



# Study on the Choice of Pension Mode and Its Influencing Factors for The Rural Left-Behind Elderly ——Based on 309 Questionnaires in Hebei Province

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## ABSTRACT

Using the method of questionnaire survey, on the basis of describing the group characteristics of rural left-behind elderly and the pension status quo, Logistic model was used to analyze the impact of 14 factors from three levels of individual characteristics, family characteristics and social welfare on the choice of pension mode for rural left-behind elderly. From the perspective of social welfare, community organization and provision of social activities and groups without pension insurance tend to regularize pension mode. From the perspective of family characteristics, the group with higher family income is more likely to choose the regular pension mode, and the elderly with more children are more likely to choose the irregular pension mode. In terms of individual characteristics, three groups, such as those with higher education level, those who own their own houses and men, prefer to choose the regular pension mode. Elderly people with older age, poor physical health, poor self-care ability and poor subjective living intention are more willing to live with their families and choose irregular pension such as family pension.

**Keywords:** *Rural left-behind elderly, Endowment patterns, Formalize the pension model*

## 1. INTRODUCTION

China's aging population is deepening day by day. According to the National Bureau of Statistics, during the 14th Five-Year Plan period, China's population aged 60 or above will account for more than 20% of the total population, and will enter a moderately aging society. The fifth Plenary Session of the 19th CPC Central Committee clearly proposed to establish and improve the elderly service system and implement the national strategy to actively respond to the aging of the population. On the one hand, the population of left-behind elderly people in rural areas is as large as 140 million [3]. On the other hand, with the deepening of industrialization and urbanization, a large number of rural labor force flows to cities, and the left-behind elderly in rural areas show the trend of living alone, empty-nest and intergenerational. Meanwhile, the livelihood mode based on farmland management and the pension mode based on land and children are broken [2]. The traditional family pension function has been weakened, and the quality of life of the elderly left behind in rural areas is facing severe challenges.

In order to solve the increasingly severe pension problems of rural left-behind elderly, this paper makes reflections from the following three questions: in the process of industrialization and urbanization, what are the characteristics of rural elderly? What kind of pension mode do rural left-behind elderly tend to adopt? What factors will affect their choice of pension mode? Based on CLHLS questionnaire, this study designed a "Questionnaire on pension Mode for the elderly in rural Areas", independently distributed and collected more than 300 questionnaires, and used descriptive analysis and binary logistic regression analysis to answer the above questions from the three levels of individual characteristics, family characteristics and social welfare. According to the research results, corresponding countermeasures and suggestions are put forward in order to provide theoretical reference for solving the old-age care problems of rural left-behind elderly.

## 2. LITERATURE REVIEW

As the scale of the left-behind elderly becomes larger and larger, more and more scholars begin to pay attention to the pension problem of the left-behind elderly, and a

large number of studies on the pension mode of the rural elderly have mushroomed [8]. In the studies of western developed countries, although the phenomenon of left-behind elderly is also common, due to the difference in family concepts between China and western countries, families in western countries choose "relay" pension, so children going out does not have a great impact on the elderly pension; In addition, developed countries have relatively perfect social welfare systems, which provide a strong payment guarantee for left-behind elderly with regular pension systems such as pension and endowment insurance. Therefore, welfare states are committed to further improving the socialized service system [10]. In China "feedback" endowment, is influenced by the concept of "support", the vast majority of the elderly to choose family endowment is not regularized endowment, children in the elderly occupy a considerable part of the responsibility, so their children go out will be negative influence on the elderly, and the pension system is not perfect and the social service system is not sound is exacerbated by the negative effect, The absence of the left-behind elderly has become a serious social problem [6].

Domestic scholars conducted in-depth studies on the influencing factors of rural elderly's choice of pension mode and drew the following conclusions: Age, monthly income and living style have a negative impact on rural elderly's willingness to take care at home, while marital status and physical health status have a positive impact [5]. Song Fengxuan, Sun Yinglu et al. (2021) [7] found that elderly people with low education level, large number of children and good health prefer to choose family pension from three levels of family structure, intergenerational relationship and individual characteristics. The study of Li Hairong and Shi Yutang (2020) also verified that age, marital status and education level have a significant impact on the pension intention of the elderly [4].

Pilot and the promotion of the new farming maintain a certain extent and improve the rural elderly regularized pension mode in China, but the rural old-age security system is not sound [1], low level of endowment insurance, the scope is small, narrow coverage of and a series of ills that rate is low, the new agricultural insurance can't exert its maximum utility in solving the problem of rural elderly endowment. The popularization and use of regularized endowment in rural areas need to be strengthened.

To sum up, domestic scholars have conducted extensive studies on the pension mode of the rural elderly and its influencing factors, but most of them focus on the entire rural elderly group, and there is a certain degree of neglect of the group of rural left-behind elderly. In addition, most of the related researches are based on the description of the current situation and qualitative analysis, while few of them use quantitative analysis to

study the choice of pension mode for the elderly in rural areas. Therefore, the Logistic model will be used in this paper to explore the influencing factors of rural left-behind elderly pension mode, in order to provide reference for solving their pension problems.

### 3. STUDY DESIGN

The data used in this paper are from a questionnaire survey on the pension patterns of the rural elderly in Shijiazhuang, Hebei Province. The sample includes information and data on the individual characteristics, family characteristics and social welfare of the elderly over 60 years old. A total of 350 questionnaires were distributed and 309 were effectively recovered.

The explained variable in this paper is the pension mode of the elderly, which can be divided into regular pension and irregular pension according to whether they participate in commercial insurance. The regularized pension mode means to provide for the aged by participating in commercial pension insurance or new rural insurance; Irregular pension mode refers to other channels that do not rely on commercial pension insurance and new rural insurance, such as supporting children, farming or farming.

Explanatory variables selected in this paper include 14 indicators such as individual characteristics, family characteristics and social welfare (Table 1).

The results of the questionnaire show that the average age of the left-behind elderly in rural areas in the sample is between 70 and 80, with slightly more women than men, and the majority of them have received junior high school and primary school education. The majority (71.2 percent) of the elderly self-rated as cheerful, and more than 70 percent of the elderly have a spouse and own their own house. More than 60% of the elderly self-rated themselves as healthy and able or almost able to take care of themselves. In terms of family characteristics, the number of left-behind rural elderly with three or more existing children was the largest (83.5%), and their annual income ranged from 10,000 to 50,000 yuan. The participation rate of medical insurance for the left-behind elderly in rural areas was 83.82%, and 64.72% of the elderly could receive timely treatment when they fell ill. As for the choice of pension mode, only 35.28% of rural left-behind elderly choose the normalized pension mode represented by commercial pension insurance and new Rural insurance. The specific descriptive statistics of variables are shown in Table 1.

The main content of this paper is the choice of old-age care mode and its influencing factors. Firstly, descriptive analysis method is adopted to discuss the factors influencing the choice of old-age care mode for the left-behind elderly by using binary Logistic regression method and the data obtained from questionnaire survey. As the difficulty of changing social

welfare, family characteristics and individual characteristics gradually deepens, social welfare is given priority. Model I examines the impact of social welfare

on the left-behind elderly in rural areas, and on this basis, model ii and Model iii add family characteristic variables and individual characteristic variables respectively.

Table 1: Variable definition and description.

Explained Variable		Variable Definitions	
	Endowment Patterns	Irregular pension model=0; Formalize the pension model=1	
Explanatory Variables	Individual Characteristics	Age	60-70 =1; 70-80 =2; ≥80 =3
		Gender	male=1; female=2
	Education Level	Primary school=1; Junior high school=2; High school/technical secondary school=3; University/college degree or above =4; illiteracy =5	
	Character	optimistic=1; cheerless=2	
	Marital Status	married =1; divorced=2; widowed =3; unmarried=4	
	Physical Condition	health=1; unhealth=2	
	Self-care Ability	yes=1; no=2	
	Whether They Own Their Own House	rental=0; purchase/self-built/ inherited =1	
	Subjective Residence Intention	solitude=1; living with children=2; gerocomium=3	
	Family Characteristics	Household Income	<10000=1; 10000-30000=2; 30000-50000=3; >50000=4
		Number of Children	0=1; 1=2; 2=3; 3=4; ≥4=5
	Social Welfare	Medical Insurance	yes=1; no=2
		Access to Medical Resources	available=1; unavailable=2
		Whether the Community Organizes or Provides Social and Recreational Activities	yes=1; no=2

#### 4. THE EMPRIRICAL RESULTS

The variance inflation factor method (VIF) was used to test the explanatory variables, and the results showed that the largest variance inflation was 1.062, far less than 10. Therefore, the correlation between explanatory variables was weak, and the contribution value of a single variable was more accurate, which could be used for the next model estimation.

##### 4.1 Social Welfare Impact

Model I mainly examines the impact of community welfare and government welfare on the choice of old-age care mode for rural left-behind elderly. Whether the community organizes and provides social activities has a

significant impact on the choice of elderly pension mode. To a certain extent, community welfare reflects the quality of endowment resources provided by the community, the working ability and enthusiasm of grassroots cadres and service personnel, thus playing a role in the publicity and promotion of regular endowment modes such as endowment insurance and new rural insurance. The old people's cognition of endowment insurance, especially the cognition of new rural insurance, has a significant influence on their choice of regular endowment mode [9] [11].

Whether or not to participate in medical insurance has a significant negative impact on the choice of pension model, and the coefficient and significance level have no significant change after the addition of other explanatory variables. However, the accessibility of medical

resources in Model ii and Model iii is no longer significant. The possible explanation is that the elderly's participation in medical insurance reduces medical costs, increases health care awareness and reduces the possibility of serious diseases. At the same time, the

burden of children's support is reduced and their willingness to support is enhanced. Compared with the elderly who have not participated in medical insurance, they are more inclined to irregular family pension mode.

Table 2: The model results.

Modell		Model II		Model III	
variables	Coefficient & significance	variables	Coefficient & significance	variables	Coefficient & significance
Medical insurance	-0.358*** (0.261)	Medical insurance	-0.362*** (0.256)	Medical insurance	-0.333*** (0.483)
Access to medical resources	0.315*** (0.220)	Access to medical resources	0.314 (0.224)	Access to medical resources	0.323 (0.222)
Whether the community organizes or provides social and recreational activities	0.540*** (0.029)	Whether the community organizes or provides social and recreational activities	0.541*** (0.029)	Whether the community organizes or provides social and recreational activities	0.522*** (0.042)
		Household income	0.012*** (0.934)	Household income	0.013* (0.931)
		Number of children	-0.056*** (0.659)	Number of children	-0.044** (0.736)
				Age	-0.011** (0.955)
				Gender	0.508*** (0.045)
				Education Level	0.148*** (0.118)
				character	0.106 (0.704)
				Marital Status	-0.222 (0.172)
				Physical Condition	-0.226*** (0.381)
				Self-care Ability	-0.130*** (0.691)
				Whether They Own Their Own House	0.030* (0.923)
				Subjective Residence Intention	-0.312** (0.085)
(Constant)	1.346*** (0.038)	(Constant)	1.609* (0.081)	(Constant)	0.708*** (0.594)

LR chi2	7.649	LR chi2	7.851	LR chi2	20.843
-2LL	393.516	-2LL	393.314	-2LL	380.321
Cox&SnellR <sup>2</sup>	0.024	Cox&SnellR <sup>2</sup>	0.025	Cox&SnellR <sup>2</sup>	0.065
NagelkerR <sup>2</sup>	0.034	NagelkerR <sup>2</sup>	0.035	NagelkerR <sup>2</sup>	0.090

#### 4.2 Family Characteristics Impact

Based on model i, family characteristic variables were added into model ii, LR chi2 increased, -2LL decreased, and the model effect was further optimized. Family income has a significant positive impact on the choice of pension mode. The higher the family income, the more inclined to choose the regular pension mode. The number of children has a significant negative impact on the elderly's choice of pension mode. The more children the elderly have, the more likely they are to choose family pension mode and irregular pension mode. Compared with model iii with individual characteristic variables, the coefficients and significance of family income and number of children do not change significantly, which proves the robustness of model ii.

#### 4.3 Individual Characteristics Impact

Individual characteristic variables were added to model iii on the basis of Model ii. LR CHI2 further increased and -2LL further decreased, indicating that the model effect was further optimized. Individual characteristic variables could help explain the difference in the choice of old-age modes for rural left-behind elderly. In terms of individual characteristics, nine factors, including age, gender, education level, personality and marital status, are examined for their influence on the choice of pension mode. Among them, age, health status, self-care ability and subjective residence intention have a significant negative impact on the choice of pension mode. The possible explanation is that the older the elderly are, the inevitable occurrence of basic diseases and the decline of self-care ability. At this time, the elderly want to spend their old age in peace with their children, so they are more willing to choose the family pension mode, namely the irregular pension mode.

Gender, education level and home ownership had significant positive effects. The possible explanation is that as the breadwinner of the family, men are the main economic source of the family, so families are more willing to increase insurance expenses for men. The older people with higher education level have more in-depth understanding of commercial endowment insurance, and have stronger risk awareness, and are more inclined to buy commercial endowment insurance or participate in the new rural insurance for retirement. Older people who own their own homes partly reflect higher economic status and are more likely to take out insurance for their old age.

The personality and marital status of the left-behind elderly in rural areas have no significant impact on their choice of pension mode, which may be because cheerful personality is subjective assessment of the elderly, there is a certain bias, resulting in inaccurate data, affecting the statistical results. However, the elderly in rural areas have the characteristics of living alone and empty-nester, and the explanatory power of being single in such a group for the elderly's choice of pension mode remains to be investigated.

### 5. CONCLUSIONS

This paper focuses on the special group of left-behind old people in rural areas, and divides the pension mode into regular pension mode and irregular pension mode according to whether they participate in commercial insurance or new rural insurance. Based on the data of the questionnaire survey, the Logistic model was used to explore the influence of 14 factors from three levels of individual characteristics, family characteristics and social welfare on the choice of pension mode for the rural left-behind elderly.

From the perspective of social welfare, community organization and provision of social activities and groups without pension insurance tend to regularize pension mode. From the perspective of family characteristics, the group with higher family income is more likely to choose the regular pension mode, and the elderly with more children are more likely to choose the irregular pension mode. In terms of individual characteristics, three groups, such as those with higher education level, those who own their own houses and men, prefer to choose the regular pension mode. Elderly people with older age, poor physical health, poor self-care ability and poor subjective living intention are more willing to live with their families and choose irregular pension such as family pension. Based on the above conclusions, the following suggestions are put forward:

First, in the communities where the elderly are left behind in rural areas, grassroots cadres and staff can appropriately organize activities and guide the elderly to participate. On the one hand, enrich the daily life of the elderly and increase their sense of community identity. On the other hand, it will help to improve the old people's understanding of commercial endowment insurance and new rural insurance, and help them to adopt the formal pension mode.

Second, the government and public welfare organizations should expand publicity and actively

promote the development of pension institutions. "Home culture" and the influence of the traditional concept of "support", people often to send parents to nursing home children moral criticism, a significant public opinion, traditional family endowment concept makes the left-behind old people would not like to check-in endowment institutions, on the one hand, hindered the development of institutional pension and the promotion, on the other hand also makes the elderly his pension. The government and public welfare organizations should expand publicity efforts to correct wrong old-age attitudes, while nursing homes should improve their service quality and form industry norms to attract elderly residents.

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