ISSN: 2688-9323

The Impact of Intergenerational Caregiving on the Mental Health of Older Adults

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Abstract

Against the backdrop of accelerating population aging and total fertility rates dropping below the warning line, intergenerational care, as a crucial form of intergenerational support, requires a scientific assessment of its social impacts. Based on data from the 2018 China Health and Retirement Longitudinal Study (CHARLS), this study comprehensively employs an instrumental variable approach to systematically reveal the mechanisms and heterogeneous characteristics through which intergenerational care influences the mental health of the elderly. The findings are as follows: (1) Intergenerational care significantly improves the mental health of the elderly; (2) Female caregivers have better mental health, and rural elderly have better mental health than urban elderly; (3) Intergenerational care not only directly affects the mental health of the elderly but also reduces their depression levels by increasing economic and emotional support. Therefore, it is recommended to improve the pension system and establish social welfare subsidies for the elderly, promote community mutual assistance activities, and encourage community organizations and emotional exchanges to alleviate the impact differences and crowding-out effects brought about by intergenerational care.

Keywords

Intergenerational Care; The Elderly; Mental Health; Population Aging.

1. Introduction

In 2024, the proportion of the population aged 60 and above in China reached 22% ,with the aging population growing at a super-linear rate in both speed and scale. Compared with young people, older adults are a more vulnerable group, being more susceptible to developing mental illnesses due to external influences[1]. Currently, the mental health issues of the expanding elderly population have become one of the core concerns in implementing the active aging strategy.

China is undergoing compressed aging and compressed modernization. The collision between traditional and modern values is partially reflected in the issue of intergenerational caregiving among older adults. The number of Chinese older adults cohabiting with their children has decreased significantly[2], and they are paying increasing attention to their own needs. Nevertheless, providing care for grandchildren is still widely regarded as a family responsibility that older adults should fulfill from a moral perspective. Hampered by the underdeveloped childcare service system, intergenerational caregiving has evolved into an intergenerational support model with a substitute function for social security[3]. Among countries sharing the Confucian cultural heritage, the proportion of Chinese older adults engaged in intergenerational caregiving is nearly 10 times that of South Korea, reaching as high as 58%[4].Intergenerational responsibilities have given rise to a unique "time squeeze effect", where the elderly face the dual pressures of declining physical functions and intensifying

ISSN: 2688-9323

parenting responsibilities simultaneously. Against the backdrop of profound social transformation, can the joy of doting on grandchildren brought by intergenerational caregiving alleviate caregiving stress and the anxiety arising from strained relationships associated with cohabitation? This study attempts to answer this question by systematically analyzing the impact of intergenerational caregiving on the mental health of older adults, exploring its mechanism of action and heterogeneous manifestations across different groups. The research shifts the perspective from a socially instrumental - rational view of intergenerational caregiving to focusing on the self - worth of the main providers of intergenerational care.

2. Literature Review

Role theory has been widely applied to investigate the impact of grandparental caregiving on the later - life health of older adults, with its role strain and role enhancement hypotheses yielding two diametrically opposed conclusions[5] . The theoretical debate between Goode's (1960) role strain theory[6] and Siebe's (1974) role enhancement theory [7]essentially reflects a paradigm conflict between instrumental rationality and value rationality. The former regards childcare as a depletive labor, while the latter emphasizes its ontological value as a practice of meaning - making. This theoretical tension is particularly prominent in cross - cultural comparisons: in individualistic cultures, intergenerational caregiving is often perceived as a role burden[8]; yet in East Asian societies, grandparents may rebuild intergenerational authority through the practice of "doting on grandchildren", thereby attaining ontological security within the framework of Confucian ethics. Li & Yang (2017) pointed out that in the context of intergenerational caregiving in China, grandparents "exchange" the care of their grandchildren for material or financial support from their adult children, forming a unique implicit "care - support" contract[9].

The positive impacts of intergenerational caregiving on the mental health of older adults exhibit distinct gender differences and non - linear characteristics. Most studies have confirmed that intergenerational caregiving exerts a generally positive effect through role activation. Caregiving behavior not only enhances subjective well - being and cognitive function , but may also alleviate loneliness through intergenerational interactions and even extend lifespan. This effect is particularly pronounced among women: grandmothers strengthen their role identity by fulfilling caregiving responsibilities, and their anxiety levels decrease as the duration of caregiving increases[10]. In contrast, grandfathers do not achieve equivalent psychological benefits due to the marginalization of parenting responsibilities within traditional gender roles[11].Notably, the intensity - elastic nature of the positive effect challenges the linear assumption of the traditional stress - health model. Di Gessa et al. (2016) found that both low - intensity and high - intensity caregiving exert a facilitative effect on mental health, indicating that intergenerational caregiving may influence health outcomes through a meaning - making mechanism rather than merely through the investment of time[12].

The negative impacts of intergenerational caregiving on the mental health of older adults have been jointly deconstructed by role stress theory and the stress process model. Intergenerational caregiving itself constitutes a multi - dimensional stressor: it not only leads to resource depletion through the consumption of time and energy[13], but also triggers role conflicts due to intergenerational power imbalances [14], ultimately resulting in elevated levels of depression and anxiety[15]. Lee et al. (2016) found that intergenerational caregiving may impose financial burdens and intergenerational relationship stress on caregivers, thereby exerting negative impacts on their physical and mental health[16]. This stress effect is sensitive to the intensity of caregiving: Pan et al. (2020) revealed that high - intensity caregiving (more than 40 hours per week) significantly accelerates cognitive decline, implying the existence of a non - linear threshold for stress accumulation. However, the universality of the negative effect

ISSN: 2688-9323

is moderated by cultural and family structures. Based on data from Thailand[17], Komonpaisarn et al. (2019) found that in communities with a strong tradition of intergenerational co - residence, caring for grandchildren may reduce the psychological stress of older adults due to normative expectations[18]. In contrast, the intergenerational value conflicts identified in Kim et al.'s (2017) study highlight the tension between role obligations and autonomy in individualistic cultures[19].

3. Empirical Analysis

3.1. Data Source

This study utilized data from the China Health and Retirement Longitudinal Study (CHARLS). The CHARLS sample covers 150 counties/districts and 450 communities across 28 provinces, with valid data collected from approximately 17,000 respondents and 10,000 households.This study selected respondents aged 60–79 from the 2018 CHARLS dataset. Samples with missing indicators were removed, as were samples of disabled or semi-disabled older adults who are generally unable to provide intergenerational care. After these exclusions, a final sample of 4,732 valid observations was obtained.

3.2. Model Construction

Ordinary Least Squares (OLS) was adopted as the baseline regression model in this study to empirically examine the impact of intergenerational caregiving on the mental health of older adults. The specific model is formulated as follows:

$$\text{Depression}_i = \beta_0 + \beta_1 \text{care}_i + x_i + \epsilon$$

Depression_i represents the dependent variable mental health;Care_i denotes the independent variable intergenerational caregiving;X_i refers to the vector of control variables, including demographic characteristics, socioeconomic attributes, and health status;ϵ_i stands for the random error term.

3.3. Descriptive Statistic

Mental health status was measured by the level of depression, with the Center for Epidemiologic Studies Depression Scale (CES-D) adopted by CHARLS to assess depressive symptoms among older adults. The 10-item CES-D scale consists of ten questions about respondents' depressive feelings and behaviors over the past week. Among these, the 5th item ("I felt hopeful about the future") and the 8th item ("I felt happy") reflect positive emotions, while the remaining eight items assess negative emotions. These two positive items were reverse-coded, and all four response options were assigned scores of 0, 1, 2, and 3 respectively. The total score of the ten items was used to indicate the severity of depressive symptoms, with higher scores representing more severe depression.

The core independent variable, intergenerational caregiving, was determined based on the questionnaire item: "Over the past year, have you or your spouse taken care of your grandchildren (including grandchildren from your spouse)?" A response of "Yes" was coded as 1, and "No" as 0.

Four categories of control variables were selected in this study. First, demographic characteristics included age, gender, marital status, household registration type, educational attainment, living arrangement, and number of children. Second, health-related variables covered smoking status, drinking behavior, chronic diseases, and self-rated health. Drinking behavior was defined as consuming alcohol more than once a month (coded as 1) and otherwise as 0. Third, socioeconomic characteristics comprised medical insurance coverage, pension

ISSN: 2688-9323

insurance enrollment, and household income. Fourth, variables related to social participation and intergenerational support (both economic and emotional) were included. Social participation was coded as 1 if the respondent had engaged in any of the 11 listed social activities in the past month, and 0 otherwise. Intergenerational support was measured in two dimensions:

Economic support was calculated as the total annual financial support received from all children (by the respondent and their spouse) and then log-transformed.

Emotional support was dichotomized based on contact frequency with children: "every day", "2-3 times a week", and "once a week" were coded as 1, while all other frequencies were coded as 0.The descriptive statistics of the variables are presented in Table 1.

Table 1. Descriptive Statistics

Variable Name	Description	Mean	SD	Min	Max
Mental Health	Depressive symptoms	8.631	6.619	0	30
Care	Not provide=0,Provide=1	0.418	0.493	0	1
Age	Age (years)	67.81	5.223	60	79
Gender	Female=0,Male=1	0.518	0.500	0	1
Marital status	Divorced\widowed\never married=0, Married=1	0.733	0.443	0	1
Household Registration	Agricultural=0, Non-agricultural=1	0.225	0.418	0	1
Education	Years of education (years)	5.690	4.013	0	16
Living Arrangement	Does not live with children=0, Lives with children =1	0.514	0.500	0	1
Number of Children	Number of living children (persons)	3.269	1.558	0	15
Smoking	Non-smoker=0,Smoker=1	0.310	0.463	0	1
Drinking	Non-drinker =0,Drinker =1	0.331	0.471	0	1
Self-Rated Health	Very good=1,Good =2,Fair=3,Poor=4,Very poor =5	3.033	1.005	1	5
Chronic Disease	No chronic disease=0, Has chronic disease=1	0.473	0.499	0	1
Medical Insurance	No medical insurance=0, Has medical insurance=1	0.951	0.215	0	1
Pension Insurance	No pension insurance =0, Has pension insurance=1	0.682	0.466	0	1
Household Income	Annual household income per capita / Provincial resident disposable income per capita	3.785	44.56	0.00375	2401
Social Participation	No social activities=0, Participates =1	0.507	0.500	0	1
Financial Support	Total annual financial support from children (CNY/year)	6952	15662	0	411600
Emotional Support	No emotional support=0, Receives =1	0.798	0.402	0	1

3.4. Basic Regression Results

In this section, four aspects of influencing factors are gradually incorporated into the regression models from Model 1 to Model 4. Model 1 primarily examines the impact of basic demographic characteristics on the mental health of the elderly. Models 2 to 4 gradually add variables such as health status, socioeconomic characteristics, respondents' social participation, and

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intergenerational support from children to the previous model. The empirical results are shown in Table 2.

Table 2. Baseline Regression Results

	(1)	(2)	(3)	(4)
Variable Name	Model 1	Model 2	Model 3	Model 4
Mental Health	-0.6683***	-0.5593***	-0.5527***	-0.4413**
	(0.1969)	(0.1843)	(0.1842)	(0.1842)
Age	-0.0858***	-0.0905***	-0.0840***	-0.0822***
	(0.0206)	(0.0194)	(0.0195)	(0.0195)
Gender	-1.7392***	-1.7131***	-1.7130***	-1.8072***
	(0.2078)	(0.2319)	(0.2319)	(0.2317)
Marital status	-0.8950***	-0.7505***	-0.7404***	-0.6742***
	(0.2260)	(0.2119)	(0.2117)	(0.2115)
Household Registration	-1.1075***	-1.1221***	-0.7142***	-0.6376**
	(0.2439)	(0.2286)	(0.2648)	(0.2647)
Education	-0.1557***	-0.1243***	-0.1172***	-0.0964***
	(0.0271)	(0.0254)	(0.0255)	(0.0256)
Living Arrangement	-0.4261**	-0.3434*	-0.3655**	-0.3942**
	(0.1901)	(0.1779)	(0.1779)	(0.1788)
Number of Children	0.2747***	0.1730***	0.1596**	0.1908***
	(0.0679)	(0.0636)	(0.0637)	(0.0638)
Smoking		0.6655***	0.6459***	0.6085***
		(0.2200)	(0.2200)	(0.2192)
Drinking		-0.2023	-0.1771	-0.1836
		(0.2041)	(0.2040)	(0.2035)
Self-Rated Health		2.1349***	2.1239***	2.0903***
		(0.0901)	(0.0902)	(0.0900)
Chronic Disease		0.8210***	0.8294***	0.8993***
		(0.1802)	(0.1801)	(0.1796)
Medical Insurance			-0.4352	-0.4069
			(0.4105)	(0.4087)
Pension Insurance			0.7557***	0.7029***
			(0.2333)	(0.2328)
Household Income			0.0023	0.0023
			(0.0020)	(0.0020)
Social Participation				-0.3701**
				(0.1794)
Financial Support (log)				-0.0727**
				(0.0307)
Emotional Support				-1.2118***
				(0.2213)
_cons	16.7386***	10.0047***	9.3971***	10.7677***
	(1.3921)	(1.3352)	(1.4490)	(1.4583)
N	4732	4732	4732	4732
r2_a	0.0647	0.1821	0.1837	0.1911
F	41.9125	88.7503	71.9675	63.0760

Standard errors in parentheses

* p < 0.1, ** p < 0.05, *** p < 0.01

ISSN: 2688-9323

Table 2 indicates that intergenerational care significantly reduces the depression levels of the elderly, benefiting their mental health. Intergenerational care can significantly decrease the mental depression level of the elderly by 0.4413 units ($p < 0.05$). Drinking, medical insurance, and household income all showed no significant impact in the model. Age, gender, marital status, educational level, number of children, smoking habits, self-rated health, chronic disease status, pension insurance, and emotional support showed significance in different models ($p < 0.01$). Household registration, living arrangements, social participation, and economic support showed reduced significance in Model 4 ($p < 0.05$).

3.5. Reverse Causality Problem

Table 3 shows that the model passed the weak instrumental variable test (F=37.6822). In the first-stage regression, the number of grandchildren is significantly positively correlated with intergenerational care at the 1% level (β=0.0500), confirming the strong correlation of the instrumental variable with the endogenous variable. The second-stage estimates after endogeneity correction indicate that intergenerational care has a significant negative impact on mental health (β=2.4033, $p<0.05$). All models control for relevant variables, and the results are robust.

Table 3. IV Estimation Results

	(1)	(2)
Variable Name	First Stage	Second Stage
Number of grandchildren	0.0500***	
	(0.0038)	
Care		-2.4033**
		(0.9766)
Control variables	Controlled	Controlled
_cons	1.3163***	14.3432***
	(0.1165)	(2.2851)
N	4732	4732
r2_a	0.1225	0.1716
F	37.6822	

3.6. Variable Replacement

Table 4. Robustness Check Using Alternative Variables

	(1)
Variable Name	Mental Health
Care intensity	-0.1634**
	(0.0758)
Control variables	Controlled
_cons	10.6138***
	(1.4510)
N	4732
r2_a	0.1909
F	63.0008

Studies have shown that the intensity of intergenerational care affects the mental health of the elderly[20][21]. In this study, the number of months of intergenerational care in the past year was divided into four grades: 0 months (no care) is recorded as 0; 1-6 months as 1; 7-11 months as 2; and 12 months as 3. OLS regression results show that the coefficient of intergenerational

ISSN: 2688-9323

care intensity on the mental health of the elderly is -0.1634 ($p<0.05$), indicating that the longer the care time, the lower the depression level and the better the mental health of the elderly. This is consistent with the impact direction of whether to provide care, and the results are robust.

3.7. Heterogeneous Analysis

The results of the sub-sample regression based on gender and urban-rural household registration show (Table 5) that intergenerational care has a significant alleviating effect on the depressive symptoms of females (β=-0.7717, $p<0.01$), but no significant effect on males; intergenerational care participation significantly improves the mental health level of rural elderly (β=-0.4923, $p<0.05$), while no significant effect is shown for the urban group. All models control for relevant variables, and the adjusted R^2 shows that the model fits well.

Table 5. Results of Heterogeneity Analysis

Variable Name	Female	Male	Rural	Urban
Care	-0.7717***	-0.0862	-0.4923**	-0.3008
	(0.2859)	(0.2380)	(0.2150)	(0.3581)
Control variables	Controlled	Controlled	Controlled	Controlled
_cons	11.4443***	8.7776***	10.9580***	10.1374***
	(2.2923)	(1.9261)	(1.7213)	(2.7563)
N	2282	2450	3666	1066
r2_a	0.1770	0.1476	0.1738	0.1991
F	29.8665	25.9358	46.3511	16.5782

3.8. Mediating Effect Analysis

The mediation analysis results in Table 6 indicate that:In Model 2, both economic support from children (β = 0.4548, $p < 0.01$) and emotional support from children (β = 0.0524, $p < 0.01$) play a partial mediating role in the relationship between intergenerational caregiving and mental health.In Model 3, after controlling for the mediating variables, the absolute value of the direct effect coefficient of intergenerational caregiving decreased from -0.5379 to -0.4712 ($p < 0.05$). Meanwhile, both economic support (β = -0.0920, $p < 0.01$) and emotional support (β = -1.2721, $p < 0.01$) exhibit significant mediating effects.These results suggest that intergenerational caregiving not only directly improves the mental health of older adults but also indirectly reduces the risk of depression by enhancing intergenerational support.

Table 6. Results of the Three-Step Mediation Effect Analysis

	Model 1	Model 2		Model 3	
Variable Name	Mental Health	Financial Support	Emotional Support	Mental Health	Mental Health
Care	-0.5379***	0.4548***	0.0524***	-0.4961***	-0.4712**
	(0.1841)	(0.0877)	(0.0122)	(0.1845)	(0.1839)
Financial Support				-0.0920***	
				(0.0306)	
Emotional Support					-1.2721***
					(0.2199)
Control variables	Controlled	Controlled	Controlled	Controlled	Controlled
_cons	9.7308***	4.0390***	10.1024***	0.6135***	10.5112***
	(1.4537)	(0.6921)	(1.4577)	(0.0959)	(1.4550)
N	4732	4732	4732	4732	4732

ISSN: 2688-9323

4. Conclusion and Policy Implications

Analyses based on CHARLS data demonstrate that intergenerational caregiving exerts a significant positive impact on the mental health of older adults, effectively reducing the severity of depression. This effect exhibits gender and urban-rural heterogeneity, with more pronounced benefits observed among females and rural older adults. The mechanism of influence is realized through both direct and indirect pathways: while directly improving mental health, it also forms a psychological protective barrier by stimulating the reciprocal feedback of financial support and emotional care from children, thus validating the family intergenerational exchange theory. Based on the above conclusions, the following policy implications are proposed:

(1) Recognize the Positive Value of Intergenerational Caregiving: Provide support to older adults who take on caregiving responsibilities at the family and community levels, with a particular focus on the needs of females and rural older adults.

(2) Strengthen the Intergenerational Reciprocity Mechanism: Guide children to reciprocate the caregiving efforts of older adults through financial assistance and emotional companionship, thereby strengthening the family-based psychological support network.

(3) Optimize Intervention Strategies Based on Urban-Rural Differences:For urban older adults: Establish more social and participation platforms to promote the synergistic effect of intergenerational caregiving and social engagement.For rural areas: Expand channels for social participation to enhance the additional value of intergenerational caregiving.

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