

Partners in Care!

Health effects of providing care to spouses or partners.

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Motivation

The ageing of the population has brought new challenges to modern societies. The need to care for the elderly has incited a quest to find the best policies to ensure a good life quality in its later stages. But to do so it is essential to understand the key issues associated with ageing, both affecting the elderly and the corresponding society.

Provision of care can be:

- Formal
 - ▶ Public
 - ▶ Private
- Informal
 - ▶ Family
 - ▶ Co-Residents
 - ▶ Friends/Neighbors



This project tries to assess whether there is a burden associated with the act of providing care among partners (living in the same household).

Motivation

Why couples?

- 1) *Informal care among partners is a an important share of informal **personal** care (57% of total personal care) , in waves 5 and 6 of SHARE)*
 - 2) *Partners' care is the most important component of co-residential care (74% of the care provided within the household, in waves 5 and 6 of SHARE)*
 - 2) *Partners' provision of informal personal care is still an important cut of all informal care provided (23%) , in waves 5 and 6 of SHARE)*
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- * *Partners can be matched using some datasets (namely SHARE), which makes it possible to input partners outcomes on each observation*
 - * *This informal care component lacks attention by the literature. Usually more emphasis is put on children caring for their parents*

Objective

Does providing care/help to a partner in need create a burden for the caregiver?

- 1 Divide the analysis in three axis: physical health (Self Assessed Health), mental health (Euro-D) and disability (Disability Index)
- 2 Compare two approaches: No inclusion of patient variables vs inclusion of patient variables
- 3 Do matching

Data

“The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks of approximately 120,000 individuals aged 50 or older (more than 297,000 interviews). SHARE covers 27 European countries and Israel.”

Note: All partners are interviewed irrespective of age.

The sub-sample:

- * Waves 5 and 6 (collected in 2013 and 2015 receptively)
- * Potential set of partner caregivers (individuals whose partners live in the same household)
 - Keep individuals whose household does not receive or provide any type of care
 - Keep spouses/partner caregivers if the only type of care provided in their households is theirs

Some Summary Statistics

Self Assessed Health	Mean	Min	Max
Self Assessed Health	2.99	1 (very bad)	5 (very good)
Depression Scale	10.04	0 (very depressed)	12 (not depressed)
Disability Index	0.88	0.18 (very limited)	0.98 (not limited)
Education	4.86	0	24
Age	64.88	22	97
Gender (male)	0.51	0	1
Household Size	2.5	2	12
Partner Caregiver	0.03	0	1
Employed	0.29	0	1
Retired	0.55	0	1
Homemaker	0.10	0	1
Sick or disabled	0.02	0	1
Make Ends Meet	2.92	1 (with great difficulty)	4 (easily)
N = 48,719			

Note: The summary statistics for the partners are in all very similar. The disability index was built by running a OProbit regression of the level of limitation on characteristics of disability (instrumental activities of daily living) and standardizing the predicted values of the latent variable.

Imputing partners data:

Using the partners' identification code it is possible to input the variables of a member of a couple to the other member. This is particularly useful in order to condition the estimation on the health outcomes of the individual receiving care.

The baseline model:

$$\text{Health}_{ijt} = \beta.\text{Care}_i + \gamma.X_i + \theta.\text{Country}_j + \eta\text{Wave}_t + \varepsilon_i \quad (1)$$

Where:

- *Health* is either self assessed health, depression scale or disability index.
- *Care* is a binary variable with value 1 if the individual provides care to the partner and 0 otherwise.
- *X* contains a set of control variables such as age, gender, education, partner's education, ends meet, household size, partner's disability, partner's physical health.
- *Country* and *Wave* are, correspondingly, country and wave fixed effects.

Partner Characteristics

Why should we care?

Behavioral Correlation

The health of the carer is related with the health of the patient through their household behaviors and couple selection.

Emotional Correlation

The health of the carer may depend "emotionally" on the state of health of the partner.

Results: Self Assessed Health

Dependent variable: Self Assessed Health				
	OLS	OProbit	OLS	OProbit
Partner Caregiver	-0.118*** (0.028)	-0.145*** (0.034)	0.087** (0.029)	0.103** (0.036)
Partner's Self Assessed Health			0.198*** (0.007)	0.234*** (0.009)
Partner's Depression Scale			0.015*** (0.002)	0.019*** (0.003)
Partner's Disability Index			0.082 (0.049)	0.126* (0.061)
Partner's Education			0.001 (0.002)	0.001 (0.003)
Partner's Age			0.028*** (0.007)	0.035*** (0.008)
Gender	0.024** (0.009)	0.027* (0.011)	0.032** (0.012)	0.039** (0.015)
Age	-0.018** (0.006)	-0.017* (0.007)	-0.030*** (0.006)	-0.034*** (0.008)
Education	0.033*** (0.002)	0.039*** (0.002)	0.026*** (0.002)	0.031*** (0.003)
Household Size	0.004 (0.006)	0.004 (0.007)	0.004 (0.005)	0.004 (0.006)
Make Ends Meet	0.156*** (0.006)	0.185*** (0.007)	0.110*** (0.005)	0.135*** (0.006)
Employment FE	✓	✓	✓	✓
Country and Wave FE	✓	✓	✓	✓
Observations	44,168	444,168	44,168	444,168

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Standard errors in parentheses.

Results: Depression Scale

Dependent variable: Depression Scale				
	OLS	OProbit	OLS	OProbit
Partner Caregiver	-0.556*** (0.066)	-0.295*** (0.031)	-0.060 (0.066)	-0.024 (0.033)
Partner's Self Assessed Health			0.006 (0.011)	0.009 (0.006)
Partner's Depression Scale			0.270*** (0.007)	0.154*** (0.004)
Partner's Disability Index			0.302** (0.111)	0.141* (0.058)
Partner's Education			-0.005 (0.005)	-0.003 (0.003)
Partner's Age			0.018 (0.015)	0.008 (0.008)
Gender	0.653*** (0.019)	0.365*** (0.010)	0.868*** (0.026)	0.504*** (0.015)
Age	0.068*** (0.014)	0.038*** (0.007)	0.047** (0.015)	0.028*** (0.008)
Education	0.040*** (0.004)	0.022*** (0.002)	0.034*** (0.005)	0.019*** (0.003)
Household Size	-0.009 (0.013)	-0.013 (0.007)	-0.003 (0.010)	-0.011 (0.006)
Make Ends Meet	0.335*** (0.013)	0.178*** (0.007)	0.222*** (0.010)	0.120*** (0.006)
Employment FE	✓	✓	✓	✓
Country and Wave FE	✓	✓	✓	✓
Observations	44,168	44,168	44,168	44,168

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Standard errors in parentheses.

Results: Disability

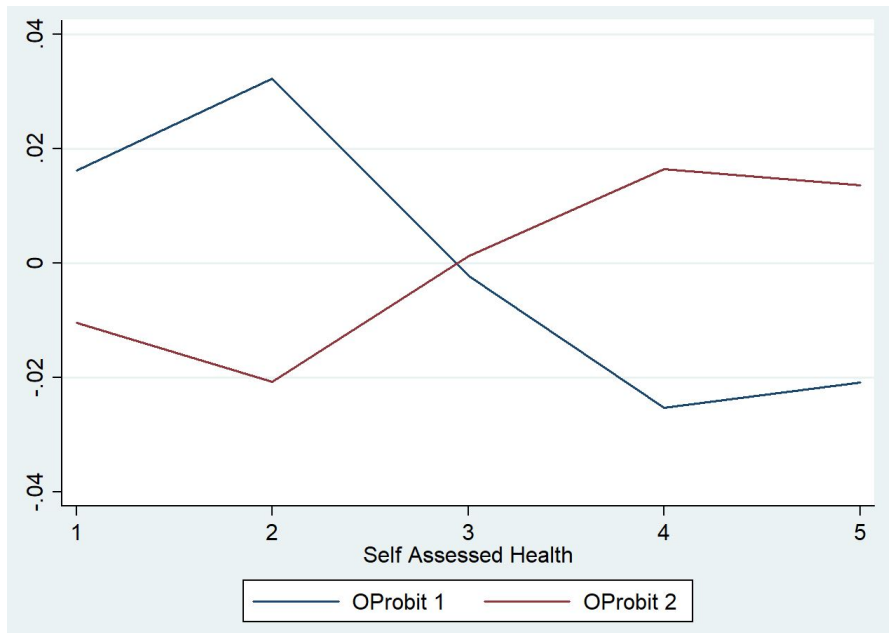
Dependent variable: Disability Index				
	OLS	GLM	OLS	GLM
Partner Caregiver	-0.029*** (0.004)	-0.117*** (0.017)	0.011** (0.004)	0.086*** (0.020)
Partner's Self Assessed Health			0.000 (0.001)	0.002 (0.004)
Partner's Depression Scale			0.003*** (0.000)	0.011*** (0.002)
Partner's Disability Index			0.188*** (0.009)	0.781*** (0.039)
Partner's Education			-0.000 (0.000)	-0.000 (0.001)
Partner's Age			0.003*** (0.001)	0.010* (0.004)
Gender	0.030*** (0.001)	0.155*** (0.006)	0.037*** (0.001)	0.193*** (0.008)
Age	0.002*** (0.001)	0.006 (0.003)	0.000 (0.001)	-0.003 (0.004)
Education	0.003*** (0.000)	0.015*** (0.001)	0.002*** (0.000)	0.012*** (0.001)
Household Size	-0.001 (0.001)	-0.006 (0.004)	-0.001 (0.001)	-0.005 (0.003)
Make Ends Meet	0.018***	0.089***	0.012***	0.062***
Employment FE	✓	✓	✓	✓
Country and Wave FE	✓	✓	✓	✓
Observations	44,168	44,168	44,168	44,168

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Standard errors in parentheses.

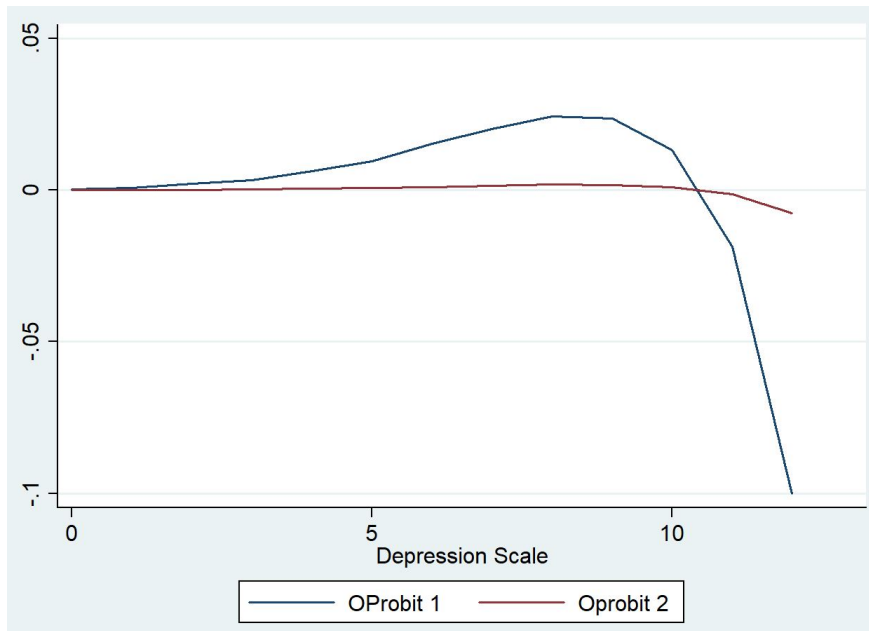
Results

- Without the inclusion of any partner characteristics, the act of providing care to a spouse/partner seems to have a negative effect on self assessed health, depression levels and disability levels
- By including partner (health) characteristics, the effects on SAH and disability index turn positive while the effect on depression becomes statistically non significant (still negative)
- The results show that partner characteristics matter. They imply that individuals health outcomes depend on the outcomes of their partners, as they implicitly capture behavioral effects and emotional burden

Samples and Margins - Self Assessed Health



Samples and Margins - Depression Scale



Matching - Propensity Score Regression

Likelihood of being a Caregiver	
Partner's Self Assessed Health	-0.131*** (0.019)
Partner's Depression Scale	-0.027*** (0.007)
Partner's Disability Index	-3.196*** (0.114)
Partner's Education	0.009 (0.007)
Partner's Age	0.014*** (0.003)
Education	-0.002 (0.007)
Gender	-0.136*** (0.036)
Age	-0.010** (0.003)
Household Size	0.001 (0.017)
Make Ends Meet	0.046** (0.017)
Employed or Self-Employed	-0.175*** (0.048)
Unemployed	-0.081 (0.096)
Permanently sick or disabled	-0.039 (0.098)
Homemaker	0.002 (0.053)
Other Status	0.054 (0.140)

Matching - Comparison between Matched and Control

	Matched	Control
Partner's Self Assessed Health	2.003	2.022
Partner's Depression Scale	8.282	8.352
Partner's Disability Index	0.667	0.675
Partner's Education	4.417	4.431
Partner's Age	69.178	68.991
Education	4.417	4.431
Gender	0.469	.473
Age	68.143	68.063
Household Size	2.395	2.398
Make Ends Meet	2.721	2.725
Retired	0.6686	0.6672
Employed or Self-Employed	0.1560	0.1582
Unemployed	0.2531	0.249
Permanently sick or disabled	0.245	0.241
Homemaker	0.1147	0.1144
Other Status	0.110	0.112

Matching

Self Assessed Health	Treated	Control	Difference	Standard Error
Unmatched	2.702	2.998	-0.297	0.030
ATT	2.711	2.686	0.025	0.043

Depression Scale	Treated	Control	Difference	Standard Error
Unmatched	9.321	10.071	-0.750	0.059
ATT	9.341	9.331	0.010	0.097

Disability Index	Treated	Control	Difference	Standard Error
Unmatched	0.830	0.878	-0.048	0.003
ATT	0.832	0.819	0.014	.006

Message

- Health of the carer is correlated with the health of the partner, as if health level is a household decision
- If anything, providing personal care to a partner has positive effects on the health of the carer

Thank you for your time!

