Prior estimates of the percentage of workers with disabilities who need or use work accommodations vary depending on the target population and the study methodology. Yelin, Sonneborn, and Trupin (2000) report that less than 20 percent of workers with musculoskeletal disorders use accommodations. Allaire, Li, and LaValley (2003) find that, of the workers with rheumatic disease they interviewed, 98 percent experienced at least one difficulty at work, either with accessibility, carrying out essential job tasks, working conditions, or company policy; but only 38 percent of them used accommodations. Research focusing on older workers finds that only 26 percent of those aged 65 or older who have disabilities receive

accommodations from their employers (Hill, Maestas, and Mullen 2016). Using data from an Internet panel of adults aged 18–70, Maestas, Mullen, and Rennane (2019) estimate that 12 percent of respondents overall (including nonworkers) use workplace accommodations for health reasons. However, when they focus on “accommodation sensitive” workers—that is, those who have a work-limiting condition—Maestas, Mullen, and Rennane find that between 42 percent and 53 percent receive an accommodation at work. The varying estimates of the need for accommodations in the existing literature are largely due to the difficulty of capturing a representative sample of this target population—particularly because a lack of accommodations may cause workers to leave the labor force, thereby removing them from the pool of potential respondents.

Beyond the difficulty of capturing self-reported need or use of accommodations from workers, researchers are challenged by the limited availability of data on accommodations from employers or administrative records. SSA regulations currently do not require adjudicators to collect accommodation information in the award determination process (SSA, n.d. a), but such data could indicate the effect of accommodations on application and award rates. Prior research has, in fact, determined that workers who experience disability and receive workplace accommodations are significantly less likely to apply for DI benefits in the first few years after disability onset than are those who do not receive accommodations (Burkhauser, Butler, and Weathers 2001).

During the disability determination process, the adjudicator assesses an applicant’s residual functional capacity (RFC). Broadly speaking, DI disabled-worker benefits are awarded if the applicant’s RFC is deemed insufficient to allow the worker either to resume prior work or to make vocational adjustments that could enable the acquisition of other work. The process does not account for the availability or use of workplace accommodations.

Because workers with limited RFC can use accommodations to meet job requirements, this article outlines a method that may be used to quantify and analyze the effect of workplace accommodations in the dual contexts of functional ability and occupational requirements. It also provides some descriptive information about how such a measure could be used for three occupational categories that have relatively high proportions of DI applicants—cashiers, receptionists, and nurses—to assess the extent to which individuals

with functional limitations can work if appropriate accommodations are provided.

We hypothesize that people who need accommodations report lower levels of functioning than those who do not. To test a related hypothesis that a workplace accommodation allows some people to remain employed who might not otherwise do so, we examine survey data collected from workers in these three occupations to see if the use of accommodations is associated with lower self-reported functioning.

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## **Methods**

In this section, we describe the survey we conducted to gather our data, the measures we used to assess functional capacity, and the approach we took to analyze the results.

### **Data**

In the spring of 2021, we surveyed an Internet opt-in panel selected with purposive sampling. Respondents were aged 18–67 and currently (or had recently) worked as cashiers, receptionists, or nurses. We instituted a quota to recruit at least 800 respondents who had worked in one of these three occupations, which we chose because of the relatively high frequency of DI applicants among them. As such, they may exemplify groups for whom worker functional ability, job requirements, and accommodation availability and use are mismatched.

We collected the data during an 8-week period in March–May 2021. Because of the economic instability associated with the COVID-19 pandemic, we surveyed not only persons who were currently employed but also those who were not employed but had worked in one of the three occupations in January 2020, before the pandemic. The recently employed workers constituted 5 percent of our sample. The panel manager, QualtricsXM, recruited the participants. QualtricsXM maintains a double opt-in market research panel and, with opt-in sample partners, complements their participant lists as needed. Panel members must be able to participate online (using a smart phone or computer with Internet access) and they receive incentives such as cash or gift cards for participation in individual surveys.

Respondents were screened into our survey sample if they reported, for their main occupation, either having a job title or performing job duties that were associated with our occupations of interest. We used the Department of Labor’s Occupational Information



Network (O\*NET) database to compile our job title and duty lists. O\*NET has the dual objectives of helping workers find jobs or training and helping employers locate skilled workers. The database lists job titles and tasks performed by workers in these occupations (Department of Labor 2023). We selected six physical, communication-oriented, or other job tasks with which to screen respondents into the receptionist and nursing occupational groups. To screen in cashiers, we selected seven such tasks. Appendix A lists the screening criteria in full.

Our final analytic sample included 802 workers (320 cashiers, 361 receptionists, and 121 nurses). We use the term “nurses” for brevity in this article, but we note that the nursing field is the most diverse of the three categories, as it includes occupations ranging from registered nurse to nursing assistant. We applied within-occupation poststratification adjustments to align our estimates with a target population based on 1-year estimates from the Census Bureau’s 2019 American Community Survey (ACS). Under this method, weights were designed to adjust the sample to more closely conform with the sex, age, race/ethnicity, and disability-status distributions of workers aged 18–67 in each occupation. We provide unweighted and weighted demographic information for our sample, but our discussion focuses on weighted results.

## Measures

Our analysis required measures of worker functional capacity, the need for and receipt of workplace accommodations, and employment and sociodemographic characteristics. We describe each of these measures below.

**Functional Capacity.** To measure functioning, our survey included items from the Work Disability Functional Assessment Battery (WD-FAB). The WD-FAB was developed by SSA, the National Institutes of Health, and Boston University to comprehensively assess self-reported work-relevant functioning in various mental and physical domains (Chan 2018; Porcino and others 2018). The WD-FAB uses item-response theory, wherein successive items are selected for relevance based on the outcomes for prior items. Assessment items are delivered as brief 6- to 10-item computer-adaptive tests drawn from a bank of more than 300 items. The physical and mental domains map onto International Classification of Functioning, Disability and Health standards for describing and measuring functioning and disability.

Since its 2014 launch, the WD-FAB has been tested extensively for reliability, comparability to legacy instruments, and criterion validity (Jette and others 2019; National Academies of Sciences, Engineering, and Medicine 2019; Porcino and others 2018). An indication of its efficacy is that researchers have advocated for integrating the WD-FAB into the DI and Supplemental Security Income disability determination processes (Brandt and Smalligan 2019).

Our survey uses four of the domains of physical functioning that the WD-FAB assesses: basic mobility (including walking and running), fine motor function (including levels of dexterity and ability to manipulate objects), upper body function (such as reaching, lifting, pulling, pushing, and carrying), and community mobility (such as driving a motor vehicle and navigating public transportation).<sup>2</sup> Subjects respond with a difficulty rating on a five-point scale ranging from “unable to do” to “no difficulty.” Responses are converted to numerical scores, with higher scores reflecting higher levels of functioning (McDonough and others 2017).

For mental functioning, the WD-FAB assesses four domains: resilience and sociability (including the ability to interact with others and to handle stress and related issues), mood and emotions (including feelings of depression and anxiety), self-regulation (such as managing emotions and social appropriateness), and cognition and communication (including organizational skills and oral and written communication) (Marfeo and others 2018). Some of these items prompt the respondent for one of four frequency responses (ranging from “never” to “always”) and the others prompt for one of five agreement responses (four options ranging from “strongly agree” to “strongly disagree,” or “I don’t know”). As with the physical functioning assessments, higher numerical scores on the mental scales reflect higher levels of functioning. The WD-FAB prompts respondents to indicate their level of usual ability “with any equipment or devices you normally use,” which allows for an assessment of functioning *with adjustments* among those who use them. Importantly, “equipment” in the WD-FAB generally refers to items the respondent owns, such as a wheelchair or eyeglasses, rather than items provided by an employer as a workplace accommodation.

**Work Accommodations.** Before respondents were asked about disability or health status, they were asked about their need or use of workplace accommodations. To gather that information, we used a method outlined in Maestas, Mullen, and Rennane

(2019) and adapted a question from their study. They asked: “Many people need special accommodations for health problems to make it easier for them to work. This could include things like getting special equipment, getting someone to help them, varying their work hours, taking more breaks and rest periods, or learning new job skills. Does your employer currently do anything special to make it easier for you to work?” We revised the first sentence to ask about “special accommodations for health *or mental health* problems.” Persons who responded that their employer provided any such assistance were asked to select the type(s) of accommodations their employer provided from an inclusive list of accommodations identified in previous literature such as Anand and Sevak (2017), Gates (2000), Padkapayeva and others (2017), Sundar (2017), Wong and others (2021), and Yeager and others (2006). Because the list of accommodations was expansive, nearly any change in the work environment could be considered an accommodation, whether it was intended primarily for that purpose or not.

We also asked respondents about the types of special equipment employers provided to help them do their jobs (such as devices to assist with mobility or communication). In addition, we asked all respondents (not only accommodation users) whether they believed that their employers provided all of the accommodations and supports necessary for them to continue doing their job.

**Employment and Sociodemographic Characteristics.** In addition to questions on occupational titles and job duties, our survey captured measures of job tenure, employer size (number of employees), and specific vocational preparation (one question on required training and education, and one on time spent learning job duties, with each item using specific wording and definitions outlined in the Department of Labor’s Dictionary of Occupational Titles). The survey also collected standard demographic information, including age, sex, race, and ethnicity. Following ACS methodology, we asked respondents about disability status in each of six categories (hearing, vision, ambulation, cognition, self-care, and independent living). Two additional questions covered the presence and number of chronic health conditions. To establish a study population of workers who might use or need accommodations, we limited our analysis to people who report having one of the six types of disability or two or more chronic health conditions. For reasons related to respondent “priming” (described below in the Results section), all questions on demographic

and work topics, including those addressing disability and health, were purposely placed after the questions about need and use of workplace accommodations.

## Analysis

We first examined how frequently workers reported using any and specific types of accommodations, for respondents overall and by occupation. We next compared the WD-FAB scores of persons using accommodations with those of persons not needing accommodations, by occupation, with detail by functional domain and *t*-test analysis of the differences in means between accommodation-use categories. We used Stata statistical software (version 15.1) for all analyses. We report weighted results unless otherwise noted.

## Results

Table 1 shows the demographic characteristics of our sample, before and after weighting and compared with the 2019 ACS, by occupation. Relative to the ACS, our sample overrepresented male workers among receptionists and underrepresented them among the nursing professions. Our sample underrepresented younger workers and non-White workers in all three occupations and substantially overrepresented those with disabilities. We therefore weighted our results to align our sample with the demographic distributions within each occupation in the 2019 ACS and applied those weights to the results we present in later tables.

We note that after answering questions on workplace accommodations, respondents were likely primed to report a disability. Such a phenomenon is observed when results for questions on disability prevalence in the National Center for Health Statistics’ National Health Interview Survey (NHIS) are compared with those of other national surveys that do not focus on health. The NHIS’ line of health-related questioning is thought to orient respondents’ thoughts more toward disability than do questions focused on employment and housing, such as those in the Census Bureau’s ACS or Current Population Survey.

Table 2 shows our summary accommodation need and use statistics for respondents reporting a disability or multiple chronic health conditions. Recall that we worded our question on accommodation to include any environmental, task-based, or scheduling change to accommodate a mental or nonmental health problem. Overall, 71.7 percent of respondents reported using an accommodation, ranging from a low of 66.4 percent for cashiers to a high of 77.3 percent for receptionists.

**Table 1.**  
**Workers in each of three occupations, 2021: Percentage distribution by demographic characteristics, weighted and unweighted with comparisons to 2019 ACS**

Characteristic	Cashiers			Receptionists			Nurses		
	2019 ACS	This study (2021 opt-in survey)		2019 ACS	This study (2021 opt-in survey)		2019 ACS	This study (2021 opt-in survey)	
		Un-weighted	Weigh- ted		Un- weighted	Weigh- ted		Un- weighted	Weigh- ted
Sex									
Men	38.9	39.6	38.1	10.4	42.7	9.6	13.1	9.9	13.1
Women	61.1	60.1	61.9	89.6	57.3	90.4	86.9	90.1	87.0
Age									
18–34	60.2	31.2	59.9	52.5	27.8	53.7	34.7	29.8	32.1
35–44	12.8	26.5	10.6	15.0	31.9	14.6	21.8	18.2	21.1
45–54	11.9	12.2	12.6	14.4	14.7	13.2	20.8	24.0	23.7
55–67	15.2	30.2	16.0	18.2	25.6	18.6	22.7	28.1	23.2
Race/ethnicity									
White, non-Hispanic	53.9	81.3	59.3	57.9	81.7	56.8	53.9	80.5	60.5
Black, non-Hispanic	15.1	5.1	13.4	12.3	7.0	12.5	21.4	11.0	24.0
Other, non-Hispanic	9.7	6.4	10.2	7.7	5.9	7.2	11.0	4.2	10.3
Hispanic (any race)	21.3	7.3	17.0	22.1	5.3	23.5	13.7	4.2	5.2
Disabling conditions									
None	92.6	62.8	88.8	93.2	66.5	93.2	93.3	73.6	93.3
One	5.1	17.2	8.4	4.9	15.2	4.9	4.8	15.7	4.8
Two or more	2.2	20.0	2.8	2.0	18.3	2.0	1.9	10.7	1.9
Number of cases	62,136	320	320	12,662	361	361	64,490	121	121
Median weight	...	...	0.63	...	...	0.54	...	...	0.84
Mean weight	...	...	1.00	...	...	1.00	...	...	1.00
Standard deviation	...	...	1.30	...	...	1.59	...	...	0.84

SOURCES: 2019 ACS and authors' calculations based on March–May 2021 Internet panel of workers aged 18–67 currently or recently working in an occupation of interest.

NOTES: Poststratification weights aim to align the demographic composition of the Internet panel with that of the population aged 18–67 working at least 1 hour in the 2019 ACS 1-year estimates. Margins were weighted within each demographic category and in the order in which the variables are shown.

Rounded components of percentage distributions do not necessarily sum to 100.0.

... = not applicable.

**Table 2.**  
**Percentage distribution of workers with a disability or multiple chronic health conditions by reported need, provision, and use of workplace accommodation, by occupation, 2021**

Accommodation status	Overall	Cashiers	Receptionists	Nurses
Needed and—				
Not provided	14.8	22.5	10.7	4.0
Used	71.7	66.4	77.3	71.6
Not needed	13.6	11.1	12.0	24.4
Number of cases	347	152	154	41

SOURCE: Authors' calculations based on March–May 2021 Internet panel of workers aged 18–67 currently or recently working in an occupation of interest.

NOTE: Rounded components of percentage distributions do not necessarily sum to 100.0.

In the three occupations combined, 13.6 percent of the sample reported not needing accommodations and 14.8 percent reported an unmet accommodation need.

Table 3 provides detail on the types of accommodations reported by respondents with a disability or chronic health conditions whose employers provided an accommodation, overall and by occupation. Note that workers could report multiple types of accommodation. The most common workplace accommodations involved providing a helper, permitting alternative scheduling, and adjusting work pace or allowing pauses. Of the three occupations, receptionists were most likely to report that their employer allows more break or rest periods (40.5 percent) or provides special equipment (22.9 percent). Considerably lower proportions of cashiers and nurses reported receiving these accommodations.

For cashiers, having someone help with their work was the most common accommodation type (53.4 percent), followed by altering the work schedule to accommodate medical appointments (27.6 percent), allowing changes to work arrival and departure times (25.7 percent), and being trained or coached in new job skills (23.2 percent).

For nurses, being able to schedule work around medical and mental health appointments (42.7 percent) and to modify work arrival/departure times (38.1 percent) were the most common accommodation types,

followed by having someone available to help them (30.0 percent). Among respondents overall, 9.2 percent reported that their employer changed their job requirements, 8.2 percent reported physical modifications to the workplace, 6.8 percent received vocational rehabilitation services, and 6.2 percent reported that the employer arranged for special transportation, but for each of these accommodations, the percentages were lower, and in most cases considerably lower, for nurses.

Table 4 compares the WD-FAB scores in each domain of functioning for workers receiving accommodations and those not needing them, by occupation. Recall that respondents are instructed to account for any equipment or devices they own that they normally use in work tasks when reporting their level of functioning. We compared our WD-FAB scores with previous WD-FAB calibration samples that included the general population and found that workers in our sample's occupations scored relatively higher in all areas, suggesting that they had higher levels of physical and mental functioning than the general population (Marfeo and others 2019).

For cashiers, functioning was statistically higher for those who did not need accommodation in each of the physical functioning categories and in all but the resilience and sociability category of mental functioning. For receptionists, differences between accommodation

**Table 3.**  
**Percentage of workers with a disability or multiple chronic health conditions reporting employer provision of specific workplace accommodations, by occupation, 2021**

Accommodation	Overall	Cashiers	Receptionists	Nurses
Employer—				
Gets someone to help me	43.1	53.4	38.2	30.0
Lets me change the time I come to/leave work	30.8	25.7	32.9	38.1
Allows me more breaks/rest periods	29.3	22.9	40.5	14.4
Schedules around my medical/mental health appointments	24.6	27.6	15.5	42.7
Shortens my workday	16.7	15.2	14.8	26.0
Has helped me learn new job skills	16.6	23.2	11.7	13.3
Provides special equipment for the job	16.0	12.2	22.9	6.1
Has changed the job to something I can do	9.2	18.4	3.6	1.0
Has modified the physical environment	8.2	6.4	12.5	1.0
Assists me in receiving vocational rehabilitation services	6.8	8.4	6.4	3.9
Arranges for special transportation	6.2	10.3	4.6	0.0
Has done something else	9.3	17.0	4.9	1.8
Number of cases	243	100	115	28

SOURCE: Authors' calculations based on March–May 2021 Internet panel of workers aged 18–67 currently or recently working in an occupation of interest.



**Table 4.**  
**Mean WD-FAB scores in each domain of functioning for workers by occupation and whether workplace accommodations are used or not needed, 2021**

Domain	Cashiers			Receptionists			Nurses		
	Accommodations—		Differ- ence	Accommodations—		Differ- ence	Accommodations—		Differ- ence
	Used	Not needed		Used	Not needed		Used	Not needed	
Physical functioning									
Basic mobility	60.5	63.4	2.9**	62.2	62.5	0.3	61.5	62.1	0.6
Upper body movement	54.6	57.7	3.1***	55.9	57.7	1.8*	56.4	57.4	1.0
Fine motor capability	64.2	68.4	4.2***	66.6	69.1	2.5**	64.9	67.9	3.0
Community mobility	49.3	53.9	4.6***	50.4	53.9	3.5***	51.9	55.2	3.3*
Mental functioning									
Mood and emotions	54.9	60.2	5.3**	57.5	59.6	2.1	59.8	61.2	1.4
Self-regulation	51.6	55.7	4.1**	51.5	55.8	4.3***	53.4	55.9	2.5
Resilience and sociability	50.0	49.6	-0.4	50.3	49.6	-0.7	50.9	49.9	-1.0
Communication and cognition	52.4	55.6	3.2***	54.3	55.0	0.7	54.2	55.3	1.1

SOURCE: Authors' calculations based on March–May 2021 Internet panel of workers aged 18–67 currently or recently working in an occupation of interest.

NOTE: \* = statistically significant at the  $p < 0.05$  level; \*\* = statistically significant at the  $p < 0.01$  level; \*\*\* = statistically significant at the  $p < 0.001$  level (*t*-test comparisons of means across accommodation-use categories in each occupation).

users and those not needing accommodations were significant in all physical functioning categories except basic mobility and in one mental category (self-regulation). For nurses, only the scores for community mobility differed significantly between accommodation users and those not needing them.

### Limitations

We acknowledge some limitations to this analysis. The primary data collection methodology likely prevents results from being representative of a full range of functioning for two reasons. First, the study targets people working in only three occupations selected because of the relatively high share of workers who claim DI disabled-worker benefits. Caution should be used in extrapolating the findings beyond these occupations. Expanding the occupational scope of the study would likely alter the findings on functioning scores and accommodation need and use.

Second, we focus on potential DI applicants (whom we expect to be working) and beneficiaries who want to work, which raises the question of whether those who are not working because of disability could have remained employed if they were accommodated. This study design does not fully address workers with an unmet need for accommodation. Relatedly, because we use a broad measure of accommodation, it likely includes reports of job modifications made for health

problems that might not generally be counted as a disability (such as temporary injury or illness).

Third, the sampling procedures are biased in that they do not enable the participation of people without Internet access. Further, because our sample constitutes an opt-in panel, it is less likely to include people who have difficulty navigating online surveys because of low vision or other disabilities (even though our survey instrument used accessibility features aiming to make it more compatible with screen readers). In addition, the sampling methodology was not meant to yield a nationally representative sample. Through weighting, we attempted to adjust for the overrepresentation of workers with disabilities and the underrepresentation of non-White and younger workers.

Fourth, the extent to which our results can be generalized may be diminished by the timing of our data collection, given the COVID-19 pandemic's effects on respondent work routines and mental health. During the spring of 2021, workers may have faced unique challenges that affected their job tasks. The extent to which receptionists and cashiers may have had their job tasks modified to provide service during the pandemic is unknown. However, workers in the medical field are known to have experienced heavier workloads during this period. Recent research focusing on nursing assistants found that during the pandemic, employers were likely to modify schedules to maintain



work-life balance in hopes of retaining their employees, irrespective of their disability status (Franzosa and others 2022). This development could affect the reported prevalence of disability-related accommodations, producing an estimate of prevalence that may not reflect pre- or post-COVID-19 work environments. Future research should examine how the pandemic affected job tasks and work routines in these (and other) occupations. Additionally, self-reported mental health functioning during the pandemic likely was lower than in typical prepandemic self-assessments. One WD-FAB data collection effort in the spring of 2020 found that the mental health functioning of respondents with a work-limiting disability was substantially lower than that of samples collected prior to the pandemic, particularly in the category of resilience and sociability (Henly and others 2023). Although those WD-FAB respondents are not directly comparable with our sample of employed respondents, other studies also have found higher rates of stress, anxiety, and depression during 2020 (Twenge and Joiner 2020) and one might expect that mental health functioning remained lower into 2021.

## Discussion

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Our study yields important results in four areas. First, our research highlights differences in functional abilities by accommodation receipt for specific types of workers. This suggests that accommodations are important in helping individuals maintain employment. Specifically, we find that persons who work as cashiers, nurses, or receptionists are more likely to receive accommodations from their employers if they have lower levels of functional capacity. Although the differences in these functional-capacity scores are statistically significant, they are somewhat small; in some instances, they are smaller than the minimal detectable change observed in prior test-retest validation studies of the WD-FAB (Meterko and others 2019). However, we believe that these findings indicate a meaningful relationship between self-reported level of functioning, accommodation use, and having a work-limiting disability. Although many studies have examined whether individuals receive accommodations, our study is the first, to our knowledge, to examine accommodation receipt by individual *domains* of functioning, as captured in a validated functional-ability assessment tool (WD-FAB), for specific occupations. This provides more detailed information than prior studies—information which might, in turn, point to more targeted employment or rehabilitation

policies and practices that can address disparities in the provision of accommodations.

Second, our study presents a unique method of collecting information on accommodation need and use for various domains of functioning within occupations. These domains are included in the WD-FAB and could be mapped to worker requirements in the Bureau of Labor Statistics' Occupational Requirements Survey (ORS), which in turn suggests a process that could lead to the incorporation of accommodation information into SSA's forthcoming Occupational Information System (OIS), with which the agency will collect and maintain comprehensive listings of job titles and work requirements.<sup>3</sup> The OIS will include measures of a job's cognitive and mental demands in addition to its physical demands, and certain accommodations can map to specific job demands. For instance, accommodations provided to persons with physical limitations who work in occupations that require high functioning in basic mobility should focus on providing physical modifications to the work environment. For persons with mental health conditions who work in jobs that require high mental functioning, accommodations might prioritize scheduling flexibility, which could provide relief when standard scheduling reduces mental performance. The role of accommodation in encouraging labor force participation, ensuring equal employment, and facilitating the return to work could be better understood by routinely collecting this information. That better understanding could in turn lead to more effective targeting of accommodations and thereby encourage return-to-work efforts that are readily identified for certain functional limitations and occupations.

Third, we find high percentages of workers with a disability or multiple chronic health conditions in these three occupations using accommodations (about 72 percent overall). Previous studies have found a wide range of reported accommodation use, depending on the population studied and methodology used, from 12 percent (Maestas, Mullen, and Rennane 2019) to 38 percent (Allaire, Li, and LaValley 2003). Our higher percentage may be attributed to more inclusive criteria, our focus on these specific occupations, or some other methodological issue. In any case, our study adds another estimate of accommodation use to the research on this subject.

Fourth, we find that approximately 15 percent of respondents reported needing accommodations but not receiving them. Our study builds on prior work by

Maestas, Mullen, and Rennane (2019) to help fill a gap in the literature on accommodation need. Other data sources that capture accommodation use, namely the University of Michigan's Health and Retirement Study (HRS), do not account for the entire accommodation-sensitive population. Although the HRS includes questions about accommodation use, only respondents who reported a work-limiting condition at the time they were employed are queried. This restricts the intended target population because it excludes those who (1) use an accommodation at work and do not report their health condition as "work-limiting" as a result of the intervention, (2) were not employed at the time their health condition began to limit their work, or (3) already experienced a work-limiting condition prior to working. These exclusions limit our understanding of the role that accommodation availability plays in shaping work patterns for those who may benefit from their use. Other data sources might enable researchers to examine accommodations in more detail in the future. For example, the Current Population Survey Disability Supplement, last conducted in July 2021, is scheduled to be fielded again in 2024. This presents an opportunity for the Bureau of Labor Statistics, which sponsors the Disability Supplement, to incorporate questions addressing accommodation need, use, and receipt into its data collection, although it is not yet known whether these items will be added.

Aside from researchers, policymakers may benefit the most from the inclusion of accommodation information in the OIS. Information on accommodations could not easily be incorporated into the ORS, which currently has no way to evaluate the substitutability of occupational requirements. Until complementary tasks are captured in some manner, the ORS database cannot reasonably be used for this purpose. However, the O\*NET database could be a useful first place to capture information on accommodation, as it already includes detail on occupational tasks, work environment, and tool use. Adding accommodation-availability data to O\*NET would be useful for both research and policy. O\*NET alone cannot be used in SSA disability adjudication because it lacks necessary details on occupations' physical requirements (SSA, n.d. a), but O\*NET information could be integrated into the forthcoming OIS, whose designers envision its use specifically for disability determinations.

In addition, for nurses, we found only one domain of functioning with a statistically significant difference between workers using and not needing accommodations. This may in part be due to the smaller sample

size of nurses (121 observations) and the resulting lower statistical power of the estimates, as the direction of the score differences is consistent with those of the other two occupations. This outcome may also be due to the greater heterogeneity of this group, which includes both registered nurses and nursing assistants, occupations with widely varying job requirements. When comparing the domains of functioning, we note that scores in all categories except resilience and sociability are slightly higher for the group not needing accommodation. This one inconsistency appears to be related to the timing of data collection.

One consideration that warrants further investigation is how the racial/ethnic make-up of these professions may affect the provision of accommodations. Prior work in this area finds that accommodation recipients are more likely to be White and non-Hispanic than any other group (Hill, Maestas, and Mullen 2016; Charles 2004) and that employers may grant accommodation requests unevenly, favoring those who they value (Gould-Werth, Morrison, and Ben-Shalom 2018), a qualitative assessment that may be subconsciously tied to race. Although the data used in this study are not well-suited to investigate the role of race and ethnicity in accommodation receipt in these three occupations, future research should consider the role of race in occupational sorting (Hellerstein and Neumark 2005) and in the uneven provision of accommodations.

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## **Concluding Remarks**

The complex interactions among physical and mental functioning, work requirements, and the work environment make disability status difficult to determine and measure. Information on accommodations in the context of job requirements and functional ability would be useful but is not yet systematically available. This research aims to be a first step toward developing such information, demonstrating an approach to compiling information about job demands and worker functional capacity that indicates both the potential effects of and continuing need for workplace accommodations. Such information could augment the O\*NET and ORS systems, which currently do not recognize potential substitutability (and complementarity) among occupational requirements and workplace accommodations. That substitutability is necessary to understand the role that accommodations play in facilitating labor force participation, equal employment, and return to work.

## Appendix A: Screening Potential Respondents into Our Internet Panel

We used occupational criteria listed in the Department of Labor’s O\*NET database to select respondents for our Internet panel survey. If a potential respondent reported current or recent work in a job with a title or duties that corresponded with any of the O\*NET criteria listed below, that person was screened into the panel.

Our initial questions addressed industry of employment so that we could filter subsequent questions toward job titles appropriate to the reported industry.

<b>Box 1. Screening criteria for study inclusion</b>			
<b>Aspect</b>	<b>Cashier</b>	<b>Receptionist</b>	<b>Nurse</b>
<b>Job title</b>	<ul style="list-style-type: none"> <li>• Cashier</li> <li>• Gambling change person or booth cashier</li> <li>• Counter clerk or rental clerk</li> <li>• Parts salesperson</li> <li>• Retail salesperson</li> </ul>	<ul style="list-style-type: none"> <li>• Receptionist</li> <li>• Information clerk</li> <li>• Clerk specialist</li> <li>• Front desk</li> <li>• Greeter</li> <li>• Member service representative</li> <li>• Office assistant</li> <li>• Scheduler</li> </ul>	<ul style="list-style-type: none"> <li>• Registered nurse</li> <li>• Nursing assistant</li> <li>• Orderly</li> <li>• Psychiatric aide</li> <li>• Home health aide or personal care aide</li> <li>• Certified nurse aide (CNA)</li> <li>• Licensed nursing assistant (LNA)</li> <li>• Certified home health aide (CHHA)</li> <li>• Certified medical aide (CMA)</li> <li>• Home attendant</li> <li>• Caregiver</li> </ul>
<b>Job duty</b>	<ul style="list-style-type: none"> <li>• Receive payments by cash, check, credit card, voucher, or automatic debit</li> <li>• Help customers locate products</li> <li>• Issue receipts, refunds, credits, or change due</li> <li>• Provide customer assistance (give information, resolve complaints)</li> <li>• Establish or identify prices of goods, services, or admission; tabulate bills using calculator, cash register, or optical price scanner</li> <li>• Stock shelves; sort and restock returned items; mark prices on items and shelves</li> <li>• Offer carry-out service at transaction completion</li> </ul>	<ul style="list-style-type: none"> <li>• Operate telephone switchboard to answer, screen, or forward calls; provide information; take messages</li> <li>• Schedule appointments; maintain and update appointment calendars</li> <li>• File and maintain records</li> <li>• Perform administrative support tasks including proofreading; transcribing handwritten information; and preparing, reviewing, or revising pay records, invoices, balance sheets, and other documents using calculators or computers</li> <li>• Transmit information or documents to customers using computer, mail, or fax machine</li> <li>• Perform maintenance duties such as tending to plants and straightening the lobby/reception area</li> </ul>	<ul style="list-style-type: none"> <li>• Turn or reposition bedridden patients</li> <li>• Monitor and respond to patient call signals (lights, bells, intercom) and determine patient’s needs</li> <li>• Feed patient or assist with eating/drinking</li> <li>• Provide physical support or assist with activities of daily living such as getting out of bed, bathing, dressing, using the toilet, standing, walking, or exercising</li> <li>• Prompt/remind patients to follow their medicinal and nutritional-supplement regimens</li> <li>• Lift/move patients on or off beds, examination or surgical tables, or stretchers</li> </ul>

## Notes

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<sup>1</sup> This finding is based on an unpublished review of an Occupational Information Development Advisory Panel (OIDAP) analysis of 5,000 DI claims, partially summarized in Trapani and Harkin (2011). Active during 2009–2012, OIDAP provided independent advice to SSA on how best to replace the Department of Labor’s Dictionary of Occupational Titles with a new occupational information system tailored specifically to SSA’s adjudicative needs.

<sup>2</sup> The WD-FAB also includes a wheelchair mobility domain. Because few of our respondents are wheelchair users, we did not analyze this domain.

<sup>3</sup> For a description of the OIS project, see [https://www.ssa.gov/disabilityresearch/occupational\\_info\\_systems.html](https://www.ssa.gov/disabilityresearch/occupational_info_systems.html).

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