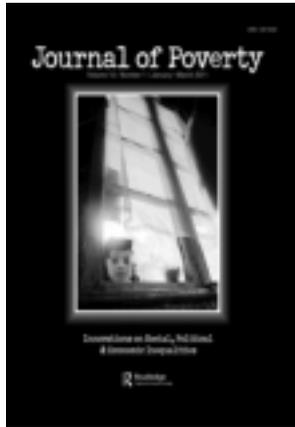


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### Work-Related Disability, Veteran Status, and Poverty: Implications for Family Well-Being

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## **Work-Related Disability, Veteran Status, and Poverty: Implications for Family Well-Being**

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*The authors examine the interrelationships between work-related disability, veteran, and poverty statuses using data from the 1992–2004 panels of the Survey of Income and Program Participation. They find that households with nondisabled veterans present have a lower likelihood of poverty, but that advantage is severely eroded when the veteran or another family member has a work-limiting disability. Nevertheless, all veteran households have substantially lower odds of poverty than disabled nonveteran households, which have the highest poverty rate (32.53%). Veteran and disability statuses interact at the household level in ways that contribute to substantial variability in household-level poverty, which has implications for all household members.*

**KEYWORDS** *poverty, disability, veteran, family well-being*

### INTRODUCTION

Addressing the health and health care, economic, and social needs of persons with disabilities are pressing public policy concerns (Batavia & Beaulaurier, 2001; She & Livermore, 2007; U.S. Department of Health and

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Human Services, 2005). Although estimates vary depending on the breadth of the definition of *disability* used (i.e., whether and which functional limitations are included), the data source, and the time period, approximately 47.5 to 51 million Americans currently live with disabilities (Brault, Hootman, Helmick, Theis, & Armour, 2009; Okoro, Balluz, Holt, Mokdad, & Campbell, 2005; Steinmetz, 2006). Recent evidence indicates increased reporting of disabilities, but not functional limitations, for all groups of older adults except those age 80 years and older (Seeman, Merkin, Crimmins, & Karlamangla, 2010). Previous research consistently finds high levels of disabilities among older adults, Blacks, Native Americans, women, and obese persons (Clark, 1997; Mendes de Leon, Barnes, Bienias, Skarupski, & Evans, 2004), and it is among some of these subgroups—non-Whites and overweight and obese persons—that the recent growth in the prevalence of disability among those entering old age is concentrated (Seeman et al., 2010).

It is also well-documented that persons with functional limitations and disabilities are more likely than persons without them to live at or near the poverty line and to face economic constraints that can affect their own health, as well as the well-being of other members of their households (Batavia & Beaulaurier, 2001; Fuller-Thomson & Guralnik, 2009; McKernan & Ratcliffe, 2005; She & Livermore, 2007; Thorpe et al., 2008). One of two overarching themes that emerged from the analysis of key informant interviews with disability advocacy and research leaders is the impact of poverty among people with disabilities (O'Day & Goldstein, 2005). Moreover, She and Livermore (2009) document that relative long-term poverty rates are much higher than relative short-term poverty rates among persons with disabilities.

Poverty and economic constraint are associated with disability as cause and effect. Socioeconomic status is a fundamental cause of health, disease, functional limitation, and disability (Chang & Lauderdale, 2009; Link & Phelan, 1995, 1996; Rubin, Colen, & Link, 2010; Warren & Hernandez, 2007), and cumulative disadvantage and inequality contributes to the emergence of functional limitations and disabilities over the life course (Ferraro & Shippee, 2009; O'Rand, 1996). Additionally, living with a functional limitation or disability is related to poverty and economic constraint through its effect on employment status and work hours (McKernan & Ratcliffe, 2005), and because labor markets provide limited opportunities for persons with disabilities to participate in jobs that provide living wages and access to health care. Limited labor force participation and economic constraint persist for many persons with disabilities despite the provision of vocational rehabilitation services and policy initiatives that aim to support work among persons with disabilities, such as the 1999 Ticket-to-Work and Work Incentives Improvement Act (TWWIIA, PL 106-170) (Dean, Dolan, & Schmidt, 2003; Kennedy & Olney, 2006). Although government programs provide economic and health care resources for some persons with work-limiting disabilities, these programs do not always fully meet the financial needs of persons with

disabilities and their family members (U.S. Department of Health and Human Services, 2005).

Veterans are a sizeable and heterogeneous subpopulation whose health and well-being warrants specific attention among policy makers because of their service to the nation and the fact that many have incurred service-related injuries (MacLean, 2010; Wilmoth & London, 2011). Military service is particularly prevalent among older cohorts of men who served in World War II and the Korean War (Hogan, 1981); in 2000, almost 9.2 million men age 65 years and older were veterans, which represented 64% of men in that age group (U.S. Census Bureau, 2003). Overall, in 2000, more than 26 million Americans were veterans, representing approximately 12.7% of those age 18 years or older (U.S. Census Bureau, 2003). That number has declined to 21.9 million in 2009, representing 9.5% of the adult population (U.S. Census Bureau, 2009), in part because men who served in World War II and Korea are reaching ages at which mortality rates are high and the size of the active-duty force has been reduced by design in recent years. Although overall participation in the military has declined, participation in the military has increased substantially among women, from 1.6% of military personnel in 1973, when the era of the All-Volunteer Force (AVF) began, to 14.6% in 2005 (U.S. Department of Defense, 2007; Women's Research and Education Institute, 1990). Now, more than 7% of veterans are women (U.S. Census Bureau, 2007).

Even though they undergo health screenings that initially select them for better health (National Research Council, 2006), veterans are more likely to have functional limitations and disabilities than nonveterans (Dobkin & Shabani, 2009; Wilmoth, London, & Parker, 2010, 2011). For men, the associations between veteran status and functional limitation and disability are linked primarily, but not exclusively, to combat exposure (MacLean, 2010). One recent study documents that older male veterans with wartime service have steeper increases in activities of daily living limitations in later life than do veterans without wartime service (Wilmoth et al., 2010). The subsidized distribution of tobacco products during World War II and the Korean War is thought to have increased mortality in later life among veterans and may also have contributed to older male veterans' risk of functional limitation and disability (Bedard & Deschênes, 2006). Among women veterans, the causes of functional limitation and disability are different and include trauma associated with sexual assault (Frayne et al., 2006; Suris & Lind, 2008). One recent study documents that the increased odds of functional limitations and disabilities associated with veteran status are higher among women than men, the decreased odds of functional limitations and disabilities associated with active duty status are lower among women than men, and predicted probabilities based on a subgroup of 40- to 49-year-olds with select sociodemographic characteristics indicate that veteran women's probabilities of many types of functional limitations and disabilities equal or

exceed those of veteran men (Wilmoth et al., 2011). The selection of persons from disadvantaged backgrounds into the military may to some extent account for these patterns.

Work-limiting disability is particularly germane to considerations of poverty status for nonveterans and veterans. Beyond the general patterns documented above, the few population-based studies that explicitly compare work-limiting disability rates between nonveterans and veterans provide evidence that veterans experience more work-limiting disability than nonveterans. Specifically, Wilmoth et al. (2011) use data from the 2000 Census and find that the odds of work disability are higher among male and female veterans than among comparable male and female nonveterans. Dobkin and Shabani (2009) use pooled data from the National Health Interview Survey and focus on the cohort born between 1950 and 1952 because they are the men most affected by the Vietnam draft lottery. They find that initial differences in work-limiting disability between veterans and nonveterans are small, but, as they age, the differences between veterans and nonveterans increase. By the time the cohort is in their late forties and early fifties, veterans have a significantly higher level of work limitation relative to nonveterans in an instrumental variable model that controls for unobserved selection effects. MacLean (2010) uses data from the Panel Study of Income Dynamics (PSID) and shows that combat veterans are somewhat more likely than nonveterans, and much more likely than noncombat veterans, to have a work-limiting disability during the prime working ages of 25 to 55 years.

To date, the literature has tended to neglect the association between veteran status and poverty, and researchers who focus on disability often fail to take veteran status into account. Moreover, although there is evidence that work-limiting disability is higher among some subgroups of veterans than among nonveterans, and work-limiting disability is strongly associated with economic constraint and poverty, it is unclear how work-limiting disability and veteran status are jointly associated with economic constraint and poverty status. Theoretically, there are several reasons to hypothesize that veteran status may moderate the effects of work-limiting disability on poverty.

First, the Veterans Administration (VA) provides resources to all veterans but makes specific provisions for veterans with service-connected disabilities. Veterans with higher VA service-connected disability ratings receive greater resources and support, as do their family members (U.S. Department of Veterans Affairs, 2010; Wilmoth & London, 2011). For example, the compensation given to veterans with service-connected disabilities varies from \$123 per month in 2009 for veterans with a 10% VA disability rating to \$376, \$770, and \$2,673 for veterans with 30%, 50%, and 100% VA disability ratings respectively (U.S. Department of Veterans Affairs, 2009a). Those with a VA disability rating of 30% or more are eligible for additional allowances

for dependents, including spouses, minor children, children between ages 18 and 23 years who are attending school, children who are permanently incapable of self-support due to a disability arising before age 18 years, and dependent parents.

Second, a considerable body of social scientific life-course research documents that military service can be a positive turning point for men (and perhaps women) from disadvantaged backgrounds because it “knives off” prior negative influences and creates a “bridging environment” that provides access to educational, training, and health care resources (Bound & Turner, 2002; Elder, 1986, 1987; Laub & Sampson, 2003; MacLean, 2005; Sampson & Laub, 1996). Given this, military service may in some historical contexts be associated with improved occupational outcomes and earnings (Bennett & McDonald, in press; Kleykamp, in press), encourage marriage (Burland & Lundquist, in press), and positively affect civic engagement (Mettler, 2005). Although such socioeconomic advantages and social integration may be health enhancing for some veterans, one recent study that explicitly tested cumulative disadvantage and positive turning-point hypotheses in relation to the effect of combat exposure on work-related disability and unemployment only finds evidence supporting direct cumulative disadvantage (MacLean, 2010).

Although there are reasons to believe that military service is related, in some circumstances, to better socioeconomic outcomes (Dechter & Elder 2004), there is also evidence that poverty persists among veterans (London & Wilmoth, 2009). Generally, few studies of disability and economic hardship include veteran status. One recent study documents that disabled veteran status has a large and negative effect on income relative to persons without disabilities and nonveterans who report the same number of disabilities (Fulton, Belote, Brooks, & Coppola, 2009), whereas another recent study demonstrates that household members’ veteran and work-limiting disability statuses are jointly associated with household reports of material hardship (Heflin, Wilmoth, & London, in review). To date, no study has specifically and systematically examined the interrelationship between work-limiting disability, veteran status, and poverty at the household level or explored the implications for family well-being that emerge at their nexus.

Thus, in this article, we use data from the 1992 to 2004 panels of the Survey of Income and Program Participation (SIPP), a nationally representative household survey conducted in the United States by the U.S. Census Bureau, to examine whether and how veteran status moderates the effect of work-limiting disability on poverty status at the household level. We focus on household-level poverty status as the outcome because of its significance for the health and well-being of persons with disabilities, as well as members of their households. We hypothesize that households that include a person with a work-limiting disability will have higher odds of living in poverty (Hypothesis 1); households that include a veteran will have lower

odds of living in poverty (Hypothesis 2); and that, at the household level, work-limiting disability and veteran statuses will jointly determine poverty status (Hypothesis 3).

## METHOD

### Sample and Procedures

Data from the 1992 to 2004 panels of the SIPP are used to examine the interrelationships between work-limiting disability, veteran, and poverty statuses at the household level. Each interview in each SIPP panel consists of a core interview, with standard questions on demographics, labor force participation, and income, as well as a topical module interview, which includes questions on topics that change within a panel from one interview to the next. Interviews are conducted every 4 months, and each panel is interviewed nine times over 3 years (1992, 1993, and 1996) or 12 times over 4 years (2001, 2004). We use data from the 8th wave of the 2004 SIPP panel (June through September 2005), the 8th wave of the 2001 SIPP panel (June through September 2003), the 8th wave of the 1996 SIPP panel (August through November 1998), the 9th wave of the 1993 SIPP panel (October 1995 through January 1996), and the 3rd wave of the 1992 panel (October 1992 through January 1993). When survey weights are used, results from analyses of SIPP data are representative of the civilian (nonveteran and veteran), noninstitutionalized population of the United States. We use imputed data as provided in the SIPP.

We focus in this article on work-limiting disability within the household. Thus, we constrain the sample to households that do not include any persons who are age 65 years or older because preliminary analysis indicated that affirmative responses to the work-limiting disability question declines substantially at older ages when more adults are retired. We note that supplemental analyses based on that total sample of households yield substantive conclusions that are consistent with those reported in this article.

### Measures

#### DEPENDENT VARIABLE

The dichotomous dependent variable identifies whether the household's annual income is below the federal poverty threshold for that household size (yes = 1).

#### INDEPENDENT VARIABLE

The focal independent variable used in the analysis combines information on household-level veteran and disability statuses. We derived two

dichotomous variables based on a self-report of the presence of a person with a physical, mental, or other condition that limits the kind or amount of work that can be performed (yes = 1) and the presence of a person who had ever served on active duty in the armed forces (yes = 1). We used these variables to identify six different combinations of disability and veteran statuses at the household level. These include (1) households containing no person with disability or veteran; (2) disabled nonveteran households that have at least one nonveteran with a disability and no veteran; (3) disabled veteran households that have at least one disabled veteran and no nonveteran with a disability, (4) nondisabled veteran households that have at least one nondisabled veteran and no nonveteran with a disability; (5) nondisabled veteran with a disabled nonveteran households that contain at least one nondisabled veteran and at least one nonveteran with a disability; and (6) disabled veteran with a disabled nonveteran households that have at least one disabled veteran and one disabled nonveteran. Preliminary analysis indicated that the sixth category included a very small number of households. Thus, households with at least one disabled veteran and one disabled nonveteran are included in the disabled veteran household category. In multivariate analyses, the reference category is households in which no household member is either disabled or a veteran.

#### CONTROL VARIABLES

The study also includes controls for a variety of household-level demographic characteristics that are known to be related to poverty. The racial and ethnic composition of the household is indicated by a set of five dichotomous variables that identify households that are White only (yes = 1), Black only (yes = 1), Hispanic only (yes = 1), or Asian/Pacific Islander only (yes = 1), and all other race/ethnicities and racial/ethnic compositions, including mixed-race/ethnic households (yes = 1). The omitted reference category in multivariate analyses is White-only households. Household-level educational attainment is indicated by the highest level of education achieved by any member of the household. Four dichotomous indicators identify households in which the highest educational attainment is less than high school (reference category), high school graduate (yes = 1), some college (yes = 1), and college graduate or more (yes = 1). Three dichotomous variables identify the marital status of the household reference person: never-married (yes = 1), previously-married (i.e., divorced, widowed, or separated) (yes = 1), and married (reference category). The presence of children younger than age 18 years in the household is indicated by a dichotomous variable (yes = 1). A final control variable indicates whether the household is located in an urban area (yes = 1).

## Data Analysis

All analyses were conducted using STATA version 10.1 and are weighted using the household-level panel-year weight. Following a description of the sample, we present descriptive statistics that demonstrate the bivariate relationship between household-level disability and poverty statuses, as well as between veteran and poverty statuses. Then, we show the percentage living in poverty for the five household-level disability and veteran status categories. Finally, we present results from a logistic regression model predicting poverty status. The fully specified model includes the household disability and veteran status variable along with the other household-level control variables. The model also includes a set of dichotomous variables for each year, with 1992 as the reference group. Inclusion of these variables effectively “detrends” the change in poverty over the 13-year period.

## RESULTS

### Sample Description

Table 1 presents weighted descriptive statistics that describe the sample of households. Overall, 13.90% of households live at or below the poverty threshold. More than two thirds of households do not include a veteran or a person with a disability (69.13%), whereas about equal percentages include a disabled nonveteran (13.28%) and a nondisabled veteran (13.67%); 2.72% of households include a disabled veteran, whereas 1.21% of households include a nondisabled veteran and a disabled nonveteran. The majority of households include only persons who are White (71.85%), 12.03% include only persons who are Black, 8.58% include only persons who are of Hispanic ethnicity (regardless of race), 2.40% include only persons who are Asian/Pacific Islander, and 5.14% include persons of other or mixed races/ethnicities. Most households include someone whose highest educational attainment is some college (33.20%) or college degree (34.14%), although for 25.01%, the highest educational attainment of household members is a high school degree. For 7.64% of households, less than high school is the highest educational attainment of any household member. Approximately one half of households (50.45%) include currently-married household reference persons, whereas 21.35% include never-married reference persons and 28.21% include previously-married reference persons. About 42% of households include children younger than age 18 years. More than four-fifths (81.83%) are urban households.

In a supplemental analysis (not shown), we examined the distribution of period of military service to help us better understand which veterans are represented in the households in the sample. Among households that include veterans, 16.69% include a veteran who served only before August 1964, 39.12% include a veteran who served only between August 1964 and

**TABLE 1** Descriptive Statistics ( $N = 58,686$ )

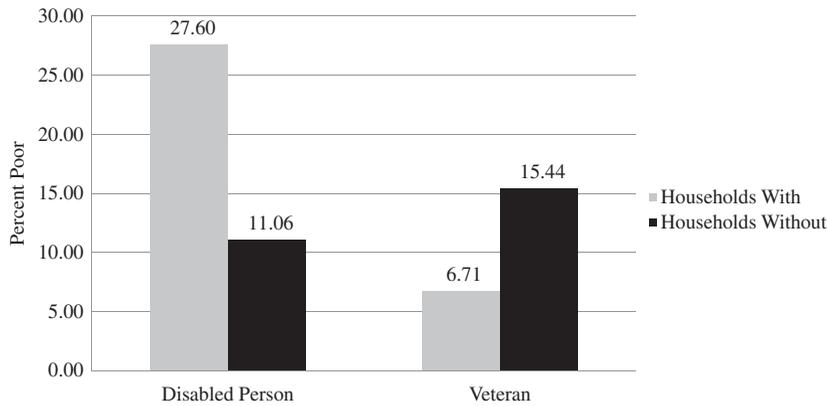
| Variable                                     | % <sup>a</sup> |
|--|----------------|
| Household in poverty (1 = yes)               | 13.90          |
| Household disability and veteran status      |                |
| No person with disability or veteran         | 69.13          |
| Disabled nonveteran                          | 13.28          |
| Disabled veteran                             | 2.72           |
| Nondisabled veteran                          | 13.67          |
| Nondisabled veteran and disabled nonveteran  | 1.21           |
| Household race/ethnicity                     |                |
| White only                                   | 71.85          |
| Black only                                   | 12.03          |
| Hispanic only                                | 8.58           |
| Asian/Pacific Islander only                  | 2.40           |
| Other and mixed race/ethnicity               | 5.14           |
| Highest educational attainment in household  |                |
| Less than high school                        | 7.64           |
| Graduated high school                        | 25.01          |
| Some college                                 | 33.20          |
| College                                      | 34.14          |
| Marital status of household reference person |                |
| Currently married                            | 50.45          |
| Never married                                | 21.35          |
| Previously married                           | 28.21          |
| Child < 18 years in household (1 = yes)      | 41.71          |
| Metropolitan household (1 = yes)             | 81.93          |
| Survey year                                  |                |
| 1992   | 9.92           |
| 1993   | 28.78          |
| 1996   | 19.85          |
| 2001   | 17.05          |
| 2004   | 24.41          |

*Note.* <sup>a</sup>Percentages are weighted using the household-level panel-year weight.

April 1975, 6.35% include a veteran who served only between May 1975 and August 1980, 9.93% include a veteran who only served between September 1980 and July 1990, and 8.94% include a veteran who served only from August 1990 on. Approximately 14% of households include a veteran who served in more than one of the discreet periods noted above, whereas a small percentage of veterans were missing on period of service. Thus, the veterans represented in these households can largely be thought of as Vietnam-era veterans, although substantial percentages served prior to and after the Vietnam War era (i.e., during the Korean and Cold War eras, and during the AVF era, respectively).

### Descriptive Results

The results presented in Figure 1 support Hypotheses 1 and 2. As seen in Figure 1, household-level disability and veteran status, respectively, are

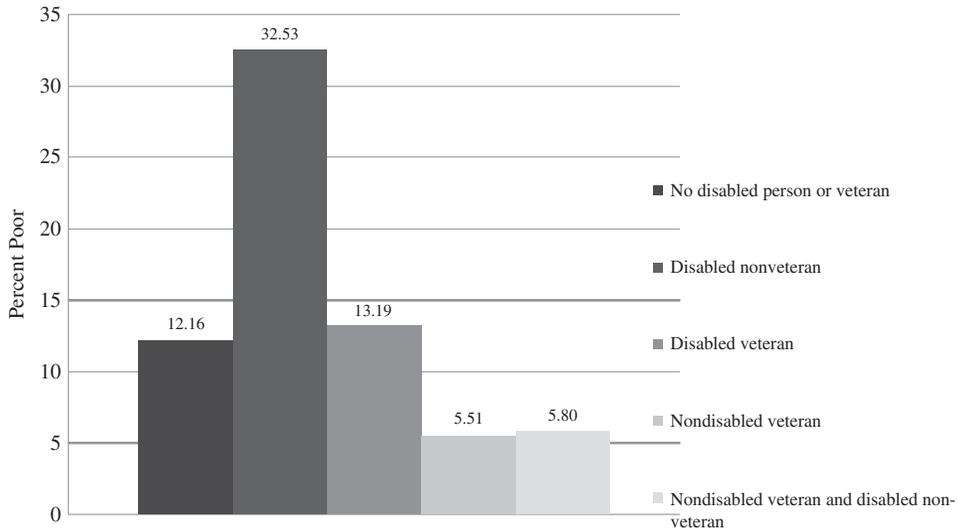


**FIGURE 1** Household-level poverty status separately by household-level disability status and veteran status<sup>a</sup>.

*Note.* Reported differences in poverty rates by household-level disability status and household-level veteran status, respectively, are statistically significant,  $p < 0.001$ .

associated significantly with household-level poverty status, but the associations are in opposite directions. Households that include at least one person with a work-limiting disability are much more likely to be below the poverty threshold than are households that do not include a person with a disability (27.60% vs. 11.06%,  $p < 0.001$ ), whereas households that include at least one veteran are less likely to be poor than are households that do not include a veteran (6.71% vs. 15.44%,  $p < 0.001$ ). Supplemental analyses (not shown) indicate that these associations remain statistically significant and in the same direction in a logistic regression analysis that includes both of these variables and all of the controls. The odds ratio (OR) for the comparison of veterans to nonveterans is 0.62 ( $p < 0.001$ ) and the OR for the comparison of disabled persons to nondisabled persons is 3.03 ( $p < 0.001$ ) in the supplemental logistic regression analyses.

The results presented in Figure 2 and Table 2 support Hypothesis 3. Figure 2 presents the cross-classification of household-level disability, veteran, and poverty statuses. As seen in Figure 2, among households that do not contain either a person with a disability or a veteran, 12.16% live below the poverty threshold. Nondisabled veteran households have the lowest rate of poverty (5.51%), whereas disabled nonveteran households have the highest poverty rate (32.53%). Disabled veteran households have a surprisingly high rate of poverty (13.19%) that is above the rate for households that contain no person with disability or veteran. Nondisabled veteran with a disabled nonveteran households have a relatively low rate of poverty (5.80%) that is only slightly higher than the poverty rate observed among nondisabled veteran households.



**FIGURE 2** Household-level poverty status by cross-classified household-level disability and veteran statuses<sup>a</sup>.

*Note.* <sup>a</sup>The association between the percent poor and the household-level disability and veteran status variable is statistically significant,  $p < 0.001$ . Analysis is weighted using the household-level panel-year weight.

Taken together, these results underscore the importance of taking veteran and disability statuses into account when evaluating household-level poverty and its implications for family well-being. For example, the rate of poverty among all disabled households (27.60%; Figure 1) is substantially lower than the rate of poverty among disabled households that do not include a veteran (32.53%; Figure 2).

### Multivariate Results

Multivariate logistic regression analysis results shown in Table 2 provide additional evidence that disability and veteran statuses jointly have a strong association with household poverty after controlling for household-level characteristics known to be correlated with the risk of poverty. Compared to households with no disabled person or veteran, the odds of living in poverty are more than 3 times higher among disabled nonveteran households (OR = 3.20,  $p < 0.001$ ). Relative to the same reference group, the odds of poverty are 65% higher among disabled veteran households (OR = 1.65,  $p < 0.001$ ). In contrast, nondisabled veteran with a disabled nonveteran households have an odds of poverty that are not significantly different from households without a person with disability or veteran present.

**TABLE 2** Logistic Regression<sup>a</sup> Predicting Poverty (*N* = 58,686)

| Variable  | <i>b</i>   | ( <i>SE</i> ) | Odds ratio | 95% CI       |
|---|------------|---------------|------------|--------------|
| Household disability and veteran status           |            |               |            |              |
| No person with disability or veteran <sup>b</sup> | —          | —             | —          | —            |
| Disabled nonveteran                               | 1.164***   | (0.035)       | 3.20       | [2.99, 3.43] |
| Disabled veteran                                  | 0.499***   | (0.085)       | 1.65       | [1.39, 1.95] |
| Nondisabled veteran                               | -0.316***  | (0.059)       | 0.73       | [0.65, 0.82] |
| Nondisabled veteran and disabled nonveteran       | 0.039      | (0.182)       | 1.04       | [0.73, 1.48] |
| Household race/ethnicity                          |            |               |            |              |
| White only <sup>b</sup>                           | —          | —             | —          | —            |
| Black only  | 0.674***   | (0.038)       | 1.96       | [1.82, 2.12] |
| Hispanic only                                     | 0.534***   | (0.049)       | 1.71       | [1.55, 1.88] |
| Asian/Pacific Islander only                       | 0.663***   | (0.087)       | 1.94       | [1.64, 2.30] |
| Other and mixed race/ethnicity                    | 0.363***   | (0.066)       | 1.44       | [1.26, 1.63] |
| Highest educational attainment in household       |            |               |            |              |
| Less than high school <sup>b</sup>                | —          | —             | —          | —            |
| Graduated high school                             | -0.755***  | (0.045)       | 0.47       | [0.43, 0.51] |
| Some college                                      | -1.150***  | (0.046)       | 0.32       | [0.29, 0.35] |
| College   | -1.753***  | (0.053)       | 0.17       | [0.16, 0.19] |
| Marital status of household reference person      |            |               |            |              |
| Currently married <sup>b</sup>                    | —          | —             | —          | —            |
| Never married                                     | 1.322***   | (0.041)       | 3.75       | [3.46, 4.07] |
| Previously married                                | 1.017***   | (0.037)       | 2.76       | [2.57, 2.97] |
| Child < 18 years in household (1 = yes)           | 0.791***   | (0.031)       | 2.20       | [2.07, 2.34] |
| Metropolitan household (1 = yes)                  | -0.274***  | (0.032)       | 0.76       | [0.71, 0.81] |
| Survey year                                       |            |               |            |              |
| 1992 <sup>b</sup>                                 | —          | —             | —          | —            |
| 1993  | -0.042     | (0.057)       | 0.96       | [0.86, 1.07] |
| 1996  | 0.054      | (0.056)       | 1.06       | [0.95, 1.18] |
| 2001  | 0.083      | (0.059)       | 1.09       | [0.97, 1.22] |
| 2004  | 0.155**    | (0.054)       | 1.17       | [1.05, 1.30] |
| Intercept   | -2.081***  | (0.074)       | —          | —            |
| Model fit   |            |               |            |              |
| Log likelihood                                    | -19595.576 |               |            |              |
| Wald $\chi^2$                                     | 5437.65*** |               |            |              |

Note. CI = 95% Confidence Interval.

<sup>a</sup>Logistic regression analysis incorporates the household-level panel-year weight.

<sup>b</sup>Reference category.

\*\**p* < 0.01, \*\*\**p* < 0.001.

Additionally, nondisabled veteran households have the lowest odds of poverty—27% lower than households without veterans or disabled members present (OR = 0.73,  $p < 0.001$ ).

In supplemental analyses (not shown), we used a Wald chi-square test to evaluate the statistical significance of differences between the coefficients for the different types of households jointly defined by disability and veteran statuses. With one exception, results indicate that there are significant differences by household type and that each contrast with the other household types is statistically significant at least at the  $p < 0.05$  level. The one exception—the difference between veteran households with no person with disability and veteran households with a disabled nonveteran present—is marginally significant ( $p = 0.06$ ). This supplemental analysis further underscores the extent to which variation in household poverty status is jointly affected by the disability and veteran statuses of household members.

As shown in Table 2, the control variables are associated significantly with household-level poverty in the expected directions, and there is little evidence of differences over time. The odds of poverty are higher among racial/ethnic minority households. Compared to households that only include White persons, households that only include Black persons are almost 2 times more likely to be in poverty (OR = 1.96,  $p < 0.001$ ), households that include only Hispanic persons are 71% more likely to be in poverty (OR = 1.71,  $p < 0.001$ ), households that include only Asians/Pacific Islanders only are 94% more likely to be in poverty (OR = 1.94,  $p < 0.001$ ), and households that include persons of other or mixed races/ethnicities are 44% more likely to be in poverty (OR = 1.44,  $p < 0.001$ ). Having a more highly educated person in the household decreases the odds of living in poverty. Compared to households in which the most-educated person has less than high school educational attainment, those in which the most-educated person is a high school graduate have a 53% lower odds of being in poverty (OR = 0.47,  $p < 0.001$ ), those in which the most-educated person has some college have a 68% lower odds of being in poverty (OR = 0.32,  $p < 0.001$ ), and those in which the most-educated person is a college graduate or has more education have a 83% lower odds of being in poverty (OR = 0.17,  $p < 0.001$ ). Compared to households in which the household reference person is married, the odds of being in poverty are 3.75 times higher in households in which the reference person is never-married (OR = 3.75,  $p < 0.001$ ) and 2.76 times higher among households in which the reference person is previously-married (OR = 2.76,  $p < 0.001$ ). The odds of poverty are more than 2 times higher in households that contain a minor child than in households that do not (OR = 2.20,  $p < 0.001$ ). Living in a metropolitan area reduces the odds of poverty by 24% relative to living in a nonmetropolitan area (OR = 0.76,  $p < 0.001$ ). The odds of poverty are 17% higher among survey respondents in 2004 than they are among survey respondents in 1992.

## DISCUSSION

The findings presented above provide support for all three of our initial hypotheses. Households that include a person with a work-limiting disability have higher odds of living in poverty (Hypothesis 1) and households that include a veteran have lower odds of living in poverty (Hypothesis 2). In addition, at the household level, work-limiting disability and veteran statuses are jointly associated with poverty status (Hypothesis 3). Specifically, households with a nondisabled veteran present have a distinct advantage in terms of a reduced likelihood of living in poverty, but that advantage is severely eroded when the veteran has a work-limiting disability or has a disabled family member. Still, veteran households with and without persons with a disability in them have substantially lower odds of poverty than disabled nonveteran households. Disabled nonveteran households have a particularly high rate of poverty (32.53%). Taken together, these results indicate that disability and veteran statuses interact at the household-level in ways that contribute to substantial variability in household-level poverty, which has implications for all household members.

The findings raise the question of why having a veteran in a household would reduce the odds of poverty. Given that the models control for household sociodemographic characteristics, including race, education, marital status, the presence of children, and metropolitan location, the veteran advantage is not due to differences in household composition that are typically associated with poverty. The differences in poverty between veteran and nonveteran households could result from unobserved differences in the characteristics of the disabled household member(s), particularly if such characteristics are associated with the disabled household member's capacity to provide financial support. Differences might also be linked to previous and current ties that only veteran households have to the military, especially the social capital and benefits associated with military service.

In terms of considering the characteristics of the disabled household member(s), the substantially higher rate of poverty among disabled nonveteran households (32.53%) is noteworthy, particularly given the very low rate of poverty among households with a nondisabled veteran and a disabled nonveteran (5.80%). Perhaps disabled nonveteran households contain a primary earner who is disabled, whereas in households that include a nondisabled veteran and a disabled nonveteran, the veteran is the primary earner and the disabled nonveteran is a young adult or other secondary earner. Some disabilities emerge early in life, preclude military service, and contribute substantially to adult poverty by limiting work and constraining the work of caregivers. Knowing more about the age of onset, severity, and trajectory of disablement would contribute substantially to our understanding of the particularly high rate of poverty among disabled nonveteran households because persons with early onset, severe disabilities are

particularly likely to be in those households. Similarly, identifying the characteristics of the disabled veterans might help to explain why the poverty rate in their households is substantially lower (13.19%) than disabled nonveteran households, but higher than among nondisabled veteran households. Addressing these kinds of questions represents an important direction for future research.

In terms of the benefits and services available to veterans, service in the armed forces can provide job-related training, educational opportunities, and socialization to adult roles that gives veterans an advantage in the job market over those who never served in the military. Previous research suggests that military service can be a positive turning point for men (and perhaps women) from disadvantaged backgrounds (Bound & Turner, 2002; Elder, 1986, 1987; Laub & Sampson, 2003; MacLean, 2005; Sampson & Laub, 1996), which in some circumstances is associated with improved occupational outcomes and earnings (Bennett & McDonald, *in press*; Kleykamp, *in press*). In addition, the military as an institution provides extensive benefits and services to individuals who are seen as deserving of such support because they have served or sacrificed for the state. Those who have become disabled as a consequence of their service are seen as particularly deserving of life-long support. This social contract, which has considerable popular and political support, provides an array of services and benefits, including health care; service-connected disability compensation; pensions; education and training; home loan guaranty; life insurance; burial and memorial benefits; transition assistance, including vocational rehabilitation and employment; and dependent and survivors benefits (U.S. Department of Veterans Affairs, 2009b) that have the potential to reduce poverty and material hardship among recipients. Yet little if any research has examined that possibility. The findings of this research suggest the income supports provided by the VA to those who served in the armed forces might reduce the risk of poverty, although the surprisingly high rate of poverty among disabled veteran households provides impetus to arguments that benefit levels for disabled veterans are inadequate and need to be adjusted (Fulton et al., 2009). Additional research that provides evidence of poverty-reducing effects among veterans can inform policy, aid in the development of benefits and services for other needy or vulnerable populations, and stimulate additional research that could do the same.

Because the findings reported in this article characterize the household, they have implications for all household members. The potential implications of these results for family well-being are underscored by the observation that poverty alone is not a sufficient predictor of material deprivations that impact the health and well-being of household members (Iceland & Bauman, 2007; Mayer & Jencks, 1989; She & Livermore, 2007). Emerging evidence shows that work-limiting disability and veteran statuses jointly influence material hardships net of income-to-needs (Heflin

et al., in review). This research shows that veteran households with no person with disability in them experience similar home and medical hardships and significantly lower bill-paying hardship and food insufficiency levels as nonveteran households with no person with disability in them. All other household types that include a person with a disability experience significantly higher levels of material hardship relative to the same reference group. The ORs for all contrasts are in the range of 1.71 to 2.73 times higher, and the highest increased odds of home and medical hardship observed are in households that include a veteran. Moreover, for all four types of material hardship, disabled veteran households experience significantly more hardship than veteran households with no disability.

Future research should address how the presence of veterans and nonveterans, with and without disabilities in poor and nonpoor households affects coresident spouse/partner, child, and/or parent outcomes. Some variation in family members' outcomes may operate through disability-related poverty, economic constraint, and material deprivation, but there are likely to be other influences linked to veteran status that have not been adequately examined in the extant literature. Additionally, there are potentially positive effects of having a veteran or a person with disability in the household that should be considered. Attention to how the presence of a nonveteran or veteran with a disability affects care work, spouse/partner's employment, and caregiver well-being, and whether outcomes vary if the disabled person or caregiver is a veteran, would advance our understanding of how the nexus of disability and veteran statuses affects the well-being of families and households over and above their demonstrated joint associations with poverty and material hardship.

Several limitations of the current study should be noted. First, results should be interpreted as descriptive, not causal. As noted above, it is possible that veteran households and households that include a person with a disability differ from nonveteran households on unobserved factors that influence their probability of being poor. Second, work-limiting disability does not capture the full range of specific functional limitations and disabilities that could influence the likelihood of poverty. Finally, it is beyond the scope of this article to examine how participation in different disability or veteran programs is associated with poverty, although we believe that doing so is an important direction for future research.

There is a need for civilian and military policy makers, researchers, and practitioners to pay more attention to the health and health care, economic, and social needs of persons with disabilities, including veterans with disabilities, and the members of their households (Scotch & Berkowitz, 1990; U.S. Department of Health and Human Services, 2005). Various public health and welfare organizations can work more closely with the VA to improve the well-being, broadly defined, of disabled veterans, and ease the burdens experienced by veterans who have disabled family

members in their households, while working to address the needs of disabled nonveterans in the community. Incremental policy changes could reduce expenditures, promote independence, and potentially enhance the social and economic well-being of working-age nonveterans and veterans with disabilities (Goodman & Stapleton, 2007), as well as their family members.

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