

Effect of Elder Caregiving on Labor Force Participation

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Unpaid eldercare provided by friends and family comes with costs to caregivers, including the limitations eldercare responsibilities may place on labor force participation and work hours. This study examines the relationship between the intensity of unpaid elder care and work behavior for previously full-time workers using multivariate regression to analyze 2011-2018 American Time Use Survey data. High frequency eldercare provision is associated with a decreased probability of being in the labor force for women (2.7 percentage points) and a decrease in weekly hours worked for both men (3.4 hours) and women (2.3 hours), conditional on working full-time 2-5 months prior.

Keywords: elder care, long-term care, unpaid care, informal care, labor force participation, hours worked

Introduction

Demographic trends like longer life expectancies (Watkins et al., 1987; Rubin 2002) and declining birth rates (Kearney et al., 2022) raise concerns regarding the consequent increased care needs of an aging population, which pose a particular challenge for countries such as the United States that organize their care systems through ad hoc combinations of paid and family providers. Unpaid eldercare is particularly common in the U.S., with between 3.5 to 65.7 million adults providing care to an older adults in the US, depending on the definition of care (Schulz & Tompkins, 2010). Given growing demand for eldercare in countries with aging populations, it is crucial for policymakers to consider the intergenerational implications of care policies that rely on the contributions of individuals and families.

Unpaid care provision comes with costs that are often indirect and borne by the caregiver. One cost is the impact eldercare responsibilities may have on the ability of caregivers to work. Past literature on the effects of eldercare on labor force participation are mixed, though generally find that caregiving results in lower labor force attachment (McLanahan & Monson, 1990; Wolf & Soldo, 1994; Moen et al., 1994; Ettner, 1996; Ruhm, 1996; Pavalko & Artis, 1997; Heitmueller, 2007; Bolinet et al., 2008; Crespo & Mira, 2014; Skira, 2015). For example, Maestas et al. (2021) find that the probability of employment initially declines by two percentage points and is sustained for two years following the start of a caregiving spell. Research on the effects of elder caregiving on hours worked and wages are more mixed (Butrica & Karamcheva, 2014; Van Houtven, et al., 2013).

Past research on eldercare tends to use binary or hourly measures of caregiving depending on data availability. This study adds to this body of literature by considering how the frequency of caregiving affects labor force participation and work hours using an infrequently

employed dataset in eldercare research, the American Time Use Survey (ATUS). Starting in 2011, the ATUS introduced specific questions on eldercare, including whether the respondent had provided eldercare at any point in the past three months and how frequently they provide that care. Though the ATUS is a recent and nationally-representative dataset on unpaid caregivers, existing scholarship primarily focuses on childcare. Consequently, there is a gap in the literature applying this data to study unpaid eldercare, though it provides rich cross-sectional, and when combined with the Current Population Survey (CPS), short panel data on eldercare activities.

One preliminary study by Truskinovsky and Maestas (2018) takes advantage of the brief panel structure of linked ATUS and CPS data to study the effects of caregiving on work activity at or following the start of a caregiving spell. They determine that caregiving is associated with a 1.3 percent decrease in the likelihood of working and an increase in workplace absences by 40 percent in the months following the start of caregiving. This paper differs from that study by considering how frequencies of caregiving additionally interact with outcomes and looking at labor force exit at any point in time during caregiving, rather than specifically at the start of care.

It is empirically difficult to determine whether individuals work less due to care responsibilities or whether those who do not work provide care at higher rates because they have the extra time to do so. Indeed, several older studies conclude that employment decreases hours of informal care provided rather than vice versa (Stoller 1983; Doty, Jackson, and Crown 1998). To account for this issue, I focus on changes in the labor force participation status of previously full-time workers by frequency of caregiving. This reduces the potential for overestimated effects from excluding individuals who do not work or work part-time, regardless of their care responsibilities.

Under this restriction, I demonstrate that high-frequency eldercare is associated with a decreased likelihood of being in the labor force for individuals who were previously working full time. Providing eldercare on a daily basis is associated with a 2.7 percentage point decrease in the likelihood of labor force participation for women, a 3.4 hour decrease in weekly hours for men, and a 2.3 hour decrease in weekly hours for women. The impacts of informal eldercare therefore extend beyond the simple summation of time spent providing such care. Secondary impacts, such as the opportunity cost of not working, additionally add to the loss of financial resources for caregivers.

The rest of the paper proceeds as follows: Section II reviews the dataset, sample, summary statistics, and models employed. Section III presents the results of the analysis. Section IV discusses the results and their policy implications. Section VI concludes.

II. Data and Methods

The ATUS is a nationally representative survey conducted by the US Bureau of Labor Statistics on non-institutionalized US individuals age 15 and older. Respondents are a random subsample drawn from the CPS among households who have completed their eighth and final month of CPS interviews. The ATUS survey is conducted 2-5 months following the household's final CPS interview.

Starting in January 2011, the ATUS introduced questions regarding time spent on unpaid eldercare. These questions include whether respondents had provided "any care or assistance for an adult who needed help because of a condition related to aging" in the past three months. If respondents had provided any care, they are then asked how often they provided this care and are given the options of daily, several times a week, about once a week, several times a month, once a month, one time, or other. Data on the relationship of the care receiver to the respondent are

also collected. Due to limited sample size, I use pooled ATUS data from 2011-2018 to capture pre-pandemic estimates.

To account for the effects of unpaid eldercare frequencies, this paper only includes individuals who reported working full-time in the last month of their household's CPS interview. Given that the ATUS is conducted 2-5 months following the final CPS interview, comparing employment status of previously full time individuals to their employment status 2-5 months later allows for a rough measure of the likelihood of labor force exit by intensity of eldercare responsibilities. Likewise, restricting the sample to those who previously noted working full-time removes some endogeneity due to unobserved individual work ethic.

Across 2011-2018, the resulting sample includes 43,518 observations. Of all people who received care from a respondent in the past three months, the majority, approximately 65 percent, were either a parent or grandparent. The remaining categories of care receivers include spouse or partner, sibling, other older relatives (aunt or uncle), and individuals who are not relatives, such as a friend or neighbor.

Table 1: Population means of model variables for different eldercare giving frequencies

Variables	No care	Any care	Daily	Several times a week	Once a week or less
Labor force participation	0.97	0.97	0.94	0.98	0.98
Average weekly hours worked	40.9	41.2	37.1	41.4	42.1
Eldercare frequency					
No care	1.00				0.00
Daily		0.15	1.00		0.00
Several times a week		0.24		1.00	0.00
Once a week or less		0.61			1.00
Female	0.41	0.49	0.55	0.50	0.46
Race					
White	0.65	0.74	0.67	0.73	0.77
Black	0.12	0.12	0.15	0.12	0.11
Hispanic	0.15	0.09	0.12	0.09	0.08
Married	0.62	0.64	0.55	0.62	0.66
Age	43.6	47.6			

Educational Attainment					
HS diploma or equivalent	0.07	0.04	0.07	0.04	0.04
Some college	0.27	0.25	0.31	0.26	0.24
Bachelor's degree	0.24	0.27	0.30	0.30	0.25
Graduate degree	0.25	0.26	0.20	0.24	0.29
Number of Observations	34972	8546	1073	1915	5089

Source: Author's calculations from the 2011-2018 American Time Use Survey using 2006 methodology weights.

Notes: The sample is restricted to adults age 25 and older who reported working full-time in the final (8th) month of their CPS survey. "Any care" includes respondents who provide care "daily," "several times a week," or "once a week or less."

Table 1 presents weighted means and standard deviations of relevant demographic factors for the population of eldercare givers compared to the population that does not provide any eldercare.

Of the sample of individuals who were working full time in the final month of their CPS interview who were then selected for an ATUS interview, 34,972 did not provide any eldercare in the past three months while 8,546 provided care at some frequency. On average, those who provided any level of care were about four years older (48 years old), 8 percentage points more likely to be female (49 percent), 9 percentage points more likely to be white (74 percent), and were 2 percentage points more likely to have a spouse or partner (64 percent). Those who provided care were also slightly more likely to have higher education, such as a bachelors (27 percent) or graduate degree (26 percent). The labor force participation rates of non-caregivers and caregivers who were previously employed full-time 2-5 months prior, however, is the same (97 percent), as is average hours worked in a week (41 hours).

Further disaggregation of groups by care frequency is required to uncover differences in work behaviors between caregivers and non-caregivers. Of those who provide care, 1,073 individuals provided daily elder care, 1,915 provided elder care several times a week, and 5,089 provided elder care once a week or less. Weighted average labor force participation for daily elder care provision has the lowest labor force participation rate (94 percent), while those who provide elder care several times a week and those who provide elder care once a week or less

have slightly higher labor force participation (both 98 percent) than individuals who do not perform any elder care (97 percent). Similarly, the average hours worked in a week is least for those who provide daily eldercare (37 hours) compared to those who provide care several times a week or once a week or less (42 hours) and those who provide no care (41 hours). Other demographic factors remain relatively similar with all three caregiving-frequency groups continuing to be on average older, more likely to be female, white, and partnered compared to non-caregivers.

That caregivers who provide care once a week or less have higher labor force participation rates and average weekly work hours is inconsistent with the expectation that elder care responsibilities reduces the likelihood of working. However, there is a stark difference between the labor force participation rate and hours worked of daily caregivers compared to those who provide eldercare with less frequency, suggesting that intensity of care is an important factor that mediates the work behaviors and decisions of informal caregivers.

This descriptive result, however, only provides intuition for the relationship between intensities of eldercare provision and work decisions. As a next step, I employ a linear probability model to account for the effect of variables such as gender, educational attainment, or marital status that additionally affect the care and work decisions of individuals.

Model

To estimate the effect of elder caregiving frequency on labor force participation, I use a binary dummy variable for whether the respondent is in the labor force or not at the time of their ATUS interview. Given the binary nature of the dependent variable, I employ a linear probability model regression with form:

$$LFP = \beta_0 + \beta_1 \text{carefreq} \times \text{sex} + \beta_2 \text{race} + \beta_3 \text{partnered} + \beta_4 \text{age} + \beta_5 \text{educ} \quad (1)$$

where LFP is a dummy variable that takes the value one if the respondent is in the labor force and zero if not, care is a categorical variable for the frequency of eldercare provided in the past three months (daily, several times a week, once a week or less), race is a categorical variable for race and ethnicity (white-non Hispanic, white-Hispanic, Black, other), partnered indicates whether the respondent has a partner or spouse, age is a categorical variable for 10-year age groups (25-34, 35-44, 45-54, 55-64, 65+), and educ is a categorical variable for levels of educational attainment (less than high school, high school diploma or equivalent, some college or Associate's degree, Bachelor's degree, graduate or professional degree).

All the variables besides the outcome of interest (care frequency interacted with sex) serve as controls due to their demonstrated influence on labor force participation (Congressional Budget Office, 2018). I also run the model four more times, each time conditioning on a different level of educational attainment to allow for the interaction of sex, care frequency, and educational attainment all together.

To estimate the effect of elder caregiving frequency on hours worked in a week, I employ an ordinary least squares regression where the right-hand side variables remain the same as in the above model. Rather than dropping out of the labor force entirely, workers may instead reduce their hours of work and move from full-time to part-time jobs.

III. Results

Table 2 presents estimates of the econometric analysis with labor force participation as the dependent variable. First, there is a highly statistically significant relationship between daily elder care provision and labor force participation for women overall, where daily care reduces the probability of labor force participation by 2.7 percentage points. However, this does not hold across all educational attainment groups, with only those who have attained a HS diploma or

equivalent (-0.0564) seeing statistically significant effects, suggesting that results are primarily driven by women with lower educational attainment.

The coefficient for men with some college and men with a graduate degree who provide daily elder care is positive and statistically significant, as is the coefficient for men with graduate degrees who provide elder care several times a week, suggesting that these frequencies of care are associated with a greater likelihood of being in the labor force for some men. However, men with a HS diploma or equivalent who provide daily care experience a slightly statistically significant negative effect on their labor force participation, again suggesting individuals with lower socioeconomic status, as proxied by educational attainment, are most likely to see labor force participation effects due to high-frequency caregiving.

Table 2: Linear probability model estimates of eldercare frequency and labor force participation

Explanatory Variables	All	HS/GED	Some College	Bachelor's Degree	Graduate Degree
Male					
Daily	-0.033 (0.021)	-0.059* (0.035)	0.018*** (0.006)	-0.025 (0.028)	0.023*** (0.005)
Several times a week	-0.004 (0.006)	-0.021 (0.016)	-0.003 (0.010)	-0.004 (0.014)	0.022*** (0.004)
Once a week or less	0.004 (0.004)	0.006 (0.007)	0.005 (0.006)	0.004 (0.010)	0.009 (0.006)
Female					
No care	-0.013*** (0.002)	-0.017*** (0.005)	-0.011** (0.005)	-0.002 (0.003)	-0.008 (0.005)
Daily	-0.040*** (0.014)	-0.056** (0.028)	-0.026 (0.022)	-0.005 (0.012)	-0.020 (0.024)
Several times a week	-0.001 (0.005)	0.008 (0.011)	-0.000 (0.009)	-0.002 (0.010)	-0.007 (0.013)
Once a week or less	-0.001 (0.003)	0.015*** (0.005)	-0.001 (0.006)	-0.002 (0.007)	-0.005 (0.007)
Race					
White	0.017***	0.021*	0.012	0.011	0.010

	(0.006)	(0.012)	(0.011)	(0.008)	(0.010)
Hispanic	0.009	0.010	-0.000	0.005	0.008
	(0.007)	(0.013)	(0.012)	(0.010)	(0.011)
Black	-0.001	-0.003	0.004	-0.009	0.001
	(0.007)	(0.013)	(0.012)	(0.011)	(0.011)
Age					
35-44	0.004	-0.006	0.008	0.007**	0.003
	(0.003)	(0.006)	(0.005)	(0.004)	(0.005)
45-54	0.003	0.000	0.005	0.007*	-0.003
	(0.003)	(0.006)	(0.005)	(0.004)	(0.006)
55-64	-0.008**	-0.014**	-0.003	-0.018***	-0.009
	(0.003)	(0.007)	(0.006)	(0.006)	(0.007)
65+	-0.065***	-0.066***	-0.055***	-0.079***	-0.050***
	(0.009)	(0.018)	(0.015)	(0.019)	(0.016)
Married	0.000	0.005	-0.002	-0.003	-0.007*
	(0.002)	(0.005)	(0.004)	(0.003)	(0.004)
Education					
HS or GED	0.022***				
	(0.007)				
Some college or Associate's	0.029***				
	(0.007)				
Bachelor's degree	0.033***				
	(0.007)				
Graduate degree	0.036***				
	(0.007)				
Constant	0.941***	0.964***	0.969***	0.977***	0.984***
	(0.010)	(0.013)	(0.012)	(0.010)	(0.009)
Number of obs	42349	9142	11510	11459	7791
<i>r</i> ²	0.0146	0.0150	0.0077	0.0165	0.0098

Source: Author's calculations from the 2011-2018 American Time Use Survey using 2006 methodology weights.

Notes: Standard errors are in parentheses. The sample includes adults age 25 and older who reported working full time in the last (8th) month of their CPS survey. * p<0.1, ** p<0.05, *** p<0.01

As expected, more educational attainment significantly boosts labor market participation. Race and ethnicity controls are important in the overall regression, but their effects are mitigated when breaking the regressions out by educational attainment. There is a similar result with age, where older age groups are less likely to be in the labor force compared to younger groups, but again

this effect is mitigated by the breakout of educational attainment.

Table 3: Linear probability model estimates of eldercare frequency and average weekly hours worked

Explanatory Variables	All	HS/GED	Some College	Bachelors	Graduate
Male					
Daily	-3.44*** (1.25)	-4.49** (2.01)	-1.99 (2.30)	-2.76 (2.40)	-0.31 (1.61)
Several times a week	0.70 (0.72)	-0.56 (1.31)	-0.80 (1.34)	1.64 (1.60)	5.39*** (1.54)
Once a week or less	0.81** (0.41)	0.27 (0.85)	1.81*** (0.70)	1.42* (0.81)	0.98 (0.83)
Female					
No care	-4.28*** (0.21)	-4.64*** (0.46)	-5.00*** (0.41)	-3.18*** (0.34)	-3.44*** (0.46)
Daily	-6.62*** (0.95)	-7.38*** (1.72)	-7.36*** (1.82)	-3.54** (1.59)	-1.96 (1.82)
Several times a week	-4.15*** (0.62)	-4.68*** (1.59)	-3.21*** (0.95)	-4.65*** (1.13)	-4.36*** (1.52)
Once a week or less	-3.82*** (0.40)	-3.36*** (0.83)	-5.33*** (0.78)	-3.62*** (0.75)	-1.79** (0.86)
Race					
White	3.24*** (0.41)	3.72*** (1.02)	2.16** (0.91)	2.99*** (0.67)	3.42*** (0.78)
Hispanic	1.25** (0.49)	1.14 (1.11)	0.21 (1.03)	1.47* (0.88)	1.25 (1.07)
Black	-0.00 (0.50)	0.42 (1.16)	-0.81 (1.02)	-0.14 (0.88)	0.78 (1.04)
Age					
35-44	0.83*** (0.27)	0.56 (0.66)	1.52*** (0.53)	0.56 (0.41)	0.61 (0.55)
45-54	1.27*** (0.27)	1.31** (0.60)	2.03*** (0.53)	0.50 (0.47)	0.64 (0.65)
55-64	0.11 (0.29)	0.84 (0.61)	0.62 (0.56)	-1.64*** (0.53)	-0.37 (0.68)
65+	-4.79*** (0.60)	-4.44*** (1.25)	-4.19*** (1.13)	-6.25*** (1.26)	-5.83*** (1.21)
Married	1.19*** (0.21)	2.72*** (0.45)	0.78** (0.39)	0.83** (0.35)	-0.94** (0.45)

Education					
HS diploma or GED	3.59*** (0.55)				
Some college or Associate's	4.94*** (0.55)				
Bachelor's degree	6.19*** (0.55)				
Graduate degree	7.47*** (0.56)				
Constant	34.31*** (0.70)	36.70*** (1.15)	40.28*** (1.02)	40.98*** (0.77)	42.74*** (1.01)
Number of obs	40481	8667	11008	11000	7492
<i>r</i> ²	0.0564	0.0479	0.0471	0.0392	0.0395

Source: Author's calculations from the 2011-2018 American Time Use Survey using 2006 methodology weights.

Notes: Standard errors are in parentheses. The sample includes adults age 25 and older who reported working full time in the last (8th) month of their CPS survey. * p<0.1, ** p<0.05, *** p<0.01

Table 3 presents results of the regressions on hours worked instead of labor force participation.

Men who provide daily eldercare work 3.4 fewer hours per week than men with no care responsibilities. This is driven by the strong decrease in hours worked for men with HS degrees or equivalent compared to men with higher educational attainment. Conversely, men with higher educational attainment or who provide care once a week or less seem to have increased hours of work. Specifically, men with graduate degrees who provide care several times a week and men with some college or Bachelor's degrees have statistically significant effects for working more hours. In contrast, most women who provide daily eldercare work fewer hours a week on average. Women who provide daily care work 2.3 fewer hours; this is driven by greater decreases in hours worked for women with HS diplomas or some college, compared to women with higher educational attainment.

Robustness Checks

I take two approaches to evaluating the robustness of my results. First, I rerun the linear

probability model with labor force participation as a dependent variable using a probit regression model. Probit models are often used for categorical dependent variables and thus help to affirm the validity of the results of the linear probability model if they match. The results obtained from the probit regressions broadly match the sign and statistical significance of the linear probability model results reported above .

Second, I apply bootstrap estimation which draws a subsample and applies the model to the subset of data. This method allows for testing whether specific subsamples of a dataset are driving the results in the model output, rather than it being reflective of the sample as a whole. I run bootstrap estimations several times to compare the results to the full sample results and broadly find similar patterns across outputs.

Discussion

The highest-level of elder care intensity, daily elder care, has the biggest association with decreased labor force participation for women who were previously working full time. The effect, a 2.7 percentage point decrease in employment probability, match previous results, such as those of Maestas et al. (2021) who find the probability of employment declined by 2 percentage points following the start of the caregiving in the Survey of Income and Program Participation. Other intensities of care, however, did not seem to have a significant effect on women's labor force participation. That only high intensities of eldercare affected women's labor force participation, conditional on them previously working full-time, suggests that women who are already in the workforce as full-time workers are able to manage smaller frequencies of elder caregiving alongside paid labor.

Importantly, for women who provide care, the decreased likelihood of being in the labor force is in part due to factors that already depress women's labor force participation compared to

men. For example, when looking at the group overall in Table 6, women who provide daily care are about 4 percentage points less likely to be in the labor force than men who do not perform any elder care, but about a third of this is driven by the gender difference in labor force participation (-0.0129). This suggests that elder caregiving is only one potential reason for women's lower labor force participation.

Unlike labor force participation, eldercare provision is associated with reductions in both men and women's work hours. Daily elder caregiving is correlated with decreased weekly hours, though this association is mostly only for men with HS diplomas or equivalent, whereas for women it holds across the spectrum of educational attainment. Though only associative, rather than causal, these results do support other findings that caregiving leads to reduced work hours. For example, Wakabayash and Donato (2005) show that the initiation of caregiving led to a significant reduction in women's weekly hours worked. Additionally, the greater variation in results on decreased hours worked for women suggests that women's work choices may be more sensitive to providing any level of regular eldercare than men. Women are already more likely to perform part-time work (Dunn 2018), suggesting that they may already have flexibility with their work hours that is not available to men.

That both women and men with higher educational attainment and less frequent care responsibilities seem to have increased labor force participation and weekly work hours may be explained by the tendency of higher-income households to substitute monetary support for time (Couch, Daly, and Wolf 1999). Individuals who have higher paying jobs, such as those with advanced degrees, may be incentivized to provide financial support rather than eldercare, or may simply pay for formal eldercare rather than provide uncompensated care themselves.

Limitations

It is important to acknowledge certain limitations of this study in consideration of the empirical results. This study only considers the impacts of unpaid eldercare responsibilities on individuals who were already working full time 2-5 months prior to their reporting of providing any frequency of care. Though restricting the sample to full-time workers in the final month of their CPS survey was necessary to isolate effects related to eldercare responsibilities, this approach may understate the gendered impacts of eldercare on labor force choices. For example, in life, care responsibilities often arise prior to old-age care, whether for a parent or a spouse. Women's careers are more often interrupted due to care responsibilities, starting with childcare. This might prime women to exit the labor force and remain out of it.

Existing research indicates that there is a generation of middle-aged individuals squeezed between the dual responsibilities of supporting both younger and older generations simultaneously (Cravey & Mitra 2011). Often referred to as the "sandwich" generation, these individuals are often already balancing childcare with work so that the introduction of eldercare responsibilities may have a secondary impact to labor force participation. Since women are often the default child caretakers, the addition of eldercare may have smaller impacts to their labor force participation than when workers only have eldercare responsibilities. Future research might consider the relationship between intrahousehold decisions in earlier care responsibilities like childcare and later care decisions in response to aging parents.

Policy Discussion

These findings have significant bearing on eldercare policy, as well as policies that impact the financial security of aging adults, in the United States. Younger generations' caregiving results in direct costs related to the transfer of time and money as well as secondary effects through decreased labor force participation and work hours that can lead to lower economic security in

both the present and future. This indicates that policies are needed to increase the supply of paid long-term caregivers, mitigate the costs of formal care to aging elders, and improve older adults' financial security so they may afford the high costs of formal care. For example, Community Medicaid provides subsidies to Medicaid beneficiaries to receive care services in their own home or community, and in some cases family caregivers already performing this work may be paid to provide these services. Yet access varies significantly across states due to different income and asset value eligibility requirements. Even if an individual qualifies for Community Medicaid, many states have waiting lists that leave waitlisted individuals without the support that they need. Policies to increase the financial security of elders and that remove the individual family onus of caregiving are ultimately policies that can benefit all generations.

Employment and income are significant means through which individuals prepare and save for retirement. Given that women are most likely to provide eldercare in family allocation decisions, have a stronger relationship between their care labor and labor force participation, and often outlive their male partners, they are most likely face reduced financial security in retirement. Wakabayashi and Donato (2006) show that providing care to parents in the past increases women's risks of living in households with below-poverty incomes, receiving public assistance, and receiving Medicaid as they age. Likewise, research indicates that the highest intensities of elder caregiving are most often performed by women of color in low-income households (Forden et al., 2023). Policies on increasing the availability and affordability of formal care should therefore be paired with policies that mitigate the long-term economic consequences of providing informal care. This may include passing national paid leave legislation, as well as expanding access to work-dependent benefits like retirement accounts and Social Security credits to family caregivers.

Conclusion

The regression results presented in this paper highlight that the costs of unpaid caregiving extend beyond the summation of time providing care. High-intensity elder caregiving is associated with a decreased likelihood of being in the labor market and reduced work hours, particularly for women and individuals with lower educational attainment, which bears present and future financial and economic consequences to caregivers. These distributional concerns raise additional questions around the potential for repeated cycles of resource depletion due to eldercare needs and labor, as well as effects to intergenerational wealth accumulation (or decumulation).

Policies are needed to reduce the immediate and long-term costs of unpaid care to caregivers, both through making formal care more accessible and affordable, and providing ways through which family caregivers may access employment-dependent benefits like Social Security credits. Ultimately, further research needs to be conducted to fully grasp the long-term and intergenerational impacts of how the U.S. will meet its increasing eldercare needs.

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Appendix Table A: Robustness check, probit model estimates of eldercare frequency and labor force participation

Explanatory Variables	All	HS/GED	Some College	Bachelors	Graduate
Male					
Daily	-0.381* (-2.16)	-0.558* (-2.53)	0.494 (1.84)	-0.353 (-1.25)	0 (.)
Several times a week	-0.0730 (-0.65)	-0.270 (-1.51)	-0.0609 (-0.36)	-0.0847 (-0.33)	0 (.)
Once a week or less	0.0960 (0.99)	0.155 (0.95)	0.116 (0.80)	0.0677 (0.27)	0.258 (1.27)
Female					
No care	-0.206*** (-5.47)	-0.232*** (-3.30)	-0.181* (-2.54)	-0.0487 (-0.63)	-0.178 (-1.75)
Daily	-0.466*** (-4.20)	-0.552** (-2.89)	-0.356 (-1.61)	-0.113 (-0.57)	-0.350 (-1.19)
Several times a week	0.00303 (0.03)	0.175 (0.66)	0.0161 (0.10)	-0.0294 (-0.15)	-0.143 (-0.58)
Once a week or less	-0.00738 (-0.10)	0.375* (2.54)	-0.0242 (-0.19)	-0.0549 (-0.40)	-0.142 (-0.91)
Race					
White	0.265*** (3.54)	0.290* (2.26)	0.207 (1.35)	0.254 (1.78)	0.218 (1.26)
Hispanic	0.120 (1.40)	0.126 (0.90)	0.00548 (0.03)	0.0800 (0.44)	0.171 (0.75)
Black	0.00865 (0.10)	-0.00920 (-0.07)	0.0699 (0.42)	-0.132 (-0.80)	0.0130 (0.07)
Age					
35-44	0.0761 (1.51)	-0.102 (-1.10)	0.148 (1.51)	0.216* (2.18)	0.0777 (0.58)
45-54	0.0505 (1.00)	-0.0105 (-0.11)	0.0798 (0.85)	0.188 (1.70)	-0.0780 (-0.51)
55-64	-0.137** (-2.75)	-0.210* (-2.28)	-0.0549 (-0.59)	-0.311** (-3.08)	-0.218 (-1.56)
65+	-0.662*** (-10.45)	-0.652*** (-5.08)	-0.560*** (-4.70)	-0.831*** (-6.23)	-0.719*** (-4.51)
Married	-0.00139 (-0.04)	0.0722 (1.13)	-0.0279 (-0.41)	-0.0683 (-0.88)	-0.181* (-2.01)
Education					

HS diploma or GED	0.236*** (3.51)				
Some college or Associate's	0.324*** (4.75)				
Bachelor's degree	0.426*** (5.96)				
Graduate degree	0.464*** (6.02)				
Constant	1.573*** (14.58)	1.836*** (12.37)	1.882*** (11.05)	2.015*** (11.16)	2.216*** (11.86)
Number of obs	42349	9142	11510	11459	7602

Source: Author's calculations from the 2011-2018 American Time Use Survey using 2006 methodology weights.

Notes: Standard errors are in parentheses. The sample includes adults age 25 and older who reported working full time in the last (8th) month of their CPS survey. * p<0.1, ** p<0.05, *** p<0.01