

ORIGINAL RESEARCH ARTICLE

A Longitudinal Study on the Emotional Support Mechanism of the Mental Health of Empty Nesters: Recent evidence from China National Health and Retirement Survey

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Keywords: Elderly, mental health, emotional support, depression, empty nesters;

ABSTRACT

Background:

With the gradual decline of the physiological functions of elderly people, "big events" in social roles and social relations such as widowhood, retirement, disability, etc. will have a major negative impact on their mental state, make them show mental depression and other conditions, people with severe symptoms may even choose to commit suicide.

Objectives:

The article aimed to explore and generate evidence on whether living alone or living only with a spouse is significantly related to depression tendency of elderly people and relate this phenomenon with other dimensions, namely impacts of frequency of intergenerational meetings, social interaction and urban-rural differences.

Methods:

The article uses the CHARLS data and OLS regression model to analyze the correlation between different living patterns and depression tendency in urban and rural areas, and explores the interaction and effect analysis of the intergenerational meeting frequency variable "visit home often" to explain its mechanism.

Results:

The elderly people living alone or living only with a spouse do have a high tendency to depression, and the depression tendency of living alone is more obvious; "visit home often" can effectively reduce the depression tendency of elderly people living alone or living only with a spouse. Social interaction has a weaker influence on the mental depression of elderly people; The elderly people living alone or living only with a spouse in rural areas have a higher tendency to depression. And "visit home often" is more obvious to reduce the mental depression of the elderly living alone or living only with a spouse in urban areas.

Main Contribution to Evidence-Based Practice:

The article puts together recent evidence about the effect of empty nest on depression symptoms in Elderly People and explores the impact of urban-rural differences, adding an understanding on the mechanism of intergenerational frequency and the interaction between residential patterns and depression.

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What do we already know about this topic?

Available evidence supports an overview of the effect of empty nest on depression symptom in elderly People.

What is the main contribution to Evidence-Based Practice from this article?

It is an update on recent evidence concerning the relationship between the change of living mode of elderly people and mental depression.

What are this research's implications towards theory, practice, or policy?

How to improve the mental health of empty nest elderly under irreversible trends such as declining fertility, smaller family size, frequent population movements and changes in values. Is it possible to maintain the mental health of middle-aged and elderly people by advocating "visit home often" or urban community construction and the Construction of "Beautiful Countryside under the Country Revitalization Strategy?"

Authors' Contributions Statement: Wei and Xue conceptualized and drafted the article

The reason why the living mode has different effects on the mental depression of the elderly, one is because the endogenous problems related to the active interaction between children and middle-aged and old-aged people and between middle-aged and old-aged people and society are ignored, these interactions can effectively increase the channels for middle-aged and old people to express their emotions and enhance their happiness (Shen K., Cheng L., 2013; Liu X., 2015), for example, how often do the elderly in the empty nest visit their children or whether their children often go home to visit, whether the elderly in the empty nest participate in social activities, neighbors visit, play cards in the community room, and dance square dancing, etc. Therefore, inter-generational and intra-community interaction is an important supplement to the lack of family care in different living mode. The second is how to improve the mental health of empty-nest elderly under irreversible trends such as declining fertility, smaller family size, frequent population movements and changes in values, is it possible to maintain the mental health of elderly people by advocating "visit home often" or urban community construction and the Construction of Beautiful Countryside under the Country Revitalization Strategy? Therefore, it is necessary to empirically analyze the true relationship and mechanism of empty-nest living and mental depression in the middle-aged and elderly, so as to put forward practical policy recommendations to promote healthy aging.

Reviewing relevant research

There are different conclusions in the research on the relationship between the change of living mode of

elderly people and mental depression. One believes that living with children is beneficial to the physical and mental health of elderly people, and living in an empty nest can easily lead to impairment of cognitive function and mental health of middle-aged and elderly (Kharicha K., Iliffe S., Harari., Swift., Gillmann, G. & Stuck, A., 2007). The logic behind it is that children send various social resources to the elderly to improve the degree of social control of their behavior (Murphy M., Grundy E., Kalogirou S., 2007). The living mode of a large family is an important carrier for the interaction between middle-aged and old people and their children, which can effectively relieve the loneliness and negative emotions of middle-aged and old people, and improve the subjective well-being of middle-aged and old people, compared with the elderly in the large family living mode, the empty nest elderly are more depressed (Zhou J., Xue Z., Fang F., Wang Z., Zhang S., Chen Y., 2008; Zhang H., Zhang X., Guo S., 2010). Another conclusion is that empty-nest living has a positive effect on the mental health of elderly people, because living with children is more likely to cause conflicts (An, J., K. An, L. O'Connor and S., 2008), which makes elderly people less satisfied with their lives and increases their depression levels (Michael, Beckman L.F., Colditz G.A., Kawachi I., 2001; Hughes M. E., L. J., 2002). There are also urban-rural differences in the impact of living mode on the mental depression of elderly people, the key factor in the level of mental depression in rural elderly people is the living mode with their spouses and children (Hu J., Xiao J., Bai S., 2006), the mental depression of urban elderly people is more significant to their health and economic ability (Xiong Y., 1999).



Methodology

Based on the review of existing literature, the research idea of this article is to verify the correlation between different living patterns and mental depression in the middle-aged and elderly, and to introduce the variables of the frequency of intergenerational meetings "visit home often" and "Social interaction" to try to explain the mechanism of the two. Specifically, taking the CES-D scores for elderly people as the dependent variable, living alone and living only with spouse as the core explanatory variables, gender, age, education level, physical disability status and memory status as control variables, constructing an OLS multiple linear regression model 1, and analyze the net effect of living alone and living only with spouse. Then, the variables of "visit home often" and "social interaction" were introduced to construct Model 2, Model 3, and Model 4 respectively, and the changes of regression coefficients were compared to identify the mechanism of action between living patterns and mental depression in elderly people.

Existing literature has shown that there is a screening mechanism in the study of the health status and living patterns of elderly people (Mu Y., 2016). Combined with this article, it can be understood that there may be a correlation between living with spouse only, living alone, and the frequency of intergenerational meetings "visit home often", that is to say, the frequency of intergenerational contact between the middle-aged and elderly living alone and the middle-aged and old people living only with their spouse may be higher. From the perspective of regression model analysis, the impact of changes in living alone and only with spouse on the mental health of elderly people may be related to the value of the variable "visit home often", while the value of "visit home often" may be related to the living pattern. Therefore, in addition to considering the main effects of living alone and living only with spouse in the research design, it is also necessary to consider the conditional effect between the variable "visit home often" and the living pattern, that is, taking into account the mutual influence of the living pattern and "visit home often" on mental health, in the regression analysis, the interactive variables of living alone and "visit home often", living only with a spouse and "visit home often" were introduced to analyze the influence of living patterns on the depression tendency of elderly people.

Source of Data

The data used in this article is the 2015 data of China Health and Retirement Longitudinal Study (CHARLS). The content of the survey includes basic personal information, family structure and financial support, health status, physical measurement, medical service utilization and medical insurance, work, retirement and pensions, income, consumption, assets, and basic community conditions, etc. The elderly people aged 45 and above are selected as the research object of this article, after removing the outliers, the final sample number is 19450. The basic personal information, family structure, financial support and health status are retained in the content module to ensure the analysis of living style, mental depression and related control variables.

Data analysis

In the context of declining fertility, population mobility, and conceptual changes, the intergenerational living pattern of families is undergoing structural changes, the traditional living mode of multi-generation living under one roof is being replaced by empty nests that only live with spouses or live alone. Will this separation of children and elderly people in living space alienate each other's intergenerational emotional support, thereby affecting the mental health of elderly people? Taking mental depression as an example, this article uses the 2015 CHARLS data and OLS regression model to analyze the correlation between different living patterns and depression tendency in urban and rural areas, and introduce the interaction effect analysis of intergenerational meeting frequency variable "visit home often" to explain its mechanism.

Urban-rural differences in the impact of living mode on depression in middle-aged and elderly

1. Urban living mode and depression tendency

It can be seen from Model 1 (as shown in table 1) that after controlling for gender, age, education level, disability status and memory status, the two living modes of living alone and living only with spouse in urban areas are significantly related to the depression tendency of elderly people, living alone has the highest level of significance, the comparison of the regression coefficients of the two shows that the effect of living alone on the depression tendency of elderly people is significantly greater than that of living with only the spouse. After introducing the variables of "visit home often" and "Social interaction" respectively, the goodness of fit coefficients of model 2, model 3 and model 4 rose to 0.233, 0.212 and 0.236 respectively,

and all passed the significance test, indicating these two variables increase the explanatory nature of the depression tendency of elderly people. Comparing the regression coefficient changes of the variables of living alone and living with spouse only in Model 1 and Model 2 and Model 3, it can be concluded that "visit home often" can effectively reduce the depression tendency of empty-nest elderly people living alone and living with spouse only, social interaction has a weaker effect on the depression tendency of elderly people, that is to say, "visit home often" is better than social interaction in reducing the depression tendency of elderly people, but neither can reduce the significant relationship between living alone, living only with a spouse and depression tendency. From the point of view of control variables, women, the older, the more severe the physical disability and the worse the memory, the higher the depression tendency of elderly people, but the effect of education level is not significant.

2. Rural living mode and depression tendency

It can be seen from Model 1 (as shown in Table 2) that the two living modes of living alone and living only with spouse in rural areas still have a significant relationship with the depression tendency of elderly people, and the significance level of living alone is still the highest. The comparison of the regression coefficients of the two shows that the effect of living alone on the depression tendency of elderly people is significantly greater than that of living with only the spouse. The regression coefficients of Model 2 after introducing the variable "visit home often" show that the regression coefficients of living alone and living only with spouse have significantly decreased, and the significance of living only with spouse has disappeared, indicating that "visit home often" can effectively eliminate the negative effects of living alone and living only with spouse on depression tendency. In contrast, there is no change in the significance level of living alone and living only with spouse in Model 1 and Model 2 after introducing social interaction variables. The goodness of fit coefficient of the model also confirms that "visit home often" has a greater impact on reducing depression in elderly people. The information displayed by the control variables is similar to that of the urban, the elderly people who are female, older, more severely disabled, and poorer memory still show a higher tendency to depression.

3. Urban-rural differences in living mode impact

Comparing the differences in the depression tendency of elderly people under different living patterns, it can be seen that the two living patterns of living alone and living only with spouse in urban and rural areas are related to the depression tendency of elderly people, however, the regression coefficients of the variables living alone and living only with spouse in rural areas are larger than those in urban areas, indicating that the living pattern has a greater explanatory power for depression tendency. Comparing the changes in the regression coefficients of living alone and living only with spouse in models 1, model 2 and model 3 in urban and rural areas, it can be seen that compared with social interaction, "visit home often" is more obvious in reducing the depression tendency of empty-nest elderly people living alone and only with their spouses in urban areas. Combined with Liu Chengbin's research on the urban-rural differences in inter-generational economic support, life care support and spiritual comfort support, the conclusion can be explained from two aspects, on the one hand, elderly people in cities and towns are more satisfied with the spiritual comfort needs of "visit home often", and elderly people in rural areas are more likely to be satisfied with their children going out to earn more income and provide financial support for themselves through "visit home often"(Liu C., Gao X.,2018); on the other hand, the frequency of inter-generational meeting and communication in urban areas is higher, which is more obvious for alleviating the depression tendency of empty-nest elderly people living alone and living with spouses only.

In general, empty-nest elderly people living alone and only with their spouses do have a high tendency to depression, and the depression tendency of elderly people living alone is more obvious. after the introduction of the variable "visit home often", the depression tendency of the elderly living alone and living only with their spouse in the empty nest has a significant decrease, especially in urban areas, indicating that urban elderly people are more satisfied with intergenerational spiritual comfort. Relatively speaking, although social interaction is related to depression in elderly people, it has no significant effect on alleviating depression tendency of empty-nest elderly people who live alone and only with spouse.

Conclusion and discussion

Giddens proposed in the structuring theory that time and space should be the core of social research, the

field of time-space interaction should give meaning and value to the subject, and the mechanism of "separation of time and space" would induce the subject's anxiety and depression tendency.

Combined with the research in this paper, the different living patterns of empty-nest elderly can be classified as spatial differences in social interaction, and the frequency of children's "going home to see" can be classified as temporal differences in family companionship.

This paper uses the China Health and Retirement Tracking Survey data to empirically analyze the relationship between the "separation of time and space" of modern social living patterns and the mental health of the elderly. The specific conclusions are as follows:

First, spatial alienation in social interaction is the main feature of the transition from traditional society to modern society. In response to the debate in the academic community on "whether changes in living patterns are beneficial to the mental health of the elderly", the study shows that the empty-nest living of the elderly has a significant negative impact on their mental health, and in the social background of strangers, neighbor interaction cannot effectively reduce the depression tendency of empty nesters.

Second, the difference of "frequently going home to see" in family companionship was significantly related to the mental health of empty-nest elderly people. The interactive analysis of the variable "How often do you see your children?" shows that "seeing your children every day" has a significant positive impact on the mental health of empty-nesters in urban areas, while "seeing once a year" in rural areas did not alleviate the depression tendency of empty nesters.

In conclusion, the social interaction of spatial alienation weakens the mental health of empty nesters, while family companionship in the time dimension has a significant positive effect on maintaining the mental health of empty nesters.

Finally, from the perspective of the relationship between the mental health and social support of the elderly, it can be concluded that the external resources including financial support, care support and spiritual comfort support mainly come from children and the external support of the elderly living in empty nests is mainly related to the frequency of intergenerational meetings.

In the context of the increasingly common spatial

alienation of children living separately from the elderly, the complementarity of social interaction and family companionship can mitigate the negative effects of empty-nest living.

This new model of intergenerational living complementarity can be described as "the distance between a bowl of soup", that is, the distance between children and their parents is best to "send a bowl of soup just before it gets cold", which can be understood that the living space between children and parents should not be too far away to reduce the negative impact of empty nests on the spiritual comfort of the elderly.

Therefore, the guarantee of living next to each other, family relocation of the floating population and frequent home visits can effectively alleviate the depression tendency of empty-nest elderly people.

Table 1 The impact of living mode on depression in urban elderly people

variable	Model 1	Model 2	Model 3	Model 4
Live alone (No=0)	1.693***(0.283)	0.716*(0.39)	1.704***(0.282)	0.731*(0.389)
Live with spouse only (No=0)	0.213*(0.175)	-0.585*(0.31)	0.251*(0.174)	-0.546*(0.31)
Gender (Male=0)	1.238***(0.151)	1.412***(0.243)	1.19***(0.151)	1.351***(0.243)
Age	0.25***(0.086)	0.383***(0.131)	0.229***(0.086)	0.377***(0.131)
Age squared	-0.002***(0.001)	-0.003***(0.001)	-0.002***(0.001)	-0.003***(0.001)
Education level	0.006(0.023)	-0.017(0.037)	0.011(0.023)	-0.015(0.037)
Disabling condition	3.462***(0.121)	3.476***(0.187)	3.434***(0.121)	3.445***(0.187)
Memory	-0.509***(0.043)	-0.525***(0.069)	-0.47***(0.044)	-0.486***(0.071)
Visit home often		0.127***(0.044)		0.129***(0.044)
Social interaction			-0.225***(0.052)	-0.218***(0.083)
Constant	10.094***(2.622)	6.94*(4.088)	10.971***(2.625)	7.351*(4.085)
N	4742	1,910	4,742	1,910
R ²	0.209	0.233	0.212	0.236

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

Table 2 The impact of living patterns on the depression tendency of rural elderly people

variable	Model 1	Model 2	Model 3	Model 4
Live alone (no=0)	1.778***(0.187)	1.067***(0.264)	1.823***(0.186)	1.079***(0.263)
Live with spouse only (no=0)	0.240***(0.128)	-0.279 (0.217)	0.257***(0.128)	-0.300 (0.216)
Gender (Male=0)	1.790***(0.110)	2.054***(0.171)	1.750***(0.110)	2.040***(0.171)
Age	0.382***(0.065)	0.594***(0.097)	0.347***(0.065)	0.566***(0.097)
Age squared	-0.003***(0.001)	-0.005***(0.001)	-0.003***(0.001)	-0.004***(0.001)
Education level	-0.016(0.014)	-0.006(0.0217)	-0.016(0.014)	-0.004(0.022)
Disability	3.245***(0.074)	3.211***(0.112)	3.234***(0.074)	3.195***(0.112)
Memory	-0.409***(0.031)	-0.463***(0.048)	-0.378***(0.031)	-0.429***(0.049)
Visit home often		0.114***(0.031)		0.111***(0.031)
Social interaction			-0.351***(0.052)	-0.362***(0.079)
Constant	5.593*** (1.994)	-1.003***(2.999)	7.001***(2.002)	0.562(3.013)
N	11602	4971	11602	4971
R ²	0.205	0.219	0.209	0.223

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

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