

RIETI–JER Workshop

Economics of Aging in Japan and other Societies

Presentation



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Does Taking Care of Grandchildren Affect Grandparents' Cognition?

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Motivation

- Grandparents are often identified as important alternative childcare givers
- The effects of grandparenting on younger generations
 - Mothers' working choices
 - Parents' fertility decisions
 - Grandchildren's outcomes
- The effects of grandparenting on grandparents
 - Spend time and resource on grandchildren
 - Grandchildren are important for grandparents

Motivation

- Cognitive ability is important for extending working life, managing chronic illness, maintaining social relations, and making financial decisions.
- Cognition levels of Chinese elderly are low.
- We need to identify ways to preserve cognitive abilities of the elderly population.
- Cognition can be a measure to compare the burden of aging across countries.

Research Questions

- Does taking care of grandchildren affect grandparents' cognition?
- Whether providing childcare has different effect on men and women?
- Whether providing childcare has different effect on rural people and urban people?
- Other determinants of Chinese grandparents' cognitive ability

Related Literature

- Arpino and Bordone (2012): caring for children has no negative effect on grandparents' cognition, but it has positive effect on verbal fluency
- Reinkowski (2013): caring for children has no statistically significant positive effects.
- Lei et al. (2013): Community development has positive effect on cognition, especially for women. The gender cognitive difference have been steadily decreasing across birth cohorts
- Huang and Zhou (2012): People who finished primary school get higher cognitive scores than those who did not

Data

- The national baseline survey of Chinese Health and Retirement Longitudinal Survey (CHARLS)
- Our Sample:
 - Age 45-80.
 - Having at least one grandchildren under 16
 - Excluding people diagnosed with cancer, stroke or memory-related disease.
 - Excluding cases with missing values for analytic variables.
 - final sample size is of 6,932 individuals.

Data

- Dependent variables:
 - Cognition: mental health (naming date, drawing, numeracy) and episodic memory (immediate recall and delayed recall)
- Variables of interested: whether taking care of grandchildren, the time of taking care of grandchildren.
- Control variables: age, gender, marital status, educational level, social activities, employment status, pce, height, and place of resident

Descriptive Statistics

Variable	Providing Childcare		All (<i>n</i> = 6932)
	Yes (<i>n</i> = 3241)	No (<i>n</i> = 3691)	
Mental health	8.14	8.03	8.08
Episodic memory	3.31	3.07	3.18
Age	58.11	59.92	59.07
Married	0.91	0.88	0.90
Illiterate	0.28	0.29	0.29
Did not finish primary	0.22	0.20	0.21
Primary school	0.23	0.24	0.24
Middle school	0.19	0.18	0.18
High school and above	0.08	0.09	0.09
Social activity	0.50	0.48	0.49
Working	0.74	0.71	0.73
Ln(pce)	8.39	8.46	8.43
ln(height)	5.06	5.06	5.06
Urban	0.36	0.31	0.33

Endogenous question

It is possible that those providing childcare are different from the others in unobservable ways (disposition)

IV: the number of grandchildren who aged 16 and lower, the age of the eldest child.

- It is significantly correlated with "care"
- The instrument is valid since Chinese couple make their fertility decisions without considering grandparental care.

Results

	Mental health		Episodic memory	
	OLS	IV	OLS	IV
care	0.165***	-0.789*	0.198***	-0.409
male	0.205***	0.161**	-0.206***	-0.233***
married	0.255***	0.274***	0.140**	0.152**
Did not finish primary	1.347***	1.372***	0.419***	0.435***
Primary school	2.086***	2.092***	0.790***	0.795***
Middle school	2.550***	2.586***	1.141***	1.163***
High school and above	2.847***	2.872***	1.593***	1.606***
any_social	0.305***	0.328***	0.299***	0.313***
worked	-0.008	-0.018	0.082	0.076
logpce	0.136***	0.087**	0.111***	0.080**
logheight	4.479***	4.466***	1.315**	1.316**
urban	0.403***	0.460***	0.184***	0.220***

Results (providing care)

	Mental health		Episodic memory	
	OLS	IV	OLS	IV
caretime	0.003**	-0.023	-0.001	-0.020
male	0.255**	0.211*	-0.202**	-0.235**
married	0.104	0.107	0.046	0.047
Did not finish primary	1.437***	1.401***	0.545***	0.516***
Primary school	2.232***	2.193***	0.840***	0.811***
Middle school	2.639***	2.591***	1.418***	1.385***
High school and above	2.905***	2.897***	1.607***	1.605***
any_social	0.210***	0.170**	0.285***	0.254***
worked	0.003	-0.033	0.060	0.033
logpce	0.162***	0.127**	0.052	0.026
logheight	3.715***	3.830***	1.159	1.197
urban	0.377***	0.348***	0.343***	0.319***

Results by Gender

	Mental health		Episodic memory	
	Female	Male	Female	Male
caretime	-0.033	-0.022	-0.054**	-0.011
married	-0.076	0.405	-0.024	0.160
Did not finish primary	1.392***	1.374***	0.456***	0.345***
Primary school	2.206***	2.153***	0.802***	0.587***
Middle school	2.473***	2.650***	1.424***	1.108***
High school and above	2.848***	2.919***	1.809***	1.168***
any_social	0.115	0.262**	0.235***	0.293***
worked	-0.025	-0.116	0.065	-0.100
logpce	0.123	0.097	-0.036	0.102
logheight	3.652***	4.088***	1.339	1.663
urban	0.483***	0.151	0.327***	0.373***

Results by Residential Area

	Mental health		Episodic memory	
	Rural	Urban	Rural	Urban
caretime	-0.025	-0.018	-0.034**	0.002
male	0.354**	-0.032*	-0.237**	-0.201**
married	-0.028	0.310	-0.085	0.165
Did not finish primary	1.463***	1.243***	0.654***	0.227
Primary school	2.308***	1.921***	0.926***	0.544***
Middle school	2.638***	2.438***	1.378***	1.361***
High school and above	3.135***	2.555***	1.706***	1.475***
any_social	0.093	0.291**	0.155*	0.416***
worked	-0.008	-0.027	0.107	-0.062
logpce	0.171**	0.058	0.021	0.020
logheight	2.881***	5.603***	1.395	1.256

Conclusion

- Providing childcare has no positive significant effect on grandparents' cognition, high intensity of childcare has negative effect on cognition of female and rural people.
- Education and social activity have positive effect.
- Nutrition in childhood is important.

Thanks a lot !