

# Effects of Intergenerational Support on the Older Adults' Mental Health in China

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**Abstract**—The aging population has accelerated owing to rising life expectancy and sudden fertility and death rates drop. This has led to a noticeable problem in the health of the aged. Human life revolves around health, which is now broadly understood to include both bodily and mental well-being. Compounded by the social isolation caused by Covid-19, mental health issues have become more acute, especially among the elderly. This study used the multiple linear regression model to examine the relationship between intergenerational support and the mental health of older adults (MHOA). We also investigated the relationships among different age groups. This study found that intergenerational support does not always positively affect mental health in older adults. The effects vary according to the age group.

**Index Terms**—Mental health, intergenerational support, older adults, aging

## I. INTRODUCTION

With increasing life expectancy and rapid declines in fertility and mortality rates, the aging population has accelerated, which is followed by prominent health issues in older adults. Health is a hot topic in human life, and the concept of health has been extended to mental health, not restricted to physical health. Recently social isolation followed by the Covid-19 pandemic led to mental health issues [1] and it is vital to pay more attention to older people because they are more mentally vulnerable than other age groups [2]. However, there is still a lack of awareness regarding how to fulfill the mental needs of older adults and a shortage of services for mental health care in China.

Our interest in the relationship between intergenerational support and mental health is driven by the fact that older people tend to rely on the care and support provided by their adult children [3] because of the diminished social network and uncontrollable deterioration of physical and cognitive functions over time [4].

Many studies on intergenerational support have recently been conducted, both domestically and internationally, with a focus on older adults. Some studies in China have suggested that receiving emotional and instrumental support are associated with an increased level of subjective well-being in older adults [5]. Intimate intergenerational relationships may diminish loneliness [6], thus enhancing the subjective well-being of older people. Receiving emotional support is also conducive to ease depression [7] and to reduce loneliness and maintain a pleasant frame of mind.

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Intergenerational support is vital to the life satisfaction of older adults [8] and is beneficial for their mental health [9]. While other studies show that intergenerational ties are not always beneficial to mental health among older people [10].

Similarly, certain studies in other countries also put forward that relying on adult children's economic support hurts health of older people too much [11]. It may also increase depression of older adults if they receive too much help from their children [12]. While other studies consider that intergenerational support can decrease the depression thus lowering the risk of death and improving physical health among older adults [13]. Besides, living with adult children also has a positive effect on the mental health of the older people [14].

Age also exerts a nonnegligible influence on mental health of older people [15]. Since aging usually comes with a myriad of psychological, social, and environmental vulnerabilities, older adults may experience poor mental health if they are unable to adjust to their new circumstances [16]. Referring to literature listed above, we can see that intergenerational support and age are significant factors that need considering when dealing with mental health issues for older people.

Previous literature usually investigates the connection between intergenerational support and other elements, such as personal well-being, life satisfaction, depression, and physical health. Only a few studies have investigated the effects of intergenerational support on the mental health of older adults (MHOA). Most crucially, these studies only use a one- or two-dimensional intergenerational support index to examine the effect, while this work goes beyond the literature by applying multidimensional intergenerational support indexes, including economic support, instrumental support, and emotional support. Given that age is another major factor influencing the MHOA, this study goes further to explore the effects of three age groups and to explore what forms of intergenerational support are most suitable for older people of different age groups because it is difficult to know the effects if we only look at the sample. It is hypothesized that intergenerational support positively affects the mental health of older people and that the effects vary by age group.

## II. DATA

This study adopts the Chinese Longitudinal Healthy Longevity Survey (CLHLS) in 2018 [17] to discuss the impact of intergenerational support on mental health of the elderly. The survey is conducted by Peking University included 23 provinces, autonomous areas, and municipalities, totaling 85% of China's population. The final total sample size was 15,771 when samples less than 65 years old were

removed.

A. Dependent Variables

Mental health not only includes emotional and psychological aspects but emphasizes a positive attitude toward life [18]. According to this definition, we adopt life satisfaction, mood, and psychological health as key variables to represent the MHOA. The respondents were asked to rank their lives on a scale ranging from very good to very awful to determine their level of life satisfaction. We assigned respondents who selected “bad, very bad” a 0 score, who chose “so so” a 1 score, and who chose “very good, good” two scores. For positive mood, questions like “Do you always hold a positive attitude towards things?”, the participants who chose “seldom, never,” “sometime,” “often,” and “always” were awarded 0, 1, 2, 3 scores, respectively. Regarding negative mood questions like “Are you angry at people or things you don't like around you?”, the respondents who chose “seldom, never,” “sometimes,” “often,” and “always” were awarded 3, 2, 1, 0 scores, respectively. The Center for Epidemiological Studies-Depression (CES-D), which has a scoring range of 0–30, was used in this study to quantify the symptoms of depression. The lower the weighted sum, the worse the MHOA.

B. Explanatory Variables

This study selected three indices of multidimensional intergenerational support: economic, instrumental, and emotional support. This study uses the amount of money that adult children offered to older adults in the last year to measure economic support and logarithms to deal with the continuous variable; instrumental support was measured by the amount of time that adult children helped older adults in the last week. This work also used logarithms to deal with the continuous variable; emotional support was assessed by the one who older adults often communicate with regularly in daily life and who they first think of when they need to express their views. To indicate if the receiver received emotional support, the variable was separated into “Yes” and “No.”

C. Confounding Variables

Potential confounding variables included demographic and socioeconomic covariates. Demographic variables included age (65–82 years old, 83–100 years old, 101–117 years old), sex (male, female), current residence (urban, rural), marital status (living with a spouse; living without a spouse), self-rated health condition(good, bad), health change(worse, better), years of schooling, number of living children, living arrangement (living with children, living alone, and living in the institution), and activities of daily living (ADL); socioeconomic variables included income, job type(others, agriculture, and professional), house owner(others and myself), and medical insurance (yes and no). The variable descriptions and statistics are shown in Table I.

TABLE I: DISTRIBUTION OF STUDY VARIABLES

Variables		Mean (%)
Mental health	/	33.13
Economic support	/	3315
Emotional support	No	40.31
	Yes	59.69

Instrumental support	/	44.65
Age	65–82 years old	42.55
	83–100 years old	39.21
	101–117 years old	18.24
Sex	Male	43.56
	Female	56.44
Current residence	Urban	22.34
	Rural	77.66
Education	Illiterate	50.53
	Primary school	31.22
	Junior high school and above	18.25
Co-residence	Living with families	80.32
	Living alone	15.98
	Living in an institution	3.7
Current marital status	Living without spouse	60.91
	Living with spouse	39.09
Number of living children	/	3.56
Income	/	43338
Houseowner	Others	52.07
	Myself	47.93
Job type	Others	26.93
	Agriculture	61.56
	Professional	11.52
Medical services accessibility	No	3.2
	Yes	96.8
Self-rated health	Unhealthy	14.18
	Healthy	85.82
Health changes in the last year	Worse	36.4
	Better	63.6
ADL	Normal	27.26
	Disabled	72.74

III. METHODS

This study used descriptive statistics and the Multiple linear regression(MLR) model. The general form of the MLR model is:

$$Y = \beta_0 + \beta_1 X_1 + \dots + \beta_m X_m + \varepsilon \tag{1}$$

where  $\beta_0$  is a constant,  $\beta_1, \beta_2, \dots, \beta_m$  is the partial regression coefficient, and  $\varepsilon$  is the random error. The descriptive statistics method was used to provide a preliminary understanding of the mental health status and intergenerational support characteristics of older adults. The MLR model was used to satisfy the need for correlation tests.

IV. RESULTS

A. Descriptive Analysis

Table I lists the distribution features of the variables. Overall, the average mental health score of older adults' population was 33.13 (with a maximum score of 51), and their mental health status was generally good. For the key explanatory variables, the mean amount of money that older adult received in total (cash and worth of supplies) was 3315.

59. 69% of the respondents reported receiving emotional support from their children, while 40.31% of the respondents receive no emotional support from their children. For instrumental support, the average total number of hours in the last week (168 hours in all) provided to older adults was 44.65. The sample was divided evenly into three age groups of 17 years, accounting for 42.55%, 39.21%, and 18.24% of the sample, respectively. The average annual total income of their households was 43,338. The mean number of living children was 3.56. A large proportion of the sample (96.8%) had access to medical care. Of the participants, 85.82% rated their health as “good.” Among the sample, 63.6% were in better health condition than in the previous year and 27.26% were able to take good care of themselves.

**B. Regression Analysis**

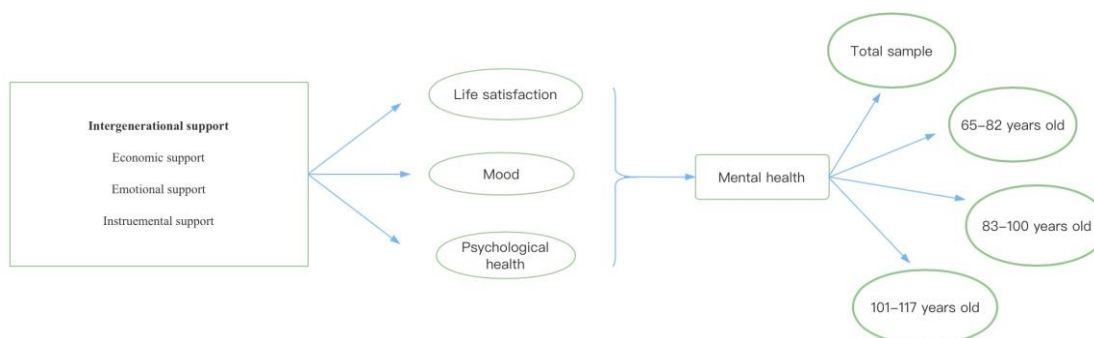


Fig. 1. Association between intergenerational support and older adults’ Chinese mental health.

TABLE II: EFFECT OF INTERGENERATIONAL SUPPORT ON THE MHOA

Variables	Model 1	Model 2	Model 3	Model 4
	Total	65–82 years old	83–100 years old	100–117 years old
<b>Intergenerational support</b>				
Economic support	0.059***	-0.033	0.134***	0.154**
Emotional support	-0.027	-0.212	-0.261	3.057***
Instrumental support	-0.109***	-0.069*	-0.151**	-0.215
<b>Age (vs. 65–82 years old)</b>				
83–100 years old		-0.747***		
100–117 years old		-2.379***		
<b>Sex (vs. Male)</b>				
Female	-0.09	0.195	-0.002	-1.325**
<b>Current residence (vs. City)</b>				
Rural	-1.075***	0.271	-1.962***	-2.444***
<b>Education (vs. Illiterate)</b>				
Primary school	1.277***	1.340***	1.011***	0.965
Junior high school and above	1.591***	1.843***	1.464***	1.096
<b>Co-residence (vs. Living with families)</b>				
Living alone	-0.049	0.452	-0.021	-1.510*
Living in an institution	-0.964	-3.341	-1.079	6.747
<b>Current marital status (vs. living without spouse)</b>				
Living with spouse	0.326	0.425	0.162	1.227
Number of living children	0.065	-0.089	0.098	0.162
Income	0.230***	0.316***	0.183**	0.092
<b>Houseowner (vs. Others)</b>				
Myself	0.527***	0.401**	0.565**	0.173
<b>Job typ (vs. Others)</b>				
Agriculture	-0.347*	-0.343	-0.556*	0.292
Professional	1.030***	0.779***	1.132**	2.065*
<b>Medical services accessibility (vs. No)</b>				
Yes	3.360***	3.744***	2.558***	3.542***
<b>Self-rated health (vs. Unhealthy)</b>				
Healthy	5.170***	4.420***	5.328***	6.949***
<b>Health changes in the last year (vs. Worse)</b>				
Better	2.834***	2.670***	2.956***	2.974***
<b>ADL (vs. Normal)</b>				
Disabled	-3.073***	-2.696***	-3.101***	-3.258***
N	9962	4723	3668	1571
R2	0.247	0.218	0.219	0.179

\*\*\* P<0.01, \*\*P<0.05, \*P<0.1

The OLS model was used to analyze the effect of intergenerational support on older adults' mental health (Fig. 1 and Table II). First, the effect was analyzed using Model 1. The mental health of the older adults increased by 0.059. For each unit increase in the log of hours received from the children, the older adults’ mental health decreased by 0.109. Emotional support had no significant effect on mental health. Additionally, age is associated with mental health in older adult population. Self-rated health shares a firm connection with the MHOA: older people who are physically healthy usually have higher levels of mental health than those who are physically unhealthy. On the other hand, all listed socioeconomic variables also have a positive impact on the MHOA.

We then investigated a specific age group to see how the effects go in Model 2 (65–82 years old), Model 3 (83–100 years old), and Model 4 (101–117 years old). In Model 2, neither economic nor emotional support had a significant impact on the older adults’ mental health. Instrumental support adversely affects the MHOA. For each unit increase in the log of hours received from the children, the MHOA decreased by 0.069. In Model 3, economic support had a significant positive impact on the MHOA. For each unit increase in the log of the total money received from children, the MHOA increased by 0.134. Instrumental support has a significant adverse effect on the MHOA. For each unit increase in the log of hours received from the children, the MHOA decreased by 0.151. Emotional support had no significant effect on mental health. In Model 4, economic support had a significant positive impact on the MHOA. For each unit increase in the log of the total money received from children, the MHOA increased by 0.154. Emotional support also had a significant positive impact on the MHOA. Each unit increased the emotional support received from the children, and the MHOA increased by 3.057. Instrumental support had no significant effect on the MHOA.

**A. Robustness Test**

With the basis of Models 2, 3, and 4, this study added several similar control variables such as community services accessibility and social insurance to replace the variable medical services accessibility and added variables including the number of chronic diseases and physical examination as a supplement to measure the respondents’ health condition more accurately. The robustness test results are consistent with the analyses. Table III shows the robustness test results.

TABLE III: ROBUSTNESS TEST

Variables	Model 5	Model 6	Model 7
	65–82 years old	83–100 years old	100–117 years old
<b>Intergenerational support</b>			
Economic support	-0.034	0.143***	0.161**
Emotional support	-0.114	-0.286	3.722***
Instrumental support	-0.074*	-0.199***	-0.24
<b>Sex (vs. Male)</b>			
Female	0.167	-0.189	-1.04
<b>Current residence (vs. City)</b>			
Rural	0.069	-2.135***	-3.113***
<b>Education (vs. Illiterate)</b>			
Primary school	1.417***	1.102***	1.047
Junior high school and above	1.968***	1.267**	1.258
<b>Co-residence (vs. Living with families)</b>			
Living alone	0.585*	0.02	-1.261
Living in an institution	-3.51	-0.149	9.27
<b>Current marital status (vs. Living without spouse)</b>			
Living with spouse	0.541*	-0.092	1.968
Number of living children	-0.065	0.182**	0.311**
Income	0.369***	0.267***	0.221
<b>Houseowner (vs. Others)</b>			
Myself	0.419**	0.595**	-0.156
<b>Job type (vs. Others)</b>			
Agriculture	-0.449*	-0.670*	0.156
Professional	1.094***	1.257**	2.122*
<b>Community services accessibility (vs. No)</b>			
Yes	0.472***	-0.05	1.165**
Number of chronic diseases	-0.400***	-0.025	-0.373*
<b>Social insurance (vs. Yes)</b>			
No	-0.126	-0.039	-1.546*
<b>Physical examination (vs. No)</b>			
Yes	0.348	0.387	1.063*
<b>Health changes in the last year (vs. Worse)</b>			
Better	3.512***	4.247***	4.732***
<b>ADL (vs. Normal)</b>			
Disabled	-3.429***	-3.528***	-3.977***
N	4551	3495	1487
R2	0.171	0.177	0.138

\*\*\*  $P < 0.01$ , \*\*  $P < 0.05$ , \*  $P < 0.1$

For Model 5 (65–82 years old), neither economic nor emotional support significantly impacts the MHOA. Instrumental support adversely affects the MHOA. For Model 6 (83–100 years old), economic support had a significant positive impact on the MHOA. Instrumental support has a significant adverse effect on the MHOA. Emotional support had no significant effect on mental health. For Model 7 (101–117 years old), economic and emotional support had a significant positive impact on the MHOA. Instrumental support had no significant effect on the MHOA.

## V. DISCUSSION

This study examined the connection between intergenerational support and mental health in older adults. This analysis confirmed that various forms of intergenerational support had diverse patterns of influence on the MHOA in China. Furthermore, this study examines how age groups influence this relationship.

Concerning economic support, the results were consistent with our expectations. Family still bears the burden of providing the economic support for older people [19]. Most older adults Chinese still rely on their adult children for financial stability because of China's immature national old-age insurance system and rapid economic changes [20]. Therefore, receiving economic support improves the quality of life of older adults Chinese. In addition, according to Maslow's hierarchy of needs, material needs are among the most basic survival needs. Older adults pursue development and higher spiritual needs only when their basic material needs are met. Economic support from adult children can meet their material needs and bring about a sense of comfort

and safety to older adults so that their mental health can be improved.

The hypothesis regarding instrumental support was unconfirmed. Plausible reasons that receiving instrumental support did not promote mental health are that: home-based care provided by adult children hardly meets the real needs of older adults; Intergenerational relationships may bring stress and conflicts for older adults. Social identity theory was developed to explain how individuals create and define their places in society. When older adults feel like a burden on their families, they start to doubt their social identities, which may easily make them feel cut off from society and make them lack a sense of belonging. This process creates social pressure, upsets them, thus impairs mental health.

Emotional support had no significant effect on the MHOA, which is beyond our expectations. Older people who have a healthy social circle are more likely to be happy and less likely to be caught up in the minutiae of everyday life, especially family conflicts with their children, than some older people whose circle is limited to their children.

One possible reason why economic support has no impact on the MHOA who are 65–82 years old is that young age is more capable to work and survive with their labor income, while people of very old age become more dependent on their adult children. For Centenarians, who aged 101–117 years old, are more likely to stay in good health and less likely to depend on support from others. Therefore, they can live for more than a century and explains why instrumental support has no significant effect on their mental health. Compared with the other two age groups, centenarians valued emotional communication the most.

## VI. CONCLUSION

This work finds that economic support is crucial for enhancing the MHOA, implying that adult children had better carry out their parents' "support obligation" and provide their parents with the necessary financial assistance. Furthermore, the government should implement policies to cut medical service fees targeted at older adults. Instrumental support did not improve mental health in older adults. Regarding this, a multi-integrated older adult's care system of family, community, and society needs to be built. It satisfies the demands of older people's mental health and avoids intergenerational family conflicts by reducing communication with adult children. Emotional support did not affect the MHOA. Adult children should visit their parents instead of contacting their parents using apps as often as possible and try to be around their parents as much as possible. Such a move may allow older parents to feel safe and loved to improve their mental health.

For older adults, 65–82 years old, boosting pension income and raising the annual growth rate of pensions are reasonable choices for the government. For older people who are 83–100 years old, the results are consistent with the conclusion for total sample. For centenarians, adult children offer proper economic support, and frequent and close interactions to their parents. This work also emphasizes the establishment of aged care policies. The government should

consider the diverse needs proposed by various old age groups rather than see them as a single, homogeneous group.

For future study, this study only focused on the effects of intergenerational support on the mental health of older adults (adult children supporting parents), but it neglected to measure intergenerational support from the other side (parents' support for children), which may also affect mental health.

#### CONFLICT OF INTEREST

The author declares no conflict of interest.

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