

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Effects of individual, family and community factors on the willingness of institutional elder-care: a cross-sectional survey of the elderly in China.
AUTHORS	Wang, Zhaoqing; Xing, Yanan; Yan, Wenxin; Sun, Xinran; Zhang, Xueying; Huang, Shuang; Li, Li

VERSION 1 – REVIEW

REVIEWER	Xiaoning Hao China National Health Development Research Center
REVIEW RETURNED	02-Aug-2019

GENERAL COMMENTS	This article should add some statistic analysis of controlling the bias, for example, how such variables like the residence, culture, economics, security status, ADL and health status affecting the willingness to care
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REVIEWER	Chengchao Zhou School of Public Health, Shandong Univeristy
REVIEW RETURNED	13-Aug-2019

GENERAL COMMENTS	<p>This study aims to explore the individual, family environment, and community environment factors associated with the willingness to live in elder-care institutions in China. The topic is very interesting. For the improvement, some issues should be addressed.</p> <ol style="list-style-type: none">1.The Abstract needs to be restructured. The Objective is tediously long, and the Result is too short, and many findings are not presented in the Result section.2. The second sentence in the first paragraph of the Introduction, the author state that "problematical in China"--needs references.3. In the second half of the Introduction, the authors should state what value this study adds to the liturature.4. In the last paragraph, the authors are encouraged to add general and also specific objectives of this study.5. The methodology needs to be further described. It is not clear how recruitment was undertaken. The willingness of the subject remains somewhat opaque.6. In the tables, the authors are encouraged to add P-values besides the Chi-sqaure values.7.The article might be improved with some additional language editing
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VERSION 1 – AUTHOR RESPONSE

Response to *Professor Xiaoning Hao* were as follows:

Dear Professor Hao:

Thanks for your comments concerning our manuscript entitled “Effects of individual, family and community factors on the willingness of institutional elder-care: a cross-sectional survey of the elderly in China.” We have studied your comments carefully and have made correction which we hope meet with your approval.

- This article should add some statistic analysis of controlling the bias, for example, how such variables like the residence, culture, economics, security status, ADL and health status affecting the willingness to care.

Answer: Thank you for your advice, which is valuable in improving the quality of our manuscript. We don't know if we have a correct understanding of your suggestion. If there is something improper, we will continue to modify it.

*The variables you have proposed are all very important factors influencing the elderly's willingness of eldercare. We have added related information on the **Sample section, Assessment tools section and Discussion section** in the revised version as your valuable advice.*

*Firstly, in the **Data and Sample section**, we have added some supplementary information. To make our samples representative as much as possible when selecting samples, multistage stratified sampling approach was adopted, urban and rural residence both account for nearly half of the total, disability and partial disability account for nearly 30%, according to the results of the fourth sample survey on the living conditions of the elderly in urban and rural areas of China issued by the Ministry of Civil Affairs and other departments in 2016. Economic aspect: According to GDP, the choice of cities can be divided into three levels: good, medium and poor. Refer to **Data and Sample section** for the above modifications **on the Page 6 Line 119-Line 129**.*

Data and Sample

A cross-sectional survey of elderly individuals was conducted from March 1st to August 31st 2016 in Heilongjiang Province, China. Firstly, those aged 60 years old and above, having the ability and willing to answer the questions were included as our sample. Secondly, to make our samples representative as much as possible, we have employed multistage stratified sampling design. Meanwhile, we chose urban and rural samples each accounting for about 50 percent. Thirdly, three cities, Harbin, Qiqihar, and Jiamusi, were selected on the basis of their Gross Domestic Product. And three communities and three villages were selected in each sampled city according to economic factors. In total, nine communities and nine villages were selected. Besides, in order to ensure that

the elderly understand the questionnaire correctly, we used the face-to-face interview form during investigation.

Secondly, in the **Assessment** section, we have supplemented some information about how we classified residence, culture, economics, security status and health status..

About **Residence**: In our paper, to study the impact of residence, we introduced two variables: **residence and living arrangements**. **Residence** was divided into **rural** and **urban** in our research. **Living arrangements** were divided into **Living alone**, **Living with spouse**, **Living with children** and **Living with spouse and children**.

About **Culture**: we focused on **Education** when take culture into consideration. **Education** was divided into five levels: no education, primary school, junior high school, senior high school and college degree or above.

About **Economics**: At the level of economics, we introduced two variables: **Monthly income** and **Financial independence**. We divided Monthly income into five levels: <500, 500-999, 1000-1999, 2000-3000 and >3000.

About **Security status**: We did not directly set a variable named **Security status**, but we did take the elder's security into our study purpose. We wonder if we got your opinion correctly. We divided the elder's security into two ways: economic security and disease-caring security. Economic security was reflected by **House property**.

About **Health status**: In this study, we used subjective variables like Feeling of isolation and Self-rated physical health to represent health status, because it is difficult to get objective health index. Isolation stands for mental health status and Self-rated physical health for physical health.

About **ADL**: There is no ADL scale in our questionnaire. In our questionnaire, we use **Self-rated capacity for action** and **Self-rated physical health**, which were used to measure the subjective health status of the elderly. Respondents were asked to evaluate their own capacity for action on a five-point scale: **very poor(1)** , **poor(2)**, **not bad(3)**, **good(4)** and **very good(5)**. So does the variable **Self-rated physical health**. Without using ADL scale was indeed a limitation of ours. In the revised manuscript, it was written in the limitations.

Assessment Section please refer to **Page6 Line 135-142**.

Assessment tools

The study's instrument was a self-administered questionnaire composed of five sections. Section 1 consisted of the participants' demographic characteristics including residence, gender, age, income, house ownership and culture. Among these variables, residence was composed of *rural* and *urban*,

income was represented by five levels: <500, 500-999, 1000-1999, 2000-3000 and >3000 monthly and culture has divided into 5 dimensions by no education, primary school, junior high school, senior high school and college degree or above.

About *Residence* please refer to **Discussion** section on the **Page 19 Line 303-309**

'This study showed that the elderly who lived alone had the highest willingness to live in elder-care institutions. We assume that the elderly living alone typically lack physical and psychological assistance and care from their family, and are therefore more willing to live in elder-care institutions. Similar results were found in a study that showed that elderly people who lived alone were more willing to live in elder-care institutions, for both single males and females, when compared with those who lived with children or others.'

About **Security status**: please refer to *the Discussion section on the Page 17 Line 263-265* like:

With regard to individual factors, both the single factor analysis (Table 1) and the logistic regression (Table 5) demonstrated that age and house ownership were significantly associated with the willingness to live in an elder-care institution.

And in the **Discussion** section **Page 17 Line 273 to 275**:

'The elderly in China traditionally intend to live the rest of their life in their own house because they regard their own houses as their roots of life'.

About **security**: please refer to *the Discussion section on the Page 19-20 Line 317 to 321*:

'Our analysis showed significant differences among five disease caregivers: spouse, son or daughter, other relatives, nursing workers and the elderly person themselves; 86.24% of respondents were provided with disease care by their immediate family members or other relatives. This means that informal care is the main form of care for the elderly in China.'

Thirdly, we added some discussion and detailed information related to these variables. Please refer to Page 17 Line 270 to Page 18 Line 273, Page 18 Line 275-277, Page 19 Line 299-301 and Page 21 Line 348-356.

To analyse property, we showed on the Page 17 Line 270 to Page 18 Line 273 and Page 18 Line 275-277:

Second, when analyzing house ownership and the willingness to enter institutional elder care, we found that when the elderly have their own house, they have a significantly lower willingness to accept institutional eldercare than those who have no property.

Having their own houses gives the Chinese elderly a great sense of belonging, as a study found that the sense of comfort and freedom when receiving elder care in their own houses is irreplaceable by other methods.

To analyse *filial piety*, we wrote in **the Page 19 Line 301-303**:

Some studies have already pointed out that adult children who have placed their parents in elder-care homes may be negatively regarded by society.

To discuss several limitations in our study, we described them in depth in **the Page 21 Line 350-358**:

However, several limitations in our study should be discussed. First of all, we have used cross-sectional design, in which data were collected at only one point in time. It might cause information bias, mainly including recall bias and measurement bias. In order to reduce measurement bias, investigators have undergone rigorous training and increased investigator survey skills and our respondents were given enough time to recall. Then, our participants were from a single province, and therefore, we cannot generalize the results to assume that they apply to all of the elderly in China. In order to make our study much more convincing, we will introduce some more widely-used variables like ADL into our research and conduct the same research nationwide later.

Response to Professor Chengchao Zhou were as follows:

Dear Professor Zhou:

Thanks for your valuable advice to our manuscript entitled “Effects of individual, family and community factors on the willingness of institutional elder-care: a cross-sectional survey of the elderly in China.”We have studied your comments carefully and have made correction which we hope meet with your approval.

- The Abstract needs to be restructured. The Objective is tediously long, and the Result is too short, and many findings are not presented in the Result section.

Answer: Thank you for your reminding. We have rewritten the Objective as follows on the Page 1 Line 22 to Line 24 and Page 2 Line 33 to Line 41 in the revised manuscript:

Objective: To investigate the effects of the willingness to live in elder-care institutions associated with individual factors, family environment and the community environment in the elderly in China.

Results: This study showed that 45.4% of respondents were willing to live in elder-care institutions in the future. Factors influencing willingness to live in elder-care institutions were age, house ownership, living with spouse and children, disease caregivers and availability of home health care services. The elders who had no property (OR=2.370, $p<0.01$), and those aged 80 or above (OR=2.250, $p<0.01$) were, respectively, 2.370 times and 2.250 times more receptive to living in elder-care institutions than their control groups. However, those living with a spouse (OR=0.468, $p<0.01$),

living with children (OR=0.252, p<0.01) or living with a spouse and children (OR=0.285, p<0.01) were less willing to live in elder-care institutions.

- The second sentence in the first paragraph of the Introduction, the author state that "problematical in China"--needs references.

Answer: Thank you for being so careful. We consulted a large number of literature carefully, and we have chosen the most appropriate one as he reference for the "problematical in China" on the Page 3 Line 61 in the revised manuscript.

The situation of elder care has been very problematical in China, where the One-Child policy was enforced for over 30 years¹.

Reference:^[1] Chen, Lin , and W. J. Han . "Shanghai: Front-Runner of Community-Based Elder Care in China." *Journal of Aging & Social Policy* (2016):08959420.2016.1151310.

- In the second half of the Introduction, the authors should state what value this study adds to the liturature.

Answer: Thank you for your advice. We have stated the value of this study in the Introduction section on the Page 5 Line 110 to Line 113 in the revised manuscript as follows:

'In view of the newly launched policy family physician model', which have been studied rarely, we have taken the 'Availability of home health care' as an aspect. Our research was a pioneer in the study of the willingness to care for the elderly in three aspects of the individual, family and community.

- In the last paragraph, the authors are encouraged to add general and also specific objectives of this study.

Answer: Thank you for your suggestion. We have add general and also specific objectives of this study in the end of Introduction section on the Page 5 Line 114 to Page 5 Line 117 in the revised manuscript as following.

'The present study aimed (1) to describe the status quo of and compare the willingness to use institutional eldercare from individual characteristics, family environment and community environment. and (2) to analyze effects of individual, family and community factors on the willingness of institutional elder-care.'

- The methodology needs to be further described. It is not clear how recruitment was undertaken. The willingness of the subject remains somewhat opaque.

Answer: Thank you very much. In line with your suggestion, we have provided some more detailed information on methodology.

Based on the literature on eldercare in China, a multistage, stratified sampling design was employed to ensure that study data were representative of the province. The questionnaire included a cover page explaining the purposes and procedures of the study. First of all, those aged 60 years old and above, having the ability and willing to answer the questions are target population of our study. Before conducting the research, we would take the initiative to ask the elderly about their willingness to participate in the research. Only if they agree to participate, shall we conduct the research. Besides, in order to ensure that the elderly understand the questionnaire correctly, we used the face-to-face interview form during investigation.. The questionnaire was relatively brief and no private personal information was collected.

*Please refer to the **Methods** section **on the Page 5 Line 118 to Page 6 Line 129** in the revised manuscript.*

Methods

Data and Sample

A cross-sectional survey of elderly individuals was conducted from March 1st to August 31st 2016 in Heilongjiang Province, China. Firstly, those aged 60 years old and above, having the ability and willing to answer the questions were included as our sample. Secondly, to make our samples representative as much as possible, we have employed multistage stratified sampling design. Meanwhile, we chose urban and rural samples each accounting for about 50 percent. Thirdly, three cities, Harbin, Qiqihar, and Jiamusi, were selected on the basis of their Gross Domestic Product. And three communities and three villages were selected in each sampled city according to economic factors. In total, nine communities and nine villages were selected. Besides, in order to ensure that the elderly understand the questionnaire correctly, we use the face-to-face interview form during investigation.

- In the tables, the authors are encouraged to add P-values besides the Chi-squaure values.

*Answer: Thank you for your valuable suggestion. We have added P-values besides the Chi-squaure values **in Table 1 on the Page9 and table 2 on the Page11** in the revised manuscript.*

Table 1 Analysis of the willingness to live in elder-care institutions according to individual characteristics of the respondents

variables		Total		willingness to live in eldercare institutions	
		n	%	n	%
Residence	urban	581	57.9	281	48.4
	rural	422	42.1	173	41.0
	χ^2			5.36	
	P			0.02	
Sex	Male	474	47.3	215	45.4
	Female	529	52.7	239	45.2
	χ^2			0.00	
	P			1.00	
Age in years	60-69	508	51.0	188	37.0
	70-79	280	27.9	122	43.6
	≥ 80	215	21.1	144	67.0
	χ^2			55.21	
	P			0.00	
Monthly income (RMB)	<500	314	31.3	124	39.5
	500-999	125	12.5	55	44.0
	1000-1999	251	25.0	124	49.4
	2000-3000	197	19.6	95	48.2

	>3000	116	11.6	56	48.3
χ^2					7.16
P					0.12
House property	yes	615	61.3	221	35.9
	no	388	38.7	233	60.1
χ^2					55.85
P					0.00
Financial independence	yes	725	72.3	346	47.7
	no	278	27.7	108	38.8
χ^2					6.39
P					0.01
Education	No education	195	19.4	85	43.6
	Primary school	327	32.6	151	46.2
	Junior high school	288	28.7	132	45.8
	Senior high school	118	11.8	55	46.6
	College degree or above	75	7.5	31	41.3
χ^2					0.92
P					0.92

Table 2 Analysis of the willingness to live in elder-care institutions according to the family environment of the respondents

variables		Total		willingness to live in institutions	
		n	%	n	%
Children	yes	950	94.7	415	43.7
	no	53	5.3	39	73.6
				18.1	
				0.00	
Marital status	Married	593	59.4	213	35.9
	Others	410	40.6	241	58.8
				51.1	
				0.00	
Living arrangement	Living alone	282	28.1	193	68.4
	Living with spouse	428	42.7	165	38.6
	Living with children	147	14.7	56	38.1
	Living with spouse and children	146	14.6	40	28.1
				90.7	
				0.00	
Disease caregiver	spouse	494	49.3	177	35.8
	Son/daughter	356	35.5	166	46.6
	Other relatives	15	1.5	7	46.7
	nursing workers	90	9.0	69	76.7
	By self	48	4.8	35	72.9
				68.7	
				0.00	

parent-child relationship	Good	883	87.9	399	45.2
	Normal	84	8.4	37	44.0
	Bad	36	3.6	18	50.0
χ^2					0.38
p					0.83

-The article might be improved with some additional language editing

Answer: Thank you for reminding. We have improved with some additional language editing in the revised manuscript.

VERSION 2 – REVIEW

REVIEWER	Chengchao Zhou School of Public Health, Shandong Univeristy
REVIEW RETURNED	04-Nov-2019
GENERAL COMMENTS	The authors have addressed all of my comments, and no more comments