

# *A study of the impact of family elder care on children's health based on an aging perspective*

Xinyutong Zheng\*

*Chongqing Technology and Business University, Chongqing, 400067, China*

*\*Corresponding author: zxyt0814@163.com*

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**Abstract:** Against the backdrop of increasing population aging, it is important to study the impact of family elder care on children's health. This paper examines the overall impact of family elder care on children's health using multiple linear regression models with CFPS2020 cross-sectional data, and further tests for gender heterogeneity. It was found that family elder care showed a significant negative effect on children's health and passed the robustness test. The results of the heterogeneity test indicate that there are gender differences in the impact of family elder care on children, and the negative impact on men's health is slightly larger than that of women. At the same time, the way of care for the elderly in China is mainly based on informal and unpaid family care, with less community care and institutional care, and children are both the main body of care and the main body of payment.

## 1. Introduction

As China's quality of life improves and medical care advances, life expectancy continues to grow, but the birth rate continues to fall, leading to a gradual deepening of the degree of aging. In 2023, the country's birth rate will be only 9.02 million people, which will be the second consecutive year of decline after the country's population in 2022 experienced negative growth for the first time in more than 60 years. Meanwhile, China's life expectancy has risen from 71.4 years in 2000 to 78.20 years in 2021, with 3.9 percent of the population aged 80 or older[1]. The United Nations World Population Prospects 2022 (WPOP 2022) shows that by 2050, China's elderly population aged 60 and above will exceed 500 million, accounting for 38.81% of the total population, and the proportion of elderly people aged 80 and above will exceed 10%[2], with the proportion of elderly people continuing to increase, which means that the structure of China's elderly population is showing a trend of "aging", and the proportion of elderly people aged 80 and above will continue to increase. This means that the structure of China's elderly population is showing a trend of "aging", which will inevitably increase the incapacity rate of the elderly and the demand for elderly care. According to the "2022 National Aging Development Bulletin" issued by the National Office for the Elderly of the Ministry of Civil Affairs, there will be about 44 million incapacitated elderly people in China in 2022, and it is expected that the scale of incapacitated elderly people in China will be more than 77 million in 2030[3], which means that with the number of elderly people in China increasing and the problem of aging of the population becoming more and more serious, there is a huge and urgent demand for care for the elderly in China, and family care for the elderly will become more and more important. This also

means that as the number of elderly people in China continues to increase and the problem of population aging becomes more serious, there will be a huge and urgent demand for elderly care in China, and family care for the elderly will become more complex.

As China's deep ageing continues to worsen, the problems of old age and care for the elderly in urban and rural areas are becoming increasingly prominent. Chapter 45 of the Outline of the Fourteenth Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Vision for 2035 mentions "implementing a national strategy to actively cope with the aging of the population," [4] and explicitly points out that it is necessary to "support families in taking on the function of caring for the elderly". It is also clearly stated that it is necessary to "support families to take on the function of ageing". According to existing studies, nearly 70% of the elderly in China, including the disabled elderly, prefer the traditional family care model to social care [5], and the family caregivers are mostly the spouses and children [6], but the children are often faced with greater caregiving pressure. This is because, on the one hand, with the generalization of the inverted pyramid of "four parents, one couple", the responsibility for family caregiving in old age has shifted from being shared by the extended family in the past to being borne entirely by children. On the other hand, as time is a scarce resource, family elder care, as a time-intensive domestic work, is long-term and complex, and the heavy pressure of family care will crowd out children's leisure time, thus lowering the labor participation rate of adult children in the family, increasing the economic pressure on the family for old age and medical care, and putting the children caregivers under pressure due to the "conflict of roles. This puts child caregivers under pressure due to "role conflict", which ultimately affects the physical and mental health of child caregivers. Child caregivers have to take on the responsibility of family caregiving in old age and at the same time fulfill their obligation to work for the family. Under such dual pressure, child caregivers are facing a serious health crisis. It is therefore important to explore the relationship between family eldercare and the health of child caregivers.

Based on data from the 2020 China Household Tracking Survey, this study comprehends the current situation of family caregiving and health among the elderly in China, and examines the impact of family elder caregiving on children's health and its heterogeneous manifestations. The possible marginal contributions of this paper are: first, to conduct theoretical research on the impact of elderly caregiving on children's caregiver health based on the perspective of elderly caregiving from a micro point of view, which complements the relevant research on caregiver health; second, to comprehensively examine the heterogeneity of the performance of family elderly caregiving on children's health, which provides evidence for analyzing the impact of family elderly caregiving on children's health; and third, to provide policy recommendations for coping with caregiving in the elderly population and the support of caregivers through the current study and caregiver support.

The rest of the paper is organized as follows: section 2 reviews the relevant literature; section 3 presents the theoretical analysis; section 4 introduces the research design and descriptive analysis; section 5 presents the empirical tests and results; and finally, conclusions and recommendations.

## 2. Literature review

At present, domestic and international research on the impact of family caregiving mainly focuses on the health of the cared-for person and the caregiver, the use of medical services and the supply of labor.

First of all, studies on health mainly focus on the positive impact on the cared-for and the negative impact on the caregivers. On the one hand, some studies have found that family geriatric caregiving can significantly enhance the health status of older adults [7] and alleviate their life stress and emotional depression [8]. In particular, caregiving support provided by children plays a positive role

in the physical and mental health of older adults [9], because adult children's communication with their elderly parents during the caregiving process enhances emotional exchanges, and emotional support is more likely to contribute to the overall health of older adults than daily care and financial support [10]. Besides, some scholars believe that too much caregiving support will undermine their independence, triggering more dependence on social support [11], which will have a negative impact on health. On the other hand, because family caregiving for the elderly often requires long periods of physical and energy exertion, it may result in lower body resistance and thus increase the probability of various chronic diseases [12], and even if they do not get sick, it may significantly reduce the caregiver's self-assessed health status [13]. At the same time, caring for elderly parents also tends to expose children to greater psychological stress [14], and the burden of caregiving shows a significant positive correlation with their own level of depression [11]. It is worth noting that, probably due to the intensity of caregiving, duration of caregiving, and heterogeneity of children's caregivers, existing studies have developed two different views, one of which suggests that family elder caregiving reduces children's health, while the other suggests that instead of reducing children's health, family elder caregiving improves caregivers' health. Research has shown that family elder care improves caregivers' physical health by increasing caregivers' exercise behavior [15]. At the same time, there is positive feedback in caregiving behaviors, where caregivers can perceive themselves as useful and important [16], and are able to gain a sense of accomplishment, personal resilience, rewards for their loved ones, maturity of mind, and the realization of their personal values [17]. However, this positive and negative intertwined psychological experience can fluctuate significantly depending on behaviors such as the period of caregiving, resource commitment, and caregiving transitions [18]. Therefore, whether and how child caregivers ultimately lose their level of well-being needs to be further tested.

Second, research on health care utilization has focused on the negative impact on the care recipient and the positive impact on the caregiver. On the one hand, it has been suggested that there is a substitution or complementarity between family caregiving and healthcare utilization among older adults [19], a phenomenon that also occurs among older adults with physical dysfunction [20], and that adequate caregiving can help to reduce older adults' dependence on healthcare utilization. At the same time, it has been suggested that older adults who receive family caregiving engage more actively in health-promoting behaviors and cooperate more actively with medications when they are in poor health [21]. It has also been found that family caregivers can accompany older adults to medical appointments in a more timely manner, and communicate with and consult with healthcare providers and healthcare workers, thus reducing barriers to accessing healthcare services for older adults [22]. On the other hand, related studies have supported that family caregiving will increase caregivers' healthcare utilization behaviors. Significant increase in hospitalization expenditures [23], especially for the elderly, and the longer the caregiving period, the higher the medication use, an effect that is particularly significant for female caregivers [24].

Finally, research on the labor supply side of the equation has centered on the negative impacts on caregivers. Numerous studies have concluded that older caregivers are approximately 30% less likely to be employed than non-caregivers [25], and that the impact is more severe for females. Some studies have found that female caregivers balance older caregiving with employment by making adjustments to their work, including reducing work hours, choosing to work part-time, or even dropping out of the labor market or retiring early [26], and that almost any of these adjustments have irreversible effects, i.e., the termination of caregiving by women does not increase the number of hours they work [27].

Overall, the existing literature on the impact of family caregiving in old age on children's health is still relatively scarce. On the one hand, domestic studies only stop at separating tests of the effects of family elder care on the physical and mental health of adult children, and fewer studies explore the path of the effects. Due to the huge size of China's population, the current situation of the elderly

population and the specific situation of children's care is extremely complex, and clarifying the influence path of family elder care on children's health is conducive to a deeper understanding of family elder care in China; on the other hand, domestic research on the impact of elder care on caregivers still focuses on females, however, whether females are more vulnerable to elder care needs to be clarified through comparative gender studies. On the other hand, research on the impact of elderly care on caregivers in China still focuses on women, but whether women are more vulnerable in elderly care needs to be clarified through comparative gender research, and research on women alone cannot show the complete gender differences in the impact of elderly care on caregivers. This paper focuses on different groups of older persons with different health conditions, and on child caregivers with different characteristics and gender comparisons, with a view to providing policy recommendations to address caregiving and caregiver support for the older population.

### 3. Theoretical analysis

As a time-intensive household chore, family elder caregiving places a burden on the physical and mental health of child caregivers, who are subject to multiple caregiving pressures in terms of finances, time, and occupation. On the one hand, as the cash payment required for elder care is relatively high and mainly paid by children [28], children may choose to continue working while participating in caregiving in order to meet the increased family expenses due to caregiving, which shows an increase in labor supply time in the short term, resulting in a heavier burden on the body and affecting health. On the other hand, as time is a scarce resource, long-term and continuous caregiving activities will seriously distract the caregiver, reduce the children's labor supply time, or even cause career interruption and thus withdrawal from the labor market, and the caregiver's normal life time will be seriously crowded, making it difficult for them to have their own leisure time, which will affect their health.

Specifically, the time spent on caregiving varies according to the age and health status of the parents. According to relevant studies, the average expected duration of caregiving for the elderly aged 65 and above is 4-8 years, and the average time needed for caregiving is 22 hours per week [29], the average time needed for the elderly aged 80 and above who are in good self-assessed health to be fully cared for by someone else before they die is 76.6 days, and the caregiving for the elderly who are chronically ill and in poorer self-assessed health takes 124.5 days [30]. It can be seen that the dependence of the elderly on their children's care needs depends mainly on age and health, and as the physical functions of the elderly decline, the poorer the health of the elderly, the greater the need for care [31], but the specific care needs due to the father or the mother, and the impact on the children of different genders are uncertain, so the first question to be tested in this paper is: parents of different ages, as well as different health conditions and whether there are different levels of impact on the health of their children?

In addition, most child caregivers face a dual "role conflict" between family responsibilities and labor supply. According to stress process theory, children perceive the stress of caring for their parents as a primary stressor, the extent of which is influenced by the caregiver's physical needs, cognitive state, and behavior. Secondary stressors come from encroachment on the child's work life, leisure time, and other normal life time that is directly or indirectly caused by caregiving. The more complex the secondary stressors, the more time the caregiver has to balance, the more labor-intensive and mentally stressful the caregiver is, and thus the healthier the child caregiver is. Therefore, the second question to be tested in this paper is: considering the labor and fertility status of child caregivers as dual secondary stressors, is there a difference in the health status of child caregivers with children and working child caregivers when faced with the responsibility of elder care in the family as compared to children without children and children without jobs?

## 4. Theoretical analysis

### 4.1 Model setting

In this paper, a multiple linear regression model is used to examine the effect of family elder care on children's health, and the regression model is set as follows:

$$Y_i = \beta_0 + \beta_1 Care_i + \gamma X_i + \varepsilon_i \quad (1)$$

Where subscript  $i$  represents the household.  $Y_i$  is the health of the child caregiver in the household,  $Care_i$  denotes the presence of elder care in the household,  $X_i$  denotes other control variables affecting the health of the child caregiver, and  $\varepsilon_i$  denotes the random error term.

### 4.2 Data Source

The data come from the China Family Studies (CFPS) data, which is a nationwide, comprehensive social tracking survey program implemented by the China Social Science Survey Center (ISSS) of Peking University. The survey questionnaire contains three parts: family, adult, and child, and is conducted every two years, covering 31 provinces, municipalities, and autonomous regions across China. In this paper, the 2020 cross-section data are selected based on the availability of key variables, and then the household data are matched with the adult data for analysis.

### 4.3 Variable Selection

#### 4.3.1 Explanatory Variable

The explanatory variable in this paper is children's health, and self-assessed health is used to measure children's health in this paper. Self-assessed health refers to an individual's comprehensive evaluation of his or her own health, and self-assessed health in the CFPS data is divided into five levels (unhealthy, average, relatively healthy, very healthy, very healthy), which are assigned values of 1-5 in this paper.

#### 4.3.2 Explanatory Variables

The main explanatory variable in this paper is a dummy variable for whether there is family care, with "1" for yes and "0" for no. According to the questionnaire, "Whether to take care of household chores or take care of the father's food and living for him If one of the two questions is "yes", the variable of family elder care is "1", otherwise it is "0". If one of the two questions is yes, the family elderly care variable will be "1", otherwise it will be "0".

#### 4.3.3 Control Variables

The control variables in this paper mainly include the following variables: (1) the age of the respondent, calculated by subtracting the year of birth from 2020; (2) the gender of the respondent; (3) the location of the respondent's hukou; (4) the number of years of education of the respondent; and (5) the marital status of the respondent.

Descriptive statistics for the overall variables of this paper are shown in Table 1.

Table 1: Total sample descriptive statistics

Variables	Samples	Mean	Std.Dev.	Min	Max
Health level of children	28590	2.714	1.785	-8	5
Family care or not	28590	.203	.402	0	1
Gender	25114	.505	.5	0	1
Years of education	25111	-6.757	3.736	-8	9
Registered residence	25114	-7.416	2.409	-8	6
Marital status	25114	1.206	2.867	-8	5

## 5. Empirical Analysis

### 5.1 Benchmark Regression

In this paper, we first tested the overall impact of family elder caregiving on children's health using a multiple linear regression model, and the regression results are shown in Table 2. Among them, column (1) is the regression result without adding control variables, which shows that the coefficient of family elder care is significantly negative at 1% level, indicating that family elder care behavior significantly reduces children's health. Column (2) shows the regression results after adding control variables such as gender, years of education, household, and marital status, which are still shown to be significantly negative at the 1% level. It can be seen that family elder caregiving behavior has a negative impact on the health level of children.

Table 2: The impact of family eldercare on children's health: a benchmark regression

Variables	(1)	(2)
Family care or not	-0.1425*** (0.026)	-0.0929*** (0.027)
Gender		-0.2110*** (0.023)
Years of education		-0.0277*** (0.003)
Registered residence		-0.0280*** (0.004)
Marital status		-0.0000** (0.000)
Constant term	2.7428*** (0.012)	2.2827*** (0.043)
Observed value	28590	25111
R <sup>2</sup>	0.0010	0.0306

Note: \*\*\*, \*\*, \* represent significant at the 1%, 5%, and 10% levels, respectively.

### 5.2 Robustness Check

#### 5.2.1 Addition of other control variables: social status

In order to ensure the reliability of the regression results, the social status variable is added to the baseline regression model in this section for robustness testing and the results are shown in Table 3. The results show that adding the social status control variable, the coefficient of the effect of family

elder care on children's health is still significantly negative at the 1% level, i.e., family elder care behavior significantly reduces children's health.

Table 3: The impact of family elder care on children's health: a robustness test

Variables	(1)
Family care or not	-0.2566*** (0.024)
Gender	-0.2333*** (0.020)
Years of education	-0.0316*** (0.003)
Registered residence	-0.0171*** (0.004)
Marital status	-0.3791*** (0.007)
Social status	0.4611*** (0.006)
Constant term	2.0446*** (0.038)
Observed value	25111
R <sup>2</sup>	0.2414

Note: \*\*\*, \*\*, \* represent significant at the 1%, 5%, and 10% levels, respectively.

### 5.2.2 Replacement of the dependent variable: change in health status

In order to further explore the changes in health level, this paper introduces the health change status variable to replace the original dependent variable for robustness testing, and the regression results are shown in Table 4. The results show that the effect of family elder care on children's health is still significantly negative at the 1% level, which is consistent with the results of the benchmark regression. This indicates that the conclusions of this paper are robust.

Table 4: The effect of family elder care on changes in children's health: a robustness test

Variables	(1)
Family care or not	-0.2246*** (0.025)
Gender	-0.0254*** (0.003)
Years of education	-0.0140*** (0.004)
Registered residence	-0.4143*** (0.007)
Marital status	0.0000 (0.000)
Social status	0.5041*** (0.006)
Constant term	2.4369*** (0.039)
Observed value	25111
R <sup>2</sup>	0.2617

Note: \*\*\*, \*\*, \* represent significant at the 1%, 5%, and 10% levels, respectively.

### 5.3 Heterogeneity test

In order to further test the different impacts of family eldercare on male and female children, this part puts male and female samples into the model for heterogeneity test respectively, and the regression results are shown in Table 5, with column (1) showing the regression results for male samples and column (2) showing the regression results for female samples. The results show that the effect of family eldercare on the health of both men and women is significantly negative at the 1% level, and the negative effect of family eldercare on men is slightly larger than that on women, i.e., family eldercare behaviors cause men's health to be poorer than women's, which may be attributed to the fact that men often appear as the social role of the “breadwinner”, either actively or passively. This may be due to the fact that men often appear as the “breadwinners” of society, that they actively or passively take on the pressures of caregiving in terms of finances, time, occupation, etc., and that they increase their working hours considerably in order for their families to be able to pay for their caregiving expenses, which puts them in a chronically poor physical and mental state and thus affects their health.

Table 5: The effect of family elder care on children's health: a test of heterogeneity

Variables	(1)	(2)
Family care or not	-0.2722*** (0.035)	-0.2282*** (0.033)
Gender	-0.0292*** (0.004)	-0.0345*** (0.004)
Years of education	-0.0209*** (0.006)	-0.0121** (0.006)
Registered residence	-0.3167*** (0.009)	-0.4455*** (0.010)
Marital status	-0.0000*** (0.000)	-0.0000*** (0.000)
Social status	-0.4153*** (0.008)	-0.5082*** (0.008)
Constant term	2.0546*** (0.053)	1.7969*** (0.052)
Observed value	12433	12678
R <sup>2</sup>	0.2071	0.2719

Note: \*\*\*, \*\*, \* represent significant at the 1%, 5%, and 10% levels, respectively.

## 6. Conclusions and recommendations

### 6.1 Research conclusion

Against the background of gradual aging, this paper uses CFPS2020 data to analyze the impact of family elder care on children's health. The main conclusions of the study are: first, family elder care has a significant negative impact on children's health. Second, there are gender differences in the impact of family elder care on children, and the negative impact on men's health is slightly greater than that of women. Thirdly, the study found that informal, unpaid family care is the main form of care for the elderly in China, with less community care and institutional care, and that children are both the main caregivers and the main payers.



## 6.2 Policy recommendations

Based on the above research findings and realistic background, the following policy recommendations are proposed:

First, governments need to strengthen policy support for child caregivers to alleviate the health crisis of children in caregiving services. Direct subsidies and indirect tax incentives should be provided to children in family caregiving, and caregivers should be trained in general knowledge of caregiving and how to alleviate the stress of caregiving. In addition, enterprises are encouraged to establish flexible work systems, such as flexible work and off-site employment, in order to resolve conflicts between family and work.

Second, improve the system of care for the elderly, with family care as the mainstay and social care as a supplement. In accordance with the demographics, economic conditions and care needs of different regions, additional market-oriented social care institutions and public welfare community care institutions have been established, and the construction of a combined medical and nursing care system has been promoted, so as to increase the quantity and quality of elderly care through a variety of channels.

Finally, differentiated care policies should be implemented for child caregivers of different genders. For men, the government should take the initiative to promote the institutionalization and standardization of paid leave and flexible work systems, and implement time protection for caregivers as they care for the elderly. For women, the Government should encourage both men and women to share the responsibility for family caregiving, and should continue to improve the system of equal employment for both men and women, so as to reduce the employment costs incurred by enterprises as a result of gender differences.

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