Intergenerational Transfers of Health and Health Behaviors: Evidence from Informal Parental Caregiving

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Abstract

Due to the aging of the U.S. population and extensions in life expectancy, a growing number of adult children find themselves in the precarious situation of caring for an aging parent. Many studies on the effect of informal caregiving on the caregiver's physical health have been inclusive due to inconsistent or poor categorizations of caregiving from survey data. Using six waves of individual-level data from the Health and Retirement Survey (HRS) from 1996-2006 and multiple questions for a respondent's care to an elderly parent, I construct four caregiver variables: basic needs, financial caregiving, errands, and co-residence to assess the affect of informal caregiving on an adult child's health outcomes: self-assessed health, weight gain, and high blood pressure, and three health behaviors: smoking, alcohol use, and vigorous exercise. Given these classifications, I then test the degree to which adult children trade their time or money for health information. Preliminary results indicate female basic caregivers experience an decreased probability of self- reporting good health, while conducting errands for a parent makes them twice as likely to report good health. All four forms of caregiving have no effect on the odds of the three healthy behaviors: smoking, drinking, or exercise.

Introduction

The US population is experiencing a demographic transition in which a growing percentage of the US population is aging, simultaneously coinciding with greater life expectancies for both men and women. (Lubitz et al, 2003; CBO, 2004) This shift in the population has lead to an increase in the number of Americans who live out an increasing share of their life over 65 and will eventually require long term care. This paper explores the relationship between informal caregiving by an adult child to an elderly parent and the effect it has on their health. Using six waves of panel data that spans ten years from the Health and Retirement Study, I define four measures of informal caregiving in which a child may transfer either time or money to the parent. Previous studies have produced ambiguous results relating caregiving and physical health (see Pinquart and Sorensen 2004 for extensive overview); however, with the expansion of caregiver definitions, the inclusion of healthy behaviors, and the use of panel data, I get a more accurate estimation of the channels through which this exchange of health information may operate. Additionally, I am able to address whether adult children update their prior health behaviors or health assessment based on newly acquired information related to aging and end of life.

The study's hypothesis centers around the idea that adult children caring for an aging parent experiences stress that manifest itself in physical and mental strains to one's own health, more so then those persons who do not take on this role. At the same time, however, these caregivers may gain an acute awareness of their own health and mortality and thus, are more willing to utilize the services of healthcare professionals. Thus, there exists an exchange of time transfers for health information in the informal caregiver relationship. I hypothesize that while most survey results indicate a normal distribution of self-reported health status, within this particular population we will get a bimodal effect, one side being children who become overly health conscious and invest in preventive care, the "excellents", and the other side, "the fair/poors", consisting of individuals who have formed consequential sense of death and mortality and as a result exhibit riskier health behaviors.

This study explores how much of an influence one's parents have on personal health and health behaviors later in life. Substantive research has already explored the parental caregiver-child behavior dynamic (see Haas(2007) or Rothbaum and Weisz (1994) for extensive treatment)

with significant focus on early childhood through late adolescence. In this study we believe as both individuals age, the role of dependence may shift leading to interesting role reversals and changes within the influence dynamic. In particular, we believe exploring adult child's health from adulthood into old age is important for understanding how some adults may make choices about their healthcare, form attitudes towards certain health behaviors, and invest in long-term care. Additionally, maintaining ties with a biological parent as they age and subsequently die may provide invaluable networks of information and effects on the adult child's own health. To draw a comparison, we examine one particular sub-population, adult children who are primary caregivers to an elderly parent. Increasingly many adult children find themselves in the precarious situation of caring for an aging parent as the aging population grows and lives longer. Although the levels of interactions and reasons for the partnerships vary across parent-child groupings (van Houtven and Norton, 2007; White-Means and Chang, 1991), one of the most prevalent causes for an adult child becoming a parent's caregiver is the decline in health and mental capabilities as one age (Zhu et al, 2003), and the cost of secondary care and/or nursing homes (McGarry, 1998).

I believe that the primary contribution of this paper is to identity a relatively unexplored behavioral mechanism in the literature individuals use to make current and future healthcare decisions, the extent of familial networks and in particular, the degree of parent-child interactions in later life. The study attempts to answer how interactions with aging parents influence their own preparations for retirement and old age.

Research Methods and Procedures

Data

The data comes from the Health and Retirement Study (HRS). A nationally representative sample of older Americans focusing on the health, retirement, and aging lives. The original sample consisted of 51 to 61 year old Americans surveyed in 1992, with an over sample of African and Mexican Americans. The original sample consisted of approximately 12,500 individuals, 7,600 households, and an 82% response rate. To combat sample attrition, the HRS has grown with additional cohorts added in 1998, the Children of the Depression (CODA) and War Babies (WBB), and more recently, the Early Baby Boomers (EBB) in 2004. Also, in 1998, the HRS merged with the Aging and Health Dynamics Survey (AHEAD), a survey of 70 years or

older Americans begun in 1993. Important to this study, the survey consists of extensive questioning and tracking of family networks. The panels used in this analysis begin at wave 3, the 1996 interview. In the 1996, the HRS changed the wording for many of the questions of interest in this analysis including the caregiving question. For consistency and to hedge against biasing the results, I begin in 1996 and include all respondents alive and interviewed through the most recently released wave in 2006, thus losing any respondents who are lost to attrition or death over the ten year. After eliminating respondents with no living parents in 1996 and with missing responses to the dependent variables of interests, the sample size for the final estimations are 1,086 males and 1,515 females.

Variables

The dependent variables are grouped into two categories, health indicators and healthy behaviors. The dependent variable, good health, is a self-assessed measure in which the respondent answered the following 5-point Likert scale-style question "Would you say your health is excellent, very good, good, fair, or poor?" Originally coded as excellent=1, very good=2, good=3, fair=4, and poor=5, I have recoded the variable into a dichotomous measure with excellent, very good, and good responses =1 and fair or poor responses =0. Although this is a self-assessed measure of health (SAH), it has been shown in the literature (Ware and Sherbourne, 1992) that SAH does a very good job at predicting future mortality, i.e., individuals who rate their health excellent/very good tend to live longer, on average, than those who indicate fair/poor SAH.

The next health indicator is a measure of respondent's body fat, BMI or body mass index, defined as weight in kilograms/height in meters[2]. The measure is used to classify most individuals in society as either overweight (25>BMI< 29.9) or obese (BMI>30).

The last measure of health status is whether the respondent reports being diagnosed with high blood pressure in the two years between waves. This is included as a stress indicator. I choose high blood pressure as my health indicator for stress[1] because the HRS asks for doctor diagnosed responses and HBP can serve as a precursor to more serious ailments, most importantly, hypertension. (Picot et al (1999) provides a thorough treatment of the

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[1] See A&W for an excellent treatment of the stress process and caregiving using CES-D as the stress indicator

stress/caregiver literature in addition to the effect of caregiver stress on black female caregivers).

The three healthy behaviors were chosen both for analytical interests and practicality with the HRS data. They are three of the seven Alameda 7 healthy behaviors identified by Belloc and Breslow (1973) as necessary inputs in health production[2], and the HRS has consistent measures for three of the seven: smoking, drinking, and vigorous exercise, in all the six waves.

Smoking and alcohol use are coded as dummy variables equal to one if the respondent reports being a current smoker or drinks alcoholic beverages (subsequent studies will rely on continuous measures of alcohol consumption). The exercise variable is also binary and equal to one if the respondent replied in the affirmative to working out or participating in physical exercise at least three times a week.

Explanatory Variables

The key independent variables are the caregiver roles. Coded as a binary dummy variable equal to one if the a respondent answered in the affirmative to the question, "Did you spend a total of 100 hours or more hours since last interview date helping your mother/father with basic personal activities like dressing, eating, and bathing?" and zero otherwise. Using this question as a proxy for caregiver is common in caregiver studies using the HRS (Amirkhanyan and Wolf (2003) Johnson and LoSasso (2000), Sloan et al (2004)). Not only does it directly asks the respondent if they assist a parent with informal caregiving duties and provide example, but also specifies a minimum numerical threshold which allows for some consistency in response across individuals. Respondents are then allowed to provide the number of hours spent in the caregiver role since the last interview. The current study will not focus on the extent to which a respondent provides care and will rely solely on the answers to the question above for the basic needs caregiver role, i.e., 100 hours or more over a two year period is sufficient to qualify as an informal basic needs caregiver.

The financial caregiver variable is coded as a binary dummy variable equal to one is the respondent replied yes to the question "Not counting any shared housing or shared food, did you give financial help to your mother/father amounting to $500 or more?"; and the errand caregiver

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[2] The remaining four healthy behaviors are hours of sleep, regularity of meals, health practices, and BMI. BMI and health practices I've included as a health indicators.

question is also a binary dummy created from question, "do spend a total of 100 or more hours helping your mother/father with other things such as household chores, errands, transportation, etc?". It is especially beneficial that the questions provide a minimum threshold of monetary assistance and time commitment, which allows for some consistency in the response. Proceeding questions allow the respondent to provide actual figures on the estimated time and money provided. For this analysis, I will rely mainly on the minimum requirements set by the questions to classify the respondent as a particular type of caregiver.[3]

Following the style of Sloan et al. (2002) I include co-residence as a form of parental caregiving. Several studies exists on the power dynamic and costs/savings of having an elderly parent move into one's residence as opposed to placing them in a formal care facility. This would be the case if, for example, the parent was mentally or physically disabled or suffered from a large number of ADLs (McGarry, 1998). There may exist, however, a large number of reasons why a respondent could move a parent into their home, such as free or cheap child care. Pezzin and Schone (1999) use a bargaining model of adult daughters and elderly parents and find the existence of a threat point given by a non-cooperative equilibrium, in which demands on a daughter's time reduce co-residence and informal caregiving.

The ideal dataset to study parent-child caregiver effects would follow both the receiver and recipient over, unfortunately, the HRS only asks questions regarding the receiver, parent, and the breadth of the questions on the parent's physical/mental state are not very well developed.[4] I rely on three questions asked in all six waves of interests about the parent. The first is need, coded as a binary dummy variable, needs equals one if the respondent answered yes to the question, "Does she/he [mother/father] need help with basic personal needs like dressing, eating, and bathing?". The second measure alone also coded as binary and equal to one if the respondent's parent could not be left alone for an hour or more. And lastly, the third measure is on the parent's cognitive ability, "Has a doctor ever said that your mother suffered from a memory related disease?" The memory question wasn't asked until wave 4 (1998) of the HRS, so I run regressions both with and without; as expected, the sample size shrinks significantly with its inclusion.

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[3] The time amount and monetary amount questions suffer for a large number of missing values. Future studies will use multiple imputation methods to address this issue.
[4] According to Sloan et al (2002), the AHEAD study is actually reversed, with significant coverage on the parent receiving care, unfortunately, these questions were stopped in 1993.

Additional covariates included a binary measure if the parents live close to the respondent, defined as within 10 miles. And lastly, a dummy variable equal to one if the parent is currently married and has a living spouse in their home. This is important because numerous studies indicate that the caregiver burden usually falls on the spouse first if the elderly/disabled person is married and then to the person's children (Lima et al, 2008).

A potentially good control to assess the extent to which the respondent's caregiver role is a necessity is whether or not they have a sibling already serving in the role. Much studied in the economic theoretical literature, who (amongst the siblings (Pezzin and Schone, 1997) and why one (altruistic (Becker, 1981) versus exchange mechanisms (Bernheim, Shleifer, and Summers (1985)) becomes the caregiver. The HRS does asks "Did any brother/sister help parent with basic personal needs?" and I construct a dummy variable equal to one if the respondent does reply yes to the question, however, the HRS did not ask the respondent to specify the number of hours the sibling spent assisting, so I am unable to gauge the extent of their participation.

The remaining covariates are demographic and consists of age and a quadratic for age, a dummy variable equal to one if respondent indicated he had a health limitation or disability preventing them from work, whether the respondent or their spouse (if married) experienced a health shock since the last interview (within the past two years). Health shocks include doctor diagnosed heart disease/attack, stroke, diabetes, lung disease, or cancer (not including skin). I also have an index ranging from zero to six if they have any activities of daily living (ADL) limitations[5], a dummy variable indicating whether the respondent is in a married or partnered couple, a continuous measure of household size and household wealth, for which I take the natural logarithm. We also include a binary indicator equal to one if the respondent has at least one living sibling, brother or sister. All time invariant measures are not included in the final regressions as they get dropped as result of the fixed effects regression. However, I do include respondent's race, educational attainment, whether they are foreign born.

As mentioned previously, the final sample includes only individuals with at least one living biological parent at the time of the first interview. Respondents are not living in a nursing home and did not complete the survey via a proxy. Any observations with missing values at all

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[5] The six basic ADLs include difficulty with walking, dressing, bathing, eating, getting out/entering bed, and toilet use

five waves were removed and individuals who died during the 10 year period were almost removed.

Data Analysis

Results

Table 1 provides the descriptive statistics for the final sample, column 1 is the entire sample, and columns 2 and 3 are for female and males. Over 80% of the sample reports being in good health, the average female and male are overweight as classified by a mean BMI at the midpoint of the overweight scale (25-29.9). Less than 50% of the sample is current smokers, with slightly more than half the sample classifying themselves as drinking alcoholic beverages. More males report exercising at least three times a week and the difference is significant at the 1% level.

Caregiving is consistently low across all four categories with conducting errands reporting the highest percentage at 34% for the entire sample and a six percentage point significant difference between the sexes. Male respondent report higher instances of providing financial assistance to a parent although both groups are less than 20% of the full sample. And, only five percent of my sample report having a parent actually residing in their homes. The average age of respondent's mothers is in the early 80's and father in early to mid 70. This is expected since the initial sample is restricted to respondent with at least one living parent and the fact that women, on average, have higher life expectancies. A quarter of the sample report that their parent is currently married and over a third indicate that a parent lives within ten miles of their residence.

At least 90% of the sample is married with a mean zero of never married individuals; the average age of the female is 60 and males 63. Average household size is around 2.4 individuals and household wealth including housing equity but not including retirement accounts is approximately $400K, of course, there is large variance in this measure. 58% of the sample is female, ten percent is foreign born, over 75% have at least a high school degree, and 11 are black, 8% are Hispanic, and 86 are white.

The first table of estimates, Table 2a and 2b, is run on the entire sample. There are two regressions for each dependent variable, with and without the parent's memory disease control. The model chosen for all the analyses, except BMI which is a continuous measure, is a

conditional logit or logit with fixed effects given the design of the dependent variables.[6] Because of our rich dataset, the unit of observation is person-years and we are able to follow individuals in the sample up to ten years. This also allows me to include both individual and time fixed effects. With the use of panel level data, I am able to use individual respondents as their own control with the inclusion of individual fixed effects. Additionally, because respondents are experiencing transitions into caregiving at different times over the course of the ten year period, I include wave (time) fixed effects to remove any variation resulting from aging cohorts and new cohorts being rolled into the sample as a feature of the study design.

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[6] Results from Hausman test (p>chi2=0.000) indicate fixed effects, rather than random effects, was best for the selected estimation.

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Table 1: Descriptive Statistics

Variables	Full Sample Mean	Standard Deviation	Females Mean	Standard Deviation	Males Mean	Standard Deviation
Dependent						
Self-Reports Good/Very Good/Excellent Health	0.81	0.30	0.81	0.31	0.80	0.29
Body Mass Index (BMI)	27.78	5.05	27.65	5.53	27.97	4.28
High Blood Pressure	0.44	0.43	0.41	0.43	0.48	0.44
Currently Smokes	0.18	0.33	0.19	0.33	0.18	0.32
Currently Drinks	0.53	0.42	0.49	0.42	0.59	0.42
Exercises (?3 times a week)	0.43	0.31	0.38	0.31	0.50	0.31
Caregiver						
Basic Needs Caregiver	0.14	0.25	0.14	0.25	0.12	0.25
Financial Caregiver	0.15	0.29	0.14	0.29	0.17	0.28
Errand Caregiver	0.34	0.37	0.36	0.38	0.30	0.35
Lives with Respondent	0.05	0.18	0.05	0.19	0.04	0.15
Parent						
Needs Assistance with basic tasks	0.27	0.38	0.27	0.37	0.29	0.38
Cannot be left Alone for at least one hour	0.11	0.28	0.11	0.28	0.12	0.28
Lives near Respondent (<10miles)	0.37	0.44	0.38	0.45	0.36	0.42
Currently Married/Living Spouse	0.25	0.36	0.27	0.37	0.22	0.35
Memory Condition: Mother	0.16	0.33	0.16	0.34	0.16	0.33
Memory Condition: Father	0.11	0.29	0.10	0.29	0.13	0.30
Mother's Age	81.76	10.25	80.75	10.10	83.21	10.30
Father's Age	73.39	14.35	72.80	14.45	74.24	14.16
Respondent						
Health Shock	0.08	0.11	0.07	0.10	0.09	0.12
Spousal Health Shock	0.08	0.11	0.09	0.11	0.06	0.10
Health Limitation	0.20	0.32	0.20	0.33	0.19	0.31
ADL Index (0-6)	0.18	0.51	0.20	0.55	0.15	0.44
Currently Married	0.90	0.25	0.87	0.29	0.95	0.19
Never Married	0.00	0.03	0.00	0.03	0.00	0.04
Widowed	0.06	0.19	0.09	0.23	0.02	0.12
Divorced/Separated	0.04	0.17	0.04	0.18	0.03	0.15
Age	61.15	5.71	59.50	5.82	63.45	4.67
Any living siblings	0.52	0.48	0.52	0.48	0.52	0.48
Sibling is a basic needs caregiver	0.20	0.31	0.18	0.29	0.25	0.34
Household Size	2.44	0.84	2.43	0.86	2.45	0.82
Household Wealth	427411.50	917304.20	417586.70	914843.30	441117.30	920972.80
Female	0.58	0.49	1.00	0.00	0.00	0.00
Foreign Born	0.10	0.31	0.10	0.30	0.11	0.31
Less than High School education	0.23	0.42	0.22	0.41	0.24	0.43
High School Degree	0.33	0.47	0.35	0.48	0.30	0.46
Some College	0.23	0.42	0.25	0.43	0.20	0.40
Bachelor's or more degree	0.21	0.41	0.18	0.39	0.26	0.44
Non-Hispanic Black	0.11	0.31	0.11	0.31	0.11	0.31
Non-Hispanic White	0.86	0.35	0.85	0.35	0.86	0.35
Hispanic	0.08	0.27	0.08	0.27	0.08	0.27

Table 2a.	Self-Assessed Health: Logit with Fixed Effects		BMI: OLS Regression with Fixed Effects		High Blood Pressure: Logit with Fixed Effects	
	Full Sample	Full Sample w/memory	Full Sample	Full Sample w/memory	Full Sample	Full Sample w/memory
Basic Needs Caregiver	0.469**	0.456**	-0.125	-0.117	0.658	0.460*
	[0.144]	[0.148]	[0.111]	[0.119]	[0.284]	[0.210]
Financial Caregiver	1.141	1.102	0.115	0.107	0.752	0.852
	[0.322]	[0.333]	[0.0944]	[0.102]	[0.280]	[0.325]
Errand Caregiver	1.419*	1.599**	0.0588	0.0568	1.518	1.604*
	[0.291]	[0.349]	[0.0695]	[0.0752]	[0.408]	[0.451]
Lives with Respondent	1.39E+06	1.34E+06	-0.0544	-0.0732		
	[9.67e+08]	[9.50e+08]	[0.0842]	[0.0927]		
Needs Assistance with basic tasks	0.827	0.829	0.0908	0.111	1.042	1.062
	[0.208]	[0.230]	[0.105]	[0.114]	[0.353]	[0.379]
Cannot be Left Alone for at least one hour	1.199	1.083	-0.376	-0.38	2.847**	2.774**
	[0.354]	[0.351]	[0.642]	[0.657]	[1.268]	[1.259]
Lives near Respondent (<10miles)	0.552**	0.551*	-0.032	0.0388	0.433*	0.409*
	[0.163]	[0.170]	[0.0971]	[0.107]	[0.192]	[0.188]
Currently Married/Living Spouse	1.005	1.087	-0.149	-0.116	0.701	0.577
	[0.306]	[0.368]	[0.103]	[0.114]	[0.337]	[0.296]
Memory Condition		1.153		-0.0378		1.049
		[0.360]		[0.104]		[0.419]
Health Shock	0.248***	0.257***	0.0478	0.0739	2.234**	2.395**
	[0.0576]	[0.0629]	[0.100]	[0.107]	[0.772]	[0.859]
Spousal Health Shock	1.027	0.891	-0.215**	-0.221**	0.597	0.654
	[0.279]	[0.252]	[0.0932]	[0.0971]	[0.188]	[0.214]
Health Limitation	0.483***	0.478***	0.212**	0.239**	2.562**	2.925**
	[0.101]	[0.109]	[0.0967]	[0.104]	[1.049]	[1.284]
ADL Index (0-6)	0.508***	0.470***	0.0601	0.0766	0.526***	0.553***
	[0.0831]	[0.0847]	[0.0677]	[0.0720]	[0.111]	[0.118]
Married	1.494	1.372	0.583***	0.507***	0.926	0.709
	[0.721]	[0.692]	[0.183]	[0.193]	[0.723]	[0.636]
Age	1.203	1.247	0.364***	0.368***	0.543	0.606
	[0.382]	[0.427]	[0.117]	[0.126]	[0.257]	[0.301]
Age^2	0.998	0.997	-0.00386***	-0.00380***	1.004	1.004
	[0.00193]	[0.00207]	[0.000733]	[0.000795]	[0.00316]	[0.00332]
Any living siblings	1.027	1.208	0.0577	0.108	0.518	0.696
	[0.609]	[0.855]	[0.175]	[0.195]	[0.324]	[0.444]
Sibling is a basic needs caregiver	1.028	0.871	-0.139	-0.118	1.054	1.168
	[0.256]	[0.231]	[0.0898]	[0.0970]	[0.361]	[0.425]
Household Size	0.951	0.948	0.0342	0.0285	0.789	0.708
	[0.0990]	[0.110]	[0.0413]	[0.0459]	[0.164]	[0.155]
Log of Household Wealth	1.008	1.039	0.0333	0.021	0.888	0.859
	[0.0845]	[0.0973]	[0.0345]	[0.0370]	[0.141]	[0.141]
Constant			17.90***	19.52***		
			[5.102]	[6.237]		

*** p<0.01, ** p<0.05, * p<0.10

Odds Ratios Reported except for BMI; Standard errors in brackets

Table 2b.	Smokes: Logit with Fixed Effects		Drinks: Logit with Fixed Effects		Exercises: Logit with Fixed Effects	
VARIABLES	Full Sample	Full Sample w/memory	Full Sample	Full Sample w/memory	Full Sample	Full Sample w/memory
Basic Needs Caregiver	1.635	1.483	0.898	0.945	1.135	1.076
	[0.908]	[0.892]	[0.228]	[0.254]	[0.224]	[0.224]
Financial Caregiver	1.325	2.101	0.857	0.827	0.951	0.935
	[0.585]	[1.063]	[0.178]	[0.185]	[0.150]	[0.154]
Errand Caregiver	0.844	1.087	1.041	1.039	1.132	1.134
	[0.273]	[0.390]	[0.169]	[0.175]	[0.132]	[0.140]
Lives with Respondent			0.735	0.815	0.859	0.781
			[0.991]	[1.107]	[0.823]	[0.752]
Needs Assistance with basic tasks	0.84	0.919	0.979	1.056	0.921	0.876
	[0.339]	[0.391]	[0.188]	[0.220]	[0.133]	[0.139]
Cannot be Left Alone for at least one hour	0.568	0.681	1.438	1.476	1.102	1.069
	[0.330]	[0.438]	[0.338]	[0.364]	[0.203]	[0.209]
Lives near Respondent (<10miles)	1.045	0.91	0.717	0.724	1.245	1.162
	[0.446]	[0.443]	[0.151]	[0.169]	[0.201]	[0.203]
Currently Married/Living Spouse	1.684	2.276	0.889	1.001	0.992	0.952
	[0.866]	[1.316]	[0.212]	[0.259]	[0.176]	[0.184]
Memory Condition		1.492		0.767		1.289
		[0.688]		[0.175]		[0.223]
Health Shock	0.721	0.619	0.83	0.821	1.371*	1.426**
	[0.272]	[0.242]	[0.169]	[0.173]	[0.234]	[0.257]
Spousal Health Shock	0.618	0.543	0.815	0.793	0.924	0.898
	[0.261]	[0.249]	[0.172]	[0.171]	[0.145]	[0.144]
Health Limitation	0.774	0.709	0.962	0.994	0.570***	0.553***
	[0.329]	[0.331]	[0.195]	[0.210]	[0.0997]	[0.103]
ADL Index (0-6)	1.182	1.038	0.637***	0.653**	0.919	0.909
	[0.367]	[0.393]	[0.111]	[0.117]	[0.110]	[0.118]
Married	1.065	2.783	0.583	0.63	1.163	1.181
	[1.013]	[3.273]	[0.238]	[0.266]	[0.360]	[0.377]
Age	1.775	2.483	0.73	0.781	1.095	1.268
	[0.976]	[1.498]	[0.187]	[0.210]	[0.216]	[0.264]
Age^2	0.996	0.994	1	1	0.998*	0.997**
	[0.00361]	[0.00385]	[0.00153]	[0.00160]	[0.00124]	[0.00132]
Any living siblings	2.204	3.395	0.602	0.615	1.305	1.572
	[2.103]	[4.290]	[0.238]	[0.254]	[0.395]	[0.521]
Sibling is a basic needs caregiver	0.896	0.977	1.133	1.114	0.938	0.905
	[0.372]	[0.448]	[0.235]	[0.244]	[0.145]	[0.151]
Household Size	1.156	1.155	0.935	0.924	0.948	0.973
	[0.201]	[0.218]	[0.0887]	[0.0943]	[0.0642]	[0.0723]
Log of Household Wealth	1.410**	1.572***	1.077	1.085	1.02	1.016
	[0.213]	[0.258]	[0.0854]	[0.0920]	[0.0601]	[0.0639]

*** p<0.01, ** p<0.05, * p<0.10
Odds Ratios Reported; Standard errors in brackets

Table 3a.	Self-Assessed Health: Logit with Fixed Effects		BMI: OLS Regression with Fixed Effects		High Blood Pressure: Logit with Fixed Effects
	Females	Males	Females	Males	Males
Basic Needs Caregiver	0.430**	0.575	-0.0885	-0.235	4.307
	[0.161]	[0.326]	[0.145]	[0.171]	[4.421]
Financial Caregiver	1.295	0.772	0.107	0.112	0.547
	[0.478]	[0.367]	[0.132]	[0.130]	[0.479]
Errand Caregiver	2.082***	0.906	0.0499	0.0492	0.429
	[0.570]	[0.304]	[0.0927]	[0.103]	[0.289]
Lives with Respondent	433307		-0.7	2.295	
	[2.07e+08]		[0.716]	[1.755]	
Needs Assistance with basic tasks	0.859	0.842	-0.133	0.0879	0.271
	[0.282]	[0.352]	[0.114]	[0.122]	[0.234]
Cannot be Left Alone for at least one hour	1.146	1.415	0.179	-0.109	34.30***
	[0.448]	[0.692]	[0.142]	[0.153]	[46.39]
Lives near Respondent (<10miles)	0.496*	0.638	0.0335	-0.108	0.578
	[0.194]	[0.305]	[0.141]	[0.128]	[0.641]
Currently Married/Living Spouse	1.09	1	-0.13	-0.198	0.713
	[0.460]	[0.474]	[0.144]	[0.145]	[0.818]
Memory Condition					
Health Shock	0.218***	0.227***	0.0314	0.0107	1.745
	[0.0656]	[0.0921]	[0.138]	[0.142]	[1.321]
Spousal Health Shock	1.177	0.547	-0.211*	-0.214	1.037
	[0.377]	[0.320]	[0.110]	[0.183]	[0.878]
Health Limitation	0.496***	0.453**	0.292**	0.1	2.789
	[0.130]	[0.165]	[0.125]	[0.153]	[2.790]
ADL Index (0-6)	0.530***	0.396***	0.172**	-0.192*	0.791
	[0.108]	[0.128]	[0.0857]	[0.110]	[0.481]
Married	1.273	1.68E+06	0.559***	0.810**	8.036
	[0.674]	[1.53e+09]	[0.214]	[0.393]	[20.88]
Age	1.28	0.779	0.294**	0.201	2.595
	[0.493]	[0.502]	[0.147]	[0.218]	[3.639]
Age^2	0.998	1	-0.00351***	-0.00202	0.993
	[0.00236]	[0.00401]	[0.000920]	[0.00147]	[0.00912]
Any living siblings	4.168	0.428	0.244	-0.208	0.485
	[4.584]	[0.333]	[0.249]	[0.235]	[0.511]
Sibling is a basic needs caregiver	0.713	1.747	-0.0826	-0.188	0.377
	[0.232]	[0.726]	[0.125]	[0.124]	[0.298]
Household Size	1.023	0.811	0.0606	-0.0366	1.234
	[0.132]	[0.161]	[0.0535]	[0.0641]	[0.625]
Log of Household Wealth	1.034	0.99	0.0133	0.0684	1.021
	[0.108]	[0.152]	[0.0445]	[0.0540]	[0.396]
Constant			22.82***	22.39**	
			[7.279]	[10.029]	

*** p<0.01, ** p<0.05, * p<0.10
Odds Ratios Reported except for BMI; Standard errors in brackets

Table 3b.	Smokes: Logit with Fixed Effects	Drinks: Logit with Fixed Effects		Exercises: Logit with Fixed Effects	
VARIABLES	Males	Females	Males	Females	Males
Basic Needs Caregiver	0.949	1.113	0.62	1.241	1.078
	[1.123]	[0.343]	[0.307]	[0.311]	[0.368]
Financial Caregiver	1.027	0.93	0.714	1.225	0.699
	[1.154]	[0.253]	[0.245]	[0.263]	[0.167]
Errand Caregiver	0.689	1.107	0.889	1.054	1.301
	[0.466]	[0.218]	[0.274]	[0.157]	[0.259]
Lives with Respondent		0.57		0.48	568925
		[0.772]		[0.559]	[7.21e+08]
Needs Assistance with basic tasks	3.973	1.384	0.536*	0.671**	1.36
	[3.724]	[0.333]	[0.189]	[0.131]	[0.305]
Cannot be Left Alone for at least one hour	0.00790***	1.378	1.56	1.089	1.127
	[0.0122]	[0.401]	[0.653]	[0.265]	[0.338]
Lives near Respondent (<10miles)	2.762	0.858	0.533*	1.12	1.341
	[2.130]	[0.257]	[0.172]	[0.258]	[0.316]
Currently Married/Living Spouse	1.566	1.08	0.642	1.18	0.811
	[1.702]	[0.341]	[0.262]	[0.292]	[0.216]
Memory Condition					
Health Shock	3.716	0.733	0.942	1.172	1.676*
	[3.584]	[0.189]	[0.330]	[0.264]	[0.451]
Spousal Health Shock	0.110*	0.774	0.894	0.99	0.71
	[0.135]	[0.185]	[0.448]	[0.179]	[0.236]
Health Limitation	0.689	1.265	0.537	0.629**	0.461**
	[0.670]	[0.312]	[0.207]	[0.135]	[0.144]
ADL Index (0-6)	1.841	0.741	0.497*	0.9	0.948
	[1.045]	[0.146]	[0.195]	[0.143]	[0.178]
Married	55474	0.629	0.196	1.104	0.748
	[8.71e+07]	[0.276]	[0.285]	[0.382]	[0.577]
Age	0.0476	0.936	0.4	1.408	0.499*
	[0.109]	[0.277]	[0.256]	[0.335]	[0.207]
Age^2	1.022	0.998	1.004	0.996**	1.002
	[0.0181]	[0.00179]	[0.00454]	[0.00152]	[0.00283]
Any living siblings	2.139	0.62	0.654	1.799	0.872
	[2.936]	[0.307]	[0.490]	[0.737]	[0.393]
Sibling is a basic needs caregiver	1.263	0.906	1.371	0.897	0.928
	[1.099]	[0.246]	[0.472]	[0.193]	[0.215]
Household Size	1.384	0.853	1.152	0.982	0.874
	[0.463]	[0.105]	[0.201]	[0.0851]	[0.102]
Log of Household Wealth	0.963	1.047	1.076	1.038	0.976
	[0.270]	[0.106]	[0.157]	[0.0755]	[0.0977]

*** $p<0.01$, ** $p<0.05$, * $p<0.10$
Odds Ratios Reported; Standard errors in brackets