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# A Study on the Current Status and Influencing Factors of Volunteer Service Participation among the Elderly in China: An Analysis Based on the Mutual Assistance Elderly Care Model in Guangzhou

**Lingjie Deng[1,*]**

[1]*School of Economics and Management, South China Agricultural University, Guangzhou, Guangdong, China*
[*]*Corresponding author: dlj1683444929@163.com*

***Abstract:*** *Against the backdrop of an aging population and the national strategy of active aging, volunteer services for the elderly are becoming increasingly important, making the exploration of influencing factors increasingly important. This study takes Guangzhou, a pioneering city in mutual-aid elderly care, as an example, examining key factors influencing the continued participation of older adults in volunteer services from the perspectives of organizers and elderly volunteers. The study employed partial least squares structural equation modeling (PLS-SEM) for data analysis and conducted reliability and validity analyses. The results show that institutional capacity, participation experience, and external motivation all have significant positive impacts on volunteer service participation, with institutional capacity having the most significant effect. In contrast, self-identity did not significantly predict volunteer service participation. Therefore, volunteer organizations should focus on improving their organizational operational capabilities, optimizing service content, enhancing the participation experience of elderly volunteers, and strengthening external incentives to promote elderly volunteer service participation.*

***Keywords:*** *Volunteer service; Elderly volunteers; Influencing factors; Community*

## 1. Introduction

Negative population growth and deepening population aging are becoming the new normal for China's socio-economic development. At the end of 2022, China's natural population growth rate was -0.60‰, marking the first occurrence of negative population growth, a trend that continued into 2023. By the end of 2025, the population aged 60 and above will account for 23%, and this proportion is projected to exceed 30% around 2035, entering a stage of severe aging, peaking around 2050. This indicates that the traditional demographic dividend is gradually diminishing, and the focus of realizing demographic dividends is shifting to the human capital dividend through improving population quality. Among the elderly population, the 60-64 age group constitutes a large proportion; most of them are in good health, have a strong willingness to participate in society, and their human resource development costs are relatively low, allowing them to continue playing an important role in economic and social development. China' s 15th Five-Year Plan (2025) further emphasizes the national strategy of active aging, repeatedly proposing to guide younger elderly people to achieve the goals of active and enjoyable aging through social participation. In May 2025, China issued a comprehensive and systematic policy document on "active aging," titled "Guiding Opinions on Supporting the Social Participation of the Elderly and Promoting Active Aging," emphasizing the promotion of regular and long-term elderly volunteer services. The policy includes strengthening the mobilization and training of elderly volunteers, enriching volunteer service content to meet the social participation needs of younger elderly individuals, innovating elderly volunteer service models, improving incentive and support measures for elderly volunteer services, optimizing the support environment for elderly social participation, and leveraging the supporting role of social organizations.

Guangzhou actively responded to the national strategy. As one of the earliest cities in China to explore a mutual-aid elderly care model, it deeply practiced the concept of "active aging and healthy aging." In 2025, the "Guangzhou Municipal Civil Affairs Bureau 2025 Work Plan" clearly stated the need to "deepen the implementation of the 'Silver Age Action'," enhancing the social participation of the elderly and incorporating elderly volunteer services into the annual key tasks of the civil affairs system, ensuring

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that practices such as "younger elderly serving older elderly" could be continuously promoted through the "Silver Age Action." Guangzhou's mutual-aid elderly care model has become a model for elderly volunteer services nationwide.

With strong government support and extensive academic evidence, the positive effects of volunteer service on younger seniors have gradually become a social consensus. However, despite the strong advocacy for volunteer service among the elderly, younger seniors often exhibit high willingness to participate but low actual participation frequency and difficulty in sustaining their involvement. Therefore, it is of great significance to encourage more younger seniors to participate in volunteer service.

## 2. Literature Review

The factors influencing volunteer participation among younger seniors are currently discussed from the following aspects:

First, from a demographic perspective, the effects of factors such as gender, age, income, health, and education level on volunteer participation are examined. Education, income level, and health have a significant positive effect on senior volunteer participation, with younger seniors showing better participation. Senior volunteers are predominantly female (Li, 2019; Li et al., 2011).

Second, the role of environmental factors is considered, including volunteer organizations, family environment, and social atmosphere, with relevant theories such as ecosystem theory and social mechanism theory. Stronger organizational capacity and more efficient and rational organizational operation lead to better senior volunteer participation. Support from family and friends, as well as positive social perceptions of senior volunteerism, also positively influence senior volunteer participation (Xie & Chen, 2020; Du et al., 2015; Buffel et al., 2013).

Thirdly, from the perspective of capital theory, research has examined human capital, social capital, and cultural capital (Xie, 2017; Le & Aartsen, 2024). Human capital includes education, health, and income; older adults with higher levels of education, better health, and higher incomes tend to participate better in volunteer services. Social capital refers to relationships with others, society, or institutions; better social capital leads to better volunteer participation. Cultural capital refers to shared values, attitudes, and preferences among group members, which also significantly influence older adults' participation in volunteer services.

Existing research has not only discussed the impact of volunteer service on younger elderly people, but also conducted multifaceted analyses of the influencing factors of elderly participation in volunteer service, laying the foundation for this study. However, existing research has several limitations: On the one hand, lack of regional specificity analysis: Existing studies mostly utilize national databases to explore the positive effects and influencing factors of elderly volunteer service, lacking consideration of the heterogeneity of elderly groups and policies in different regions; On the other hand, incomplete consideration of influencing factors: Most studies only focus on younger elderly people, failing to include both younger elderly people and volunteer service organizers, two important subjects, in a unified analytical framework. Therefore, the team focuses on the elderly volunteer service model in Guangzhou, systematically exploring the influencing factors of elderly volunteer service in Guangzhou from the perspectives of both the elderly population and volunteer organizers.

## 3. Theoretical Framework and Assumptions

Volunteer participation among younger seniors is dynamic and complex, shaped by individual characteristics, motivations, and needs, as well as institutional and environmental factors. Maslow's hierarchy of needs theory posits a human need for self-actualization, while behavioral theory suggests that positive reinforcement of behavior may lead to recurrence in similar situations. Volunteer experiences that generate positive emotional responses and satisfy their self-actualization needs can encourage greater volunteer participation (Li, 2010). Ecosystem theory posits that individuals are nested within and interact with their environment, and that individual behavior is influenced by the system in which they exist. According to this view, volunteer participation among younger seniors is influenced by their community environment, volunteer organizations, social work stations, and neighborhood committees (Du et al., 2015; Cao, 2015; Xie, 2017; Buffel et al., 2013). Furthermore, older adults' attitudes toward aging influence their behavioral decisions (Kisvetrová, 2022), and a positive self-identity may drive greater volunteer participation among younger older adults.

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Based on the above analysis, regarding older volunteers, we consider the impact of feelings of participation and self-identity on their volunteer participation; regarding the external environment, we measure the impact of institutional capacity and external incentives on older volunteer participation.

## 4. Data Acquisition and Data Analysis Methods

### *4.1. Data Source*

This study designed a scientifically sound questionnaire covering multiple dimensions, including the basic information of young elderly volunteers, their willingness to participate in services, and suggestions for improvement. The research team selected representative streets from each of Guangzhou's 11 administrative districts, and randomly selected two communities within each street. A proportionally stratified sample of young elderly volunteers was then drawn to ensure representativeness and broad coverage. After removing invalid questionnaires, 820 questionnaires were collected, representing a response rate of 91.11%.

### *4.2. Research Methods*

Structural equation modeling (SEM) can be estimated using two main approaches: covariance-based SEM (CB-SEM) and variance-based partial least squares SEM (PLS-SEM). CB-SEM is widely used but imposes strict data requirements, including large samples and normal distribution. Its model identification is also rigorous, and minor specification errors may lead to non-convergence. Moreover, CB-SEM is more suitable for confirmatory research. In contrast, PLS-SEM is more flexible, does not require normally distributed data, and provides reliable estimation for complex multi-path models, making it particularly suitable for exploratory studies (Hair et al., 2019).

In this study, some variables do not follow normal distribution and include binary indicators (Sarstedt et al., 2022; Bodoff & Ho, 2016). The research primarily aims to explore Guangzhou-specific factors influencing older adult volunteer service. Given its exploratory nature and the effectiveness of PLS-SEM in identifying key structural relationships and major influencing factors (Liu et al., 2017), PLS-SEM is an appropriate methodological choice.

The study first used Smart-PLS 4 to construct a PLS-SEM model to analyze the relationships between variables. After identifying causal relationships among latent variables, the internal consistency and convergent validity of the measurement and structural models were assessed. Reliability and validity were evaluated using Cronbach's alpha coefficient, composite reliability (CR), and average variance extracted (AVE). A Cronbach's alpha coefficient and CR value above 0.7 indicated good reliability, while a value below 0.6 indicated insufficient reliability. Convergent validity was assessed using AVE; an AVE value greater than 0.5 indicated that at least 50% of the variance could be explained by the latent structure. After confirming validity and reliability, the path coefficients and p-values of the relationships were estimated using the path weighting scheme, which provides a high degree of explanation for endogenous variables in the model. The significance of the model parameters was tested using the bootstrap method, which involves independently drawing multiple bootstrap samples from the original sample and using these samples to make statistical inferences about the population.

### *4.3. Variable Definition and Measurement*

#### *4.3.1. Latent Variables*

Volunteer Service: Participation frequency, number of times participating in community-based volunteer work, and number of times participating in volunteer work for seniors are used as measurement indicators. Participation frequency is a categorical variable: 0 = infrequent, 1 = once a week, 2 = once a day. The number of times participating in community-based and senior-based volunteer work are continuous variables.

Participation Experience: Refers to the feelings experienced during volunteer service. It is measured through four indicators: mutual support, value realization, ability enhancement, and emotional well-being. All four indicators are Likert 5-point variables.

Organizational Capacity: Refers to the organizational and operational capacity of senior volunteer service organizations. It is measured using 0-1 variables, with indicators including organizational efficiency, relationship maintenance, and dedicated guidance.

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External Motivation: Refers to environmental factors that can motivate senior volunteers to participate in volunteer service. Measurement indicators are 0-1 variables, including meaningful motivation, peer influence, communication opportunities, team belonging, and growth opportunities.

Self-Identity: Refers to seniors' overall perception and evaluation of their own identity. Measurement indicators are 0-1 variables, including problem-solving skills, learning ability, social integration, and positive attitudes towards aging.

#### *4.3.2. Control Variables*

Based on existing research, control variables include average monthly income, age, and education.

Average Monthly Income: 1 = Less than 3000 yuan/month, 2 = 3000-3999 yuan/month, 3 = 4000-4999 yuan/month, 4 = 5000-7999 yuan/month, 5 = Greater than or equal to 8000 yuan/month.

Age: 1 = 50-54 years old, 2 = 55-59 years old, 3 = 60-64 years old, 4 = 65-69 years old, 5 = 70-74 years old, 6 = 75 years old and above.

Education: 1 = Primary school and below, 2 = Junior high school, 3 = High school/technical secondary school/junior college, 4 = Bachelor's degree and above.

## 5. Descriptive Statistics

The survey shows that older volunteers in Guangzhou are predominantly female, accounting for 87.68% of the sample. Most are married with spouses (77.01%), while 22.99% are unmarried or widowed. Educational attainment is relatively high: 41.44% have secondary vocational or high school education, 23.66% hold college degrees or above, 23.48% have junior middle school education, and only 11.10% have primary education or below. Income levels are generally stable, with the largest share earning under 3,000 yuan per month (29.55%), followed by 5,000–7,999 yuan (22.46%).In terms of age, participation is concentrated among younger seniors, especially those aged 60–69 (about 50% combined), though 17.52% are aged 70 or above. Given current retirement ages, many older adults can remain socially engaged for over 15 years.Overall, female, relatively younger, well-educated, and financially secure older adults constitute the core volunteer group, consistent with prior research.

## 6. Analysis Results

There are two main methods for estimating structural equation models: one is covariance-based structural equation modeling (CB-SEM), and the other is variance-based partial least squares structural equation modeling (PLS-SEM). CB-SEM is a commonly used method that requires high data quality, including large sample sizes and normally distributed data. Additionally, the identification of CB-SEM is very strict, and even minor issues can lead to non-convergence. Moreover, CB-SEM is more suitable for confirmatory research. In contrast, PLS-SEM offers greater flexibility, does not require normally distributed data, provides more reliable estimates for multi-path models, and is suitable for exploratory research (Hair et al., 2019). Given that some of the data variables in this study lack normal distribution characteristics, and the research objective is primarily to explore the characteristics of factors influencing elderly volunteer service in Guangzhou—making it an exploratory study—and that PLS-SEM is highly effective for identifying key target structures and their most important influencing factors (Liu et al., 2017), choosing PLS-SEM is highly appropriate for this study. We used Smart-PLS 4 software to establish the PLS-SEM model, as shown in Figure 1.

### *6.1. Validity Test*

Table 1 shows the Cronbach's alpha coefficient, Composite Reliability (CR) coefficient, and mean variance extracted (AVE) of each latent variable. The Cronbach's alpha coefficients for the four latent variables—volunteer service, institutional capacity, perceived participation, and self-identity—range from 0.702 to 0.906, the AVE values from 0.574 to 0.780, and the CR values are all greater than 0.8, meeting the reliability and convergent validity criteria (Cronbach's alpha > 0.7, CR > 0.7, AVE > 0.5). The AVE value for external motivation is 0.452, and the Cronbach's alpha is 0.698, but its CR coefficient is 0.805, far exceeding the 0.7 threshold. Therefore, this latent variable can be accepted as meeting the internal consistency and convergent validity criteria (Hair et al., 2019). Overall, the reliability, validity, and convergent validity of each latent variable are good.

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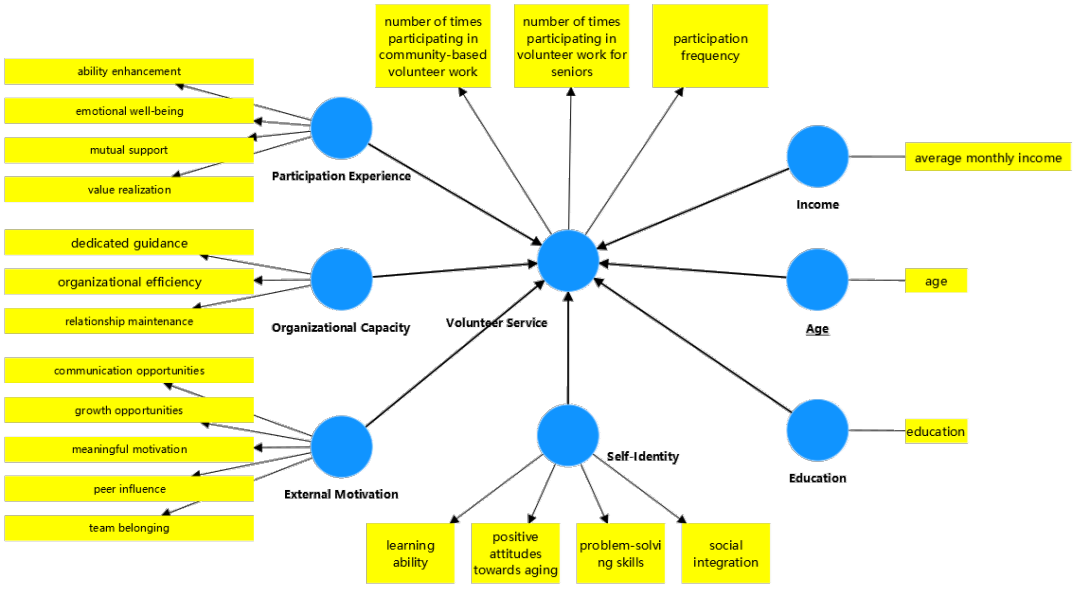


*Figure 1: PLS-SEM model diagram*

*Table 1: Reliability coefficient and validity coefficient*

| | Cronbach's alpha | CR | AVE |
|---|---|---|---|
| Participation Experience | 0.906 | 0.934 | 0.780 |
| External Motivation | 0.698 | 0.805 | 0.452 |
| Organizational Capacity | 0.707 | 0.835 | 0.629 |
| Volunteer Service | 0.702 | 0.828 | 0.623 |
| Self-Identity | 0.749 | 0.843 | 0.574 |

To verify the discriminant validity of each construct, we used the Fornell-Larcker criterion and the heterogeneous-similarity trait ratio (HTMT) method for assessment. Table 2 shows that the square root of the mean variance extracted (AVE) of each latent variable on the diagonal is higher than the correlation coefficient between constructs on the off-diagonal, and the HTMT values are all below 0.9, thus confirming discriminant validity.

*Table 2: Discriminant validity was tested using the square root of AVE and the correlation coefficient*

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Discriminant validity test A: Discriminant validity was tested using the square root of AVE and the correlation coefficient. | | | | | |
| Participation Experience | 0.883 | | | | |
| External Motivation | 0.192 | 0.673 | | | |
| Organizational Capacity | 0.135 | 0.620 | 0.793 | | |
| Volunteer Service | 0.220 | 0.410 | 0.440 | 0.789 | |
| Self-Identity | 0.537 | 0.166 | 0.125 | 0.137 | 0.758 |
| Discriminant validity test B: HTMT | | | | | |
| Participation Experience | | | | | |
| External Motivation | 0.236 | | | | |
| Organizational Capacity | 0.166 | 0.882 | | | |
| Volunteer Service | 0.277 | 0.536 | 0.576 | | |
| Self-Identity | 0.652 | 0.231 | 0.178 | 0.169 | |

### *6.2. Path coefficient analysis*

Path coefficient and p-value estimation results are shown in Table 3. The results indicate that institutional capacity, participation experience, and external motivation have significant effects on volunteer service, all significant at the 1% level, while self-identity has no significant impact. Specifically, institutional capacity has a positive impact on elderly volunteer participation, with a standardized effect of 0.605. The service capacity, cultural development capacity, and operational management capacity of neighborhood committees and social workers affect the participation of elderly volunteers. The more efficient and convenient the activity organization and the better the community cultural development, the easier it is for elderly volunteers to participate. Participation experience also has a positive effect on elderly volunteer participation, with a standardized effect of 0.149. This indicates that the positive feelings of the elderly during volunteer activities have a significant positive impact on their subsequent

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participation in elderly volunteer services (Du et al., 2015; Xie, 2017). External incentives have a significant positive effect on elderly volunteer participation, with a standardized effect of 0.390. Meaningful content, mentorship from acquaintances, and growth opportunities can effectively promote elderly volunteer participation.

*Table 3: PLS-SEM path coefficients and their significance*

| Path | Path coefficient | P Values |
|---|---|---|
| Organizational Capacity -> Volunteer Service | 0.605 | 0.000 |
| Self-Identity -> Volunteer Service | -0.018 | 0.631 |
| Participation Experience -> Volunteer Service | 0.149 | 0.001 |
| External Motivation -> Volunteer Service | 0.390 | 0.001 |
| Age -> Volunteer Service | 0.058 | 0.085 |
| Education -> Volunteer Service | 0.068 | 0.074 |
| Income -> Volunteer Service | 0.014 | 0.742 |
| $R^2$ | 0.253 | |
| SRMR | 0.061 | |

Regarding the explanatory power of the model: The standardized root mean square residual (SRMR) is 0.059, indicating a good model fit at the 0.08 threshold; the coefficient of determination ($R^2$) is 0.259, indicating moderate explanatory power.

## 7. Conclusions

In summary, the main conclusions of this study are as follows: Elderly volunteers in Guangzhou are primarily women, relatively well educated, younger within the elderly cohort, and financially stable. Institutional capacity, perceived participation, and external incentives all have a positive impact on elderly volunteer participation at the 1% significance level, while self-identity has no significant impact. The standardized effect of institutional capacity is 0.605, the standardized effect of perceived participation is 0.149, and the standardized effect of external incentives is 0.390.

Based on these findings, we offer the following recommendations: First, regarding organizational structure, volunteer organizations should focus on improving their organizational and operational capabilities and community culture development. The more efficient and convenient the activity organization and the better the community culture, the easier it is for elderly volunteers to participate. Second, regarding service content, designing activities that meet the needs of elderly volunteers helps improve their participation experience, avoiding formalistic content. Third, regarding incentive measures, enhancing the meaningfulness of volunteer activities, peer mentoring and support, and providing growth opportunities—these spiritual incentives can effectively promote elderly volunteer participation.

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## References

*[1] Bodoff, D., & Ho, S. Y. (2016). Partial least squares structural equation modeling approach for analyzing a model with a binary indicator as an endogenous variable. Communications of the Association for Information Systems, 38(1), 23.*

*[2] Buffel, T., De Donder, L., Phillipson, C., Dury, S., De Witte, N., & Verté, D. (2014). Social participation among older adults living in medium-sized cities in Belgium: the role of neighbourhood perceptions. Health promotion international, 29(4), 655-668.*

*[3] Cao, Y., Wang, J. (2015). The Influence of Participation in Public Welfare Activities on the Life Satisfaction of Retired Elderly-Based on the Survey in Xicheng District of Beijing. Population and Development, 21(04), 103-112.*

*[4] Du, P., Xie, L., Li, Y. (2015). How to Expand the Elderly Volunteer Service?-An Empirical Study Based on Chaowai Street in Beijing. Population and Development, 21(01), 89-95.*

*[5] Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European business review, 31(1), 2-24.*

*[6] Kisvetrová, H., Mandysová, P., Tomanová, J., & Steven, A. (2022). Dignity and attitudes to aging: A cross-sectional study of older adults. Nursing ethics, 29(2), 413-424.*

*[7] Le, G. H., & Aartsen, M. (2024). Understanding volunteering intensity in older volunteers. Ageing*

ISSN 2616-5783 Vol.9, Issue 3: 25-31, DOI: 10.25236/AJHSS.2026.090304

*and Society, 44(8), 1898–1916. doi:10.1017/S0144686X22001106*
*[8] Li, Y. (2019). Analysis of the Characteristics and Influencing Factors of Elderly Volunteer Service Participation in China. Inner Mongolia Social Sciences, 40(04), 164-171.*
*[9] Li, Z., Li, W., Gao, G. (2011). Analysis of the Influencing Factors of Urban Elderly Community Participation. Shandong Social Sciences, (03), 112-117.*
*[10] Liu, Y., Xia, J., Li, G. (2017). The Agglomeration of Productive Service Industry and the Upgrading of Manufacturing Industry. China Industrial Economics, (07), 24-42.*
*[11] Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. Psychology & Marketing, 39(5), 1035-1064.*
*[12] Xie, L. (2017). Research on the Current Status and Influencing Factors of Volunteer Service Participation in Urban Elderly Communities in China. Population and Development, 23(01), 55-65+73.*
*[13] Xie, L., & Chen, M. (2020). Influencing Factors of Urban Elderly's Participation in Community Governance from the Perspective of Individual-environment Match-Based on the Survey in Beijing. Population Research, 44(03), 71-84.*