

Social Stratification and Its Impact on Elderly Social Participation: A Multivariate Regression Analysis Based on CGSS2012 Data

Xinzhuo Jing

*School of Public Administration, Sichuan University, Chengdu, Sichuan, 610065, China
jxzaajxz@163.com*

Keywords: Social stratification; social participation; elderly; regression analysis

Abstract: This study categorizes social stratification into three dimensions: wealth, power, and prestige, and social participation into four dimensions: economic, political, entertainment, and charitable activities. Utilizing data from CGSS2012, a multivariate linear regression analysis was conducted to investigate the influence of social stratification on the level of elderly social participation. The study concludes that wealth and power significantly affect elderly social participation positively, while prestige does not have a significant impact. Additionally, older age is associated with lower levels of social participation; male elderly individuals exhibit higher social participation levels compared to females; rural elderly individuals participate more socially than urban elderly individuals; and healthier elderly individuals tend to have higher levels of social participation.

1. Introduction

China has entered an aging society, with the proportion of elderly population expected to increase significantly in the coming decades, requiring efforts from the elderly population themselves. According to the results of the seventh national census, the proportion of people aged 65 and above accounts for 13.5% of the total population, far exceeding the internationally recognized standard of 7% to define a country or region as aging when the population aged 65 and above reaches this threshold. Various scholars have predicted the demographic changes in China, with projections indicating a doubling of the elderly population to 20% by 2035 by Chen Wei ^[1], reaching 34% for those aged 60 and above by 2050 as suggested by Xie An ^[2], and projections by Zheng Wei ^[3] indicating that the proportion of people aged 65 and above will exceed 28% by 2055.

While these studies may differ in their methodologies and data used for population projections, they all highlight the significant and increasing aging population in China in the future. With the scenario of "getting old before getting rich," China will face more severe elderly issues such as labor shortages and increased pressure on social services. In this context, active participation from not only the government and society but also from the elderly themselves is essential to address and solve these issues. Moreover, over time, the mainstream perspective on aging has evolved from successful aging and healthy aging to active aging. Active aging emphasizes the return of the elderly to society not only as a form of respect but also as a necessary path to adapt to social development. Social

participation for the elderly is their right; they are not the creators of problems but the solvers of problems, not dependent on social welfare but still creators of material and spiritual wealth in society. "The pressure of aging on the socio-economy can be transformed into a driving force for sustainable development." Social participation is the core essence of active aging ^[4].

Social participation is an effective way for the elderly to continue shining in society: economically, their active involvement in social and economic production activities can alleviate labor shortages and reduce societal burdens. Simultaneously, social participation can enhance their psychological well-being, helping them recognize their continued value and reducing feelings of loneliness. Furthermore, through social participation, they can further realize their self-worth. In conclusion, amid the trend of aging, social participation for the elderly is crucial. This study examines the social participation of the elderly from a social stratification perspective, utilizing relevant variables from the CGSS 2012 data to analyze the impact of social stratification on the social participation of the elderly and propose corresponding feasible recommendations.

2. Literature Review

Research on the social participation of the elderly mainly focuses on the connotation of elderly social participation, the theoretical basis of elderly social participation, the positive effects of elderly social participation, research on elderly social participation in specific regions, obstacles to elderly social participation, and research on social participation of specific elderly groups.

Regarding the connotation of elderly social participation, scholars currently hold various opinions without a unified standard. Based on existing literature, Li Zonghua summarized 7 different concepts of elderly social participation, including "paid labor theory," "paid labor + unpaid labor theory," "paid labor + unpaid labor - housework theory," "participation in social activities - recreational activities theory," "comprehensive theory," "recreation + public welfare + paid three-sex theory," and "beneficial theory"^[5-7]. These differences mainly revolve around the questions of whether social participation requires compensation and whether household chores count as social participation. Li Yue and Lu Jiehua concluded, based on the definitions of social participation by Bath and Levasaur, that any activity undertaken by the elderly that involves both social and interactive elements can be considered social participation^[8]. In summary, the current understanding of social participation is more comprehensive in nature.

In terms of theoretical frameworks for elderly social participation, domestic scholars have not proposed systematic theories but have rather introduced and referenced foreign theories. Li Zonghua introduced role theory, activity theory, elderly subculture theory, social exchange theory, and hierarchy of needs theory. However, these theories have not been prominently reflected in research on elderly social participation. One reason for this might be that these theories serve more as a rationale for the legitimacy of elderly social participation and exist as presuppositions in research. Another reason is that current research has not delved into highly operational policy recommendations, making it challenging to apply these theories effectively.

Regarding the positive effects of elderly social participation, many studies suggest that social participation not only benefits the elderly themselves but also contributes to societal development. For instance, Lu Jiehua et al. found a significant reciprocal relationship between self-rated health and social participation among the elderly. They observed that elderly individuals with better self-rated health were 22.0% to 40.1% more likely to engage in social participation compared to those with poorer self-rated health^[8]. And the rate of self-rated good health among seniors who participated in social activities was 16.4% to 25.6% higher than those who did not^[9]. In another study, Cheng Honglei highlighted that social participation significantly enhances the life satisfaction of the elderly. Pei Xiaomei also pointed out that the transition from "isolation" to "participation" strengthens the

elderly's connections with society^[10]. The responsibility of the elderly as managers is not only for the benefit of their own group but also for the benefit of future generations, which is crucial for sustainable societal development.

Researchers have selected different regions to study the social participation of elderly people in a specific area, focusing mainly on elderly people in a certain city or comparing the differences in social participation among elderly people in different cities. For example, researchers like Ogawa and Gui compared the awareness of social participation, attitudes towards work and interpersonal relationships in social participation, and participation in volunteer activities among elderly people in Yamaguchi County, Japan, and Jiading District, Shanghai, China^[11]. In a specific region, Kang analyzed the social participation of elderly people in ethnic regions by examining their participation in activities related to family, economy, entertainment, public welfare, and religion, using Gannan Autonomous Prefecture as an example, and discussed the differences in elderly social participation under different factors^[12].

Research on the obstacles to elderly social participation is also prevalent. Scholars generally agree that there are obstacles to elderly social participation, but a consensus on what these obstacles are has not been reached. Han Qingsong pointed out several issues, such as the disconnect between the current status of elderly social participation and theoretical policy construction, including "not completely breaking away from traditional views on elderly social participation," "narrow understanding of the scope of elderly social participation," "lack of harmony between the needs of elderly social participation and the current state of social development," and "urgent need for improvement in the legal environment of elderly social participation"^[13]. Wu Fan concluded through a survey that "age discrimination exists in Chinese society. This fundamental fact is evident in the subjective and objective evaluations of different social groups towards the elderly"^[14].

In studies on the social participation of the elderly population, the focus is primarily on their occupational identity. Research in this area is relatively limited. For example, Zuo Wei and Lv Liguang conducted a survey on the social participation of retired university teachers in Changchun City, suggesting that meeting the "self-value re-realization needs" is the main purpose of social participation for retired university teachers. They found a contradiction between the willingness and scarcity of opportunities for social participation among retired university teachers^[15]. Hu Wenqi and Pei Xiaomei conducted a survey on retired cadres in Beijing, considering them as "elderly elites." They observed significant differences in the social participation of retired cadres compared to the general elderly population, attributing factors such as demographic characteristics, physical and mental status, and expectations for social participation as the main influencers^[16].

Overall, research on the social participation of the elderly in China has made some progress. However, there are still many issues to address. Previous studies have mostly focused on the homogeneity of the elderly population, treating them as a general group when studying their social participation. Even though there have been studies on specific groups of elderly individuals mentioned earlier, these studies are still in their early stages. Furthermore, theoretical research dominates the field of elderly social participation studies, with empirical research being scarce and lacking scientific rigor in terms of data quantity. Therefore, this study utilizes data from CGSS2012 to analyze elderly social participation from a social stratification perspective, aiming to comprehensively reveal the differences in elderly social participation.

3. Research Framework

3.1 Conceptual Definition

Based on the literature review of previous definitions of social participation, the author considers social participation to be the behavior of elderly individuals (aged 60 and above) participating in

various economic, political, entertainment, and charity activities during social interactions. It is emphasized that economic activities are defined by income generation. Considering that household chores lack strong social and interactive elements, they are not considered as social participation.

3.2 Theoretical Framework

Social stratification theory generally consists of two basic theoretical directions: Marx's class theory and Weber's multidimensional social stratification theory ^[17]. This study adopts Weber's multidimensional social stratification theory, focusing on the dimensions of power, wealth, and prestige. Power mainly refers to political power.

3.3 Research Approach

Firstly, through a literature review, the dimensions of power, wealth, and prestige are selected for stratification, with social activities and labor being chosen to assess the social participation of elderly individuals. Secondly, the data from the "Chinese General Social Survey (2012)" conducted by the China Social Survey Data Center of Renmin University are processed to select relevant indicators. Analysis results are obtained through multiple linear regression. Lastly, starting from the three dimensions of elderly stratification, differences in elderly social status reflected by the stratification situation are identified, and explanations are provided.

4. Research Design

4.1 Research Hypotheses

Combining previous literature, the following hypotheses are proposed: 1. Wealth has a significant and positive impact on elderly social participation. 2. Prestige has a significant and positive impact on elderly social participation. 3. Power has a significant and positive impact on elderly social participation. 4. Gender significantly influences the level of elderly social participation, with males participating more than females. 5. Age significantly influences the level of elderly social participation and is negatively correlated. 6. Household registration significantly influences the level of elderly social participation, with urban elderly participating more than rural elderly. 7. Health status significantly influences the social participation of the elderly and is positively correlated.

4.2 Data Source

The data for this study are sourced from the "Chinese General Social Survey (2012)" conducted by the China Social Survey Data Center of Renmin University. After age screening and excluding invalid samples, the total sample size is 1496. SPSS 25.0 software is used for data processing and analysis.

4.3 Variable Selection

4.3.1 Control Variables

Gender, age, and household registration are established as demographic variables. In gender, male=1 and female=0. In household registration, urban=1 and rural=0. Age is standardized according to Z-scores. Additionally, considering the significant impact of health on social participation mentioned in previous literature, health status is included as a variable. These four variables are control variables. Self-rated health status in the questionnaire is assigned values from 1 to 5 based on

"very unhealthy," "somewhat unhealthy," "average," "fairly healthy," and "very healthy."

4.3.2 Independent Variables:

Wealth dimension is quantified using personal annual income, standardized with Z-scores. Prestige is measured by educational level. Educational levels are categorized from illiterate=0 to postgraduate=6. Political affiliation is used to measure power. Since the subjects were mostly born in the 1950s-60s, their initial work period can be estimated to be before the 1980s when China was still under a unit system and had not transitioned to a market economy. Political affiliation is an important identity resource with significant influence on individual development. Masses=0, non-masses=1.

4.3.3 Dependent Variables

The dependent variable is divided into economic activities, political activities, cultural and entertainment activities, and public welfare activities. Economic activities are mainly determined by the question "Have you engaged in labor for more than one hour for the purpose of earning income?" with 0 for no and 1 for yes. Political activities are mainly determined by the question "Have you participated in village committee or neighborhood committee elections?" No participation in elections = 0, participation in elections = 1. Cultural and entertainment activities are mainly based on questions related to "participation in cultural activities" and "social entertainment activities with neighbors and other friends" (this data is synthesized from two questions and then averaged). Yes = 1, no = 0. Public welfare activities mainly include "Have you participated in the following activities related to public interest," with 1 for yes and 0 for no. The results are the sum of the four scores averaged. Finally, the scores of the four dimensions are added together to obtain the total score of social participation, which serves as the dependent variable.

5. Data Analysis

5.1 Validity Testing

Validity testing mainly involves content validity and structural validity. The data used in this study are from the questionnaire compiled by the CGSS project, which inherently possesses good content validity. Structural validity can be examined through factor analysis.

When conducting factor analysis, it is necessary to test whether it is appropriate to conduct factor analysis through the KMO and Bartlett's sphericity test. The overall KMO value of the variables involved is 0.667, indicating a strong correlation among variables, suitable for factor analysis. The significance level of Bartlett's sphericity test is 0.000, less than 0.05, indicating suitability for factor analysis.

5.2 Sample description statistics

The description statistics of control variables, independent variables, and dependent variables show as Tables 1-3.

Table 1: The description statistics of control variables

Variables	N	Local minimum	Local maximum	Average	Root mean square
Gender	1496	0	1	0.54	0.499
Age	1496	60	94	69.29	7.140
Household registration	1496	0	1	0.48	0.500
Health	1496	1	5	2.95	1.046

Table 2: The description statistics of independent variables

Variables	N	Local minimum	Local maximum	Average	Root mean square
Wealth	1496	0	200000	13463.77	15232.744
Prestige	1496	0	14	1.37	1.332
Power	1496	0	1	0.19	0.390

Table 3: The description statistics of dependent variables

Variables	N	Local minimum	Local maximum	Average	Root mean square
Economic	1496	0	1	0.300	0.458
Political	1496	0	1	0.580	0.493
Entertainment	1496	0	1	0.482	0.270
Charity	1496	0	1	0.508	0.150
Total score	1496	0	3.5	1.020	0.670

5.3 Regression analysis

This study examines the social participation of the elderly as the dependent variable, with three aspects of social stratification (wealth, prestige, power) as independent variables while controlling for other variables. Based on this, the following model is established:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon$$

Where Y is the total score, X1 is the wealth (standardized), X2 for prestige, X3 for power, X4, X5, X6, X7 for gender, age (standardized), household registration, and health status respectively. ε is the error term. SPSS25.0 was used for regression analysis of the model described above. The results are shown in the Table 4.

Table 4: Normalized regression coefficient

Variables	Standardization coefficient
X1	0.093***
X2	0.028
X3	0.589***
X4	0.076***
X5	-0.232***
X6	-0.028***
X7	0.112***
Constant	0.723***
R2 (adjusted)	0.469

The results of the regression analysis indicate that, except for variable X2, all other variables have passed the significance test. The R2 value is also high, suggesting a good fit of the equation. Additionally, the model has passed tests for normality, independence, multicollinearity, and homoscedasticity.

6. Discussion

Through multiple linear regression analysis, it was found that hypotheses 1, 3, 4, 5, 6, and 7 are supported, while hypothesis 2 is not supported. The following is a discussion of the regression results:

(1) Wealth has a highly significant statistical impact on social participation, showing a positive correlation. Elderly individuals with higher incomes after retirement have more capital for social participation. However, the coefficient is relatively small, indicating that income is not a significant factor influencing elderly social participation.

(2) The influence of reputation on the level of social participation among the elderly is not statistically significant, with a relatively small coefficient. This could be explained in multiple ways. One reason could be that the elderly in the sample were born no earlier than 1952, a period when education in China was generally poor, which is reflected in the low level of education in the sample. Another reason is that relying solely on educational attainment may not comprehensively reflect and support the variable of reputation.

(3) Power has a significant impact on elderly social participation, with a relatively large coefficient. This reflects that elderly individuals with more political capital tend to have higher levels of social participation. This may be because elderly individuals with more political capital are more likely to be involved in social affairs or have a keen interest in relevant social matters, leading to a higher sense of social responsibility and participation.

(4) Gender has a significant impact on elderly social participation, although the coefficient is small. This reflects that males have a higher level of social participation than females. This could be due to males generally having more advantages in society, coupled with females having to take on more "inward" responsibilities. However, as age increases, this difference diminishes relatively, resulting in a smaller coefficient.

(5) Age has a significant impact on social participation, with a small negative coefficient. This indicates that as age increases, the level of social participation decreases. Based on Du Peng's analysis of the health status of the elderly population in China, it is observed that the proportion of those who cannot take care of themselves increases after the age of 70, rising rapidly after the age of 80^[18]. It can be inferred that the main participants in elderly social participation are middle-aged and young elderly individuals. However, due to overall minor differences in the health conditions of the elderly, the absolute value of the coefficient is relatively small.

(6) Household registration status has a significant impact on the level of elderly social participation. It is evident that elderly individuals with rural household registration have a higher level of social participation compared to urban elderly individuals. This could be because rural areas are relatively more community-oriented than urban areas, where villagers are more likely to actively engage in social participation. However, cities have more social organizations, facilities, and better conditions compared to rural areas, which may explain the relatively small coefficient.

(7) Health status has a significant impact on the level of elderly social participation; the healthier the elderly individual, the more motivated they are to engage in social participation. This reaffirms previous research findings.

7. Conclusion

This study analyzed the impact of social stratification on the social participation of the elderly, concluding that wealth and power significantly influence the social participation of the elderly in a positive manner, while prestige does not have a significant impact. Additionally, the older the individual, the lower the level of social participation; males exhibit higher social participation levels compared to females; elderly individuals in rural areas have higher social participation levels than those in urban areas; and healthier elderly individuals tend to have higher levels of social participation. However, the study does have some limitations.

Firstly, there are significant shortcomings in the setting of individual variables in this study, particularly regarding the variable of prestige, which consequently affects the overall persuasiveness. Secondly, the scope of measuring social participation is not broad enough and lacks precision. Lastly, the modeling methods used are relatively simplistic, leading to less detailed conclusions. Nevertheless, overall, this study to some extent reflects the influence of social stratification on the social participation of the elderly.

During this process, the author also recognized two major issues in current research on the social participation of the elderly and the urgency to enhance their social participation. Firstly, there is a lack of attention to the social participation of elderly individuals in rural areas. Many studies primarily focus on the social participation of urban elderly individuals, exploring patterns, differences, influencing factors, etc., in urban social participation. However, rural areas have characteristics entirely different from urban areas; thus, could there be distinct features in the social participation of rural elderly individuals compared to urban ones? Might they have different social participation patterns and mechanisms? These are questions worthy of further consideration and research. Secondly, concerning research on the social participation of the elderly, there is still a lack of specialized questionnaires and corresponding extensive data for quantitative analysis. This study utilized data from CGSS2012, which although covers aspects related to social participation, was not specifically designed for the social participation of the elderly.

In summary, the social participation behavior of the elderly is influenced by various factors such as social stratification, age, gender, household registration, and health status. This necessitates governments and social organizations to adopt different methods and measures, develop distinctive aging-related initiatives, and prioritize efforts to encourage the social participation of the elderly. Given that the average social participation score is only 1 point, it indicates that the overall level of social participation among the elderly is generally low.

References

- [1] Chen Wei. *Future Population Development Trends in China: 2005-2050*. *Population Research*, 2006, (4): 74-80.
- [2] Xie An. *Current Situation, Changing Trends, and Characteristics of Population Aging in China*. *Statistical Research*, 2004, (8): 50-53.
- [3] Zheng Wei, Lin Shanjun, Chen Kai. *Characteristic Trends of Population Aging in China and Potential Impact on Economic Growth*. *Research on Quantity Economics and Technical Economics*, 2014, 31(8): 3-20.
- [4] Liu Song. *Challenges and Countermeasures for Elderly Social Participation under the Framework of Active Aging*. *Journal of Nanjing Population Management Cadres Institute*, 2006, (4): 5-9.
- [5] Li Zonghua, Gao Gongjing. *Empirical Study on Urban Elderly Social Participation under the Background of Active Aging*. *Study and Practice*, 2009, (12): 114-121.
- [6] Li Zonghua. *A Review of Research on Elderly Social Participation in the Past 30 Years*. *Dongyue Tribune*, 2009, 30(8): 60-64.
- [7] Li Zonghua. *Theoretical Basis and Path Selection for Elderly Social Participation*. *Journal of Shandong Agricultural Management Cadres Institute*, 2009, 25(4): 92-94.
- [8] Li Yue, Lu Jiehua. *Elderly Social Participation in China: Connotation, Current Situation, and Challenges*. *Population and Family Planning*, 2018, (11): 14-17.
- [9] Lu Jiehua, Li Yue, Zheng Bing. *Empirical Analysis of the Mutual Influence between Social Participation and Self-rated Health of the Elderly in Chinese mainland - Testing Based on CLHLS Data*. *Population Research*, 2017, (1): 15-26.
- [10] Hu Wenqi, Pei Xiaomei. *Empirical Study on Social Participation of "Elderly Elites" under the Background of Productive Aging - A Case Study of Retired Cadres in Beijing*. *Journal of Aging Science Research*, 2014, 2(12): 36-44.
- [11] Ogawa Chikao, Gui Shixun, Chen Xiaoxian. *A Comparative Study of Lifelong Social Participation Awareness between China's Shanghai Jiading District and Japan's Yamaguchi Prefecture - Data Analysis*. *Journal of East China Normal University (Philosophy and Social Sciences Edition)*, 2006, (5): 15-19.
- [12] Kang Xueling. *Survey Research on Social Participation of Elderly People in Ethnic Minority Areas - A Case Study of Gannan Autonomous Prefecture*. *Journal of Lanzhou Institute of Education*, 2019, 35(4): 70-90.
- [13] Han Qingsong. *Current Situation, Issues, and Countermeasures of Elderly Social Participation*. *Journal of Nanjing Population Management Cadres Institute*, 2007, (4): 41-44.
- [14] Wu Fan. *A Review of Theoretical, Empirical, and Policy Studies on Elderly Social Participation in China*. *Population Research*, 2008, (4): 57-65.
- [15] Zuo Wei, Lv Ligu. *Survey Research on Social Participation of Retired College Teachers*. *Journal of Jilin Normal University (Humanities and Social Sciences Edition)*, 2008, (3): 76-78.
- [16] Pei Xiaomei. *From "Isolation" to "Participation": Exploring the Relationship between the Elderly and Social Development*. *Academic Ocean*, 2004, (1): 113-120.
- [17] Li Lulu. *On Social Stratification Research*. *Sociological Research*, 1999, (1): 103-111.
- [18] Du Peng. *Analysis of the Health Status of China's Elderly Population*. *Population and Economy*, 2013, (6): 3-9.