Factors Influencing Employment Among Young-Old Elderly: A Structural Equation Modeling Analysis

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Abstract

This study aims to explore the factors influencing employment among young older adults (aged 60-69), analyze the key drivers affecting their reemployment, and thereby provide theoretical basis and policy recommendations for promoting employment within this demographic group. Based on Structural Equation Modeling (SEM), data were collected through questionnaire surveys from 500 young older adults in a specific region, primarily examining the effects of personal characteristics, family background, health status, social support, and policy environment on their employment intention and actual employment behavior. The results indicate that health status, social support, and policy environment have significant positive effects on the employment intention of young older adults, while personal economic status and educational level also influence their employment choices to a certain extent. The structural equation model demonstrates a high goodness-of-fit, indicating that the model reasonably explains the main factors influencing employment among young older adults. The research sample is limited to a specific region and fails to cover a broader population of young older adults; additionally, self-reported data may be subject to subjective bias. Furthermore, certain potential mediating variables were not fully considered, which may affect the explanatory power of the model. Health status and social support are key factors in promoting employment among young older adults; policymakers should prioritize providing health support and enhanced social and policy safeguards for this group to incentivize their continued participation in the labor market. Future research should further expand the sample scope and conduct in-depth analysis of other potential mediating variables.

Full Text

Analysis of Factors Influencing Employment Among Young Elderly Based on Structural Equation Modeling

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Abstract

This study examines the factors influencing employment among young elderly individuals (aged 60-69) in China, analyzing the key drivers affecting their reemployment to provide theoretical foundations and policy recommendations for promoting employment in this demographic. Using Structural Equation Modeling (SEM) and survey data from 500 young elderly respondents in a specific region, the research investigates how personal characteristics, family background, health status, social support, and policy environment affect employment intentions and actual employment behavior. Results indicate that health status, social support, and policy environment exert significant positive effects on employment willingness, while personal economic status and education level also influence employment choices to some extent. The SEM demonstrates strong goodness-of-fit, suggesting the model reasonably explains the primary factors affecting young elderly employment. Limitations include the regional scope of the sample, which does not cover the broader young elderly population, and potential subjective bias in self-reported data. Additionally, certain potential mediating variables were not fully considered, which may affect the model's explanatory power. Health status and social support emerge as critical factors for promoting young elderly employment. Policymakers should prioritize providing health support and enhanced social and policy safeguards to incentivize continued labor market participation. Future research should expand the sample scope and further analyze other potential mediating variables.

Keywords: young elderly population; elderly employment; structural equation model; factor analysis
Classification Number: F243

1 Background

With rapid socio-economic development and ongoing social transformation, China's population age structure has undergone profound changes. Since entering an aging society in 2000, the degree of population aging has continuously deepened. According to the seventh national census data released by the National Bureau of Statistics, as of November 1, 2020, China's population aged 60 and above reached 264.02 million, with 147.40 million individuals aged 60-69, accounting for 55.83% of the elderly population. The aging trend is further intensifying, and China will face sustained pressure on long-term balanced

population development in the foreseeable future, necessitating extensive and profound economic and social adjustments.

An increasing number of young elderly individuals continue pursuing personal and social value after retirement, possessing both the willingness and capacity to remain employed and seeking to achieve self-actualization through participation in socio-economic activities. Facilitating and promoting employment among the young elderly carries significant implications for the economy, society, families, and individuals. First, intensifying population aging reduces the working-age population and weakens the "demographic dividend" driving economic growth, exacerbating labor market supply-demand contradictions. The rich experience and vocational skills of elderly populations hold substantial economic and social value, making young elderly individuals an indispensable group for socio-economic development. Promoting their employment can help prevent labor shortages, develop and utilize elderly human resources, and effectively alleviate labor market imbalances. Second, encouraging young elderly employment can reduce costs and government fiscal expenditures while expanding production and consumption, thereby fostering healthy economic development and mitigating negative economic impacts such as declining national savings rates, increased pension burdens, and rising healthcare expenditures. Third, employment enables young elderly individuals to increase household income, improve living standards, and reduce the economic burden of eldercare while also alleviating intergenerational caregiving conflicts and promoting family harmony. Finally, employment integration prevents social disconnection and obsolescence, promoting physical and mental health, maintaining positive mental states, and achieving self-actualization. The concept of "productive aging" advocates for active elderly participation in society, and promoting young elderly employment represents a practical pathway for responding proactively to population aging.

2 Literature Review

Existing research primarily focuses on the significance of elderly employment and its influencing factors. Regarding significance, literature can be categorized into four dimensions: economic, social, psychological, and self-actualization value.

Economic significance: Elderly participation in socio-economic production and development after retirement not only develops elderly human resources but also alleviates structural talent shortages and reduces social burdens. Furthermore, elderly employment constitutes an important pathway for building "elderly capital" (health capital, economic capital, social capital, and knowledge capital). From this perspective, society must create development space for elderly individuals while seniors themselves should enhance participation awareness and embrace the concept of "productive aging."

Social significance: First, young elderly employment helps transform aging perceptions. Traditional views suggest retirees should enjoy leisurely golden

years; however, age should not define employment status or exclude elderly individuals from productive activities. Second, elderly employment helps China address population aging, which significantly impacts social pension insurance, household consumption, and economic systems. Elderly employment constitutes a crucial component of China's institutional framework for actively responding to population aging.

Psychological significance: Research demonstrates that employment positively affects elderly mental health, with employed seniors showing significantly better psychological well-being than non-employed peers. Employment correlates positively with mental health levels, helping elderly individuals achieve spiritual fulfillment, reduce loneliness, and enhance overall well-being.

Self-actualization value: Scholars argue that elderly employment concerns human development, encompassing internal self-improvement and external social participation—both realized through productive engagement. Through employment, elderly individuals can more objectively understand and evaluate themselves while continuing to contribute their expertise and realize personal value.

Regarding influencing factors, existing research primarily examines family factors, health status, and pension systems.

Family factors: Traditional Chinese culture emphasizes family importance, making it a significant factor in elderly employment decisions. Studies have explored various aspects, including grandchild care, children's economic status, and filial support.

Health impacts: Health critically affects elderly employment. Research using self-rated health as an independent variable shows strong correlations with employment and early retirement decisions. However, given self-rated health's subjectivity, objective indicators such as mortality rates, BMI, and functional limitations have also been employed.

Pension effects: Pension income significantly impacts young elderly employment. Given China's large rural population and severe rural aging, numerous studies examine how rural pension systems, particularly the New Rural Cooperative Medical Scheme, affect employment decisions.

Other factors: Beyond family and health, scholars have investigated additional influences. Yin and Yang's analysis of CHARLS data found that workplace type and benefit differences affect urban elderly employment, while assistance to other farmers influences rural elderly employment. Wang et al.'s research based on CHARLS-2011 data revealed that compared with family-based eldercare, social pension models significantly reduce rural elderly labor hours, while other care arrangements increase labor supply.

Young elderly employment has become a focal point domestically and internationally, representing a prerequisite for implementing national strategies on

active aging. Therefore, research on influencing factors holds significant theoretical and policy implications for current socio-economic development.

This paper combines theoretical deduction with empirical analysis, following a "problem analysis—hypothesis formulation—data collection—hypothesis verification" framework. First, literature review defines core concepts and theoretical foundations. Second, through literature synthesis, theoretical analysis, and interviews, the study identifies influencing factor dimensions, decomposes variables into observable indicators, hypothesizes relationships, and constructs an initial model. Subsequently, survey data on young elderly employment factors are collected and analyzed using R to build and refine the SEM through confirmatory factor analysis, path testing, mediation analysis, and moderation analysis to determine final influencing factors and their relationships.

Methodology: 1. **Literature research:** Systematically retrieving, collecting, and reviewing relevant literature to understand current research status and hotspots, analyze connections between different research directions, and establish a comprehensive framework. 2. **Interview method:** Face-to-face interviews with employed young elderly individuals and employers before questionnaire development to understand employment realities and inform factor identification and model construction. 3. **Questionnaire survey:** Developing and piloting a questionnaire based on influencing factors and hypotheses, then conducting formal surveys among employed young elderly and employers to obtain data for model testing. 4. **Empirical analysis:** Using CHARLS survey data and SEM as the core method, employing R to construct and validate the model through confirmatory factor analysis, path testing, mediation, and moderation analysis.

3 Results and Analysis

3.1 Current Status and Problems of Young Elderly Employment in China

China possesses a large elderly population base and abundant elderly human resources, yet lacks comprehensive, specialized, and targeted policies for elderly employment pathways, service management, employment rights, and safeguards. Additionally, China has not established a complete elderly employment service system or specialized management agencies. Furthermore, insufficient supply of elderly education resources, including skills training and professional education, poses challenges. Finally, biased social perceptions affect elderly employment.

Current Employment Status: reflects the proportion of elderly employed persons in the total employed population from 2010-2019, with separate data for males and females. During this decade, the highest proportion occurred in 2019 at 10.3%, while the lowest was 3.2% in 2010—a 7.1 percentage point difference. The overall trend shows rapid increase from 2010 (3.2%) to 2011 (7.9%), gradual rise through 2014, slight decline in 2015, then continuous increase from 2016-2019. Regarding age composition, the 60-64 age group exceeded the 65+ group

in eight of ten years, particularly in 2014 and 2015 (by 1.1 and 1.0 percentage points respectively). Only in 2018 and 2019 did the 60-64 group fall below the 65+ group (by 0.3 and 1.1 percentage points). This reflects that 60-64-year-olds, being healthier and more energetic, have higher employment rates.

Regarding gender composition, male and female elderly employment proportions follow the same trend as the overall pattern. Male elderly employment peaked at 10.7% in 2019 (minimum 3.6% in 2010), while female employment peaked at 9.8% in 2018-2019 (minimum 2.5% in 2010). Across all years, male elderly employment proportions exceeded female, with the largest gaps in 2010-2011 (1.1 percentage points), indicating males have greater employment advantages and enthusiasm.

shows elderly employment by education level. Overall, most employed elderly have primary school education (42.3% of 60-64 age group, 57.1% of 65+ group). Those with college, undergraduate, or graduate education comprise less than 1.0%. By gender, females exceed males in "no schooling" and primary education categories, while males exceed females in all higher education levels. The largest gaps appear in "no schooling" (15.6% vs 3.2% for 60-64; 28.5% vs 7.7% for 65+) and junior high school (43.4% vs 25.0% for 60-64; 29.4% vs 11.0% for 65+). This indicates generally low education levels among employed elderly, limiting them to non-technical, non-professional work, with males having higher education levels and more employment opportunities.

shows occupational composition in 2019. The highest proportion works in agriculture, forestry, animal husbandry, fishery, and water conservancy (34.6% of 60-64; 54.3% of 65+), followed by commercial and service sectors (33.5% and 24.9% respectively). The lowest proportion are unit heads (1.4% for 60-64; 0.7% for 65+). The 60-64 age group shows higher proportions in unit head, professional/technical, clerical, and commercial/service positions compared to the 65+ group, while the 65+ group shows higher agricultural employment. By gender, in agriculture, 60-64-year-old females (47.8%) exceed males (27.4%) by 20.4 percentage points, with similar patterns in the 65+ group. In commercial/services, 60-64-year-old females (36.4%) exceed males (31.8%) by 4.6 percentage points, while the pattern reverses for 65+. Males exceed females in unit head, professional/technical, clerical, and production/transportation positions across both age groups, indicating males have advantages in management and technical roles while females tend toward production and service sectors.

shows employment methods. The most common approach is through relatives and friends (74.8% for 60-64; 76.5% for 65+), followed by direct contact with employers (9.7% and 8.1% respectively). Other methods include preparing for self-employment, training/internships, online job searches, employment agencies, and job fairs. However, attending job fairs and online searches, though effective for younger workers, are less suitable for elderly individuals due to physical limitations and digital literacy challenges.

Existing Problems:

- **Restrictive Policies:** China lacks comprehensive, specialized policies for elderly employment pathways, service management, rights protection, and safeguards. Current policies remain principle-based without detailed implementation, leaving elderly workers in unstable, unprotected situations. Although laws prohibit discrimination, age and gender discrimination in practice remains difficult to sanction. Elderly workers' limited legal awareness and energy further hinder rights protection, causing many to abandon employment despite willingness. Stronger labor protection legislation specifically for elderly workers is necessary.
- **Incomplete Employment System:** China has not established a comprehensive elderly employment service system. The current platform is inadequate, leaving most retired elderly with employment intentions to choose home-based retirement. Employment occurs primarily through informal channels rather than labor market guidance or specialized agencies, resulting in disorganized, non-standardized, and uncertain employment conditions. Additionally, lacking safeguard mechanisms, employers face risks when elderly workers experience health issues during employment, creating hesitation. No specialized management agency exists for elderly employment—responsibilities are dispersed across civil affairs, social security, and aging committees without comprehensive coordination.
- **Insufficient Elderly Education Resources:** Despite growing recognition of elderly education's importance, implementation suffers from inadequate resource supply. Development is unbalanced across regions and urban-rural areas, with single 办学主体 (school-running entities) and insufficient social mobilization. Resource scarcity leads to limited funding, inadequate teaching staff, low educational quality, and facility shortages. The "China Elderly Quality of Life Development Report (2019)" shows only 1.9% of elderly participate in university education. Resource allocation imbalances favor primary, secondary, and higher education over elderly education. Teaching forms remain limited to elderly universities and activity centers, with insufficient integration of community resources. Curricula focus primarily on basic education, recreation, and health, lacking skills training and professional education relevant to employment.
- **Biased Social Perceptions:** Employment is hindered by prejudiced views including "elderly stealing jobs," "elderly uselessness," and "elderly withdrawal."

The "job-stealing" argument claims elderly employment worsens youth unemployment. However, Jin (2012) argues unemployment is inevitable but shouldn't hinder social development; labor markets can accommodate both groups simultaneously. The U.S. Congress passed legislation prohibiting age discrimination, stating no evidence supports claims that elderly employment harms youth opportunities. The two groups have complementary strengths: youth excel in production, services, and emerging industries with energy and innovation, while elderly professionals offer high scientific literacy and rich practical experience

valued in research, factories, and enterprises.

The "uselessness" argument claims physiological decline makes elderly unsuitable for work. However, rising living standards and life expectancy mean many elderly possess advantages over younger workers, particularly in medicine and research where knowledge accumulation and experience are invaluable. Modern society's shift from physical to mental labor and from simple to complex work further highlights elderly workers' accumulated experience and skills.

The "withdrawal" argument, known as disengagement theory (Cumming & Henry, 1961), suggests elderly voluntarily reduce social relationships and exit productive roles as abilities decline. This perspective ignores elderly needs—Marx emphasized that human essence is defined by needs. Requiring social withdrawal forces elderly to abandon their needs, yet participation in social activities is essential for need fulfillment.

3.2 Empirical Study on Influencing Factors

This empirical analysis uses 2018 China Health and Retirement Longitudinal Survey (CHARLS) data. After cleaning and removing missing values, 6,968 valid samples were analyzed. The study examines employment status as the dependent variable, with independent variables from four dimensions: individual characteristics, human capital, economic status, and family characteristics.

CHARLS, initiated by Peking University's National School of Development, collects high-quality microdata on Chinese adults aged 45+ to support aging research. The national baseline survey began in 2011, with follow-ups in 2013, 2014, 2015, and 2018, covering 28 provinces, 150 counties, and 450 villages. This analysis uses the 2018 data, selecting only respondents aged 60-69.

Dependent Variable: Employment status is derived from work history questions about agricultural work, paid agricultural labor, non-agricultural work (>1 hour/week), and temporary leave/training.

Independent Variables: - **Individual characteristics:** Age (60-64, 65-69), gender (male as reference), residence (urban/town center, urban-rural/town-rural fringe, rural, special areas) - **Human capital:** Education (no schooling, junior high or below, high school/technical school, college+), health status (self-rated: very good, good, fair, poor, very poor), vocational skills (training yes/no) - **Economic status:** Pension receipt (yes/no), financial support from children (0, 1-1000, 1001-2000, 2001-3000, 3000+ RMB), financial support to children (same categories) - **Family characteristics:** Marital status (married cohabiting, married non-cohabiting, separated, divorced, widowed, never married), number of children, grandchild care (yes/no/no grandchildren)

shows significant predictors: age, gender, residence, education, vocational skills, health status, financial support to children, pension receipt, and marital status.

Individual Characteristics: Age significantly affects employment—65-69-

year-olds have 0.689 times the employment probability of 60-64-year-olds, confirming that employment probability decreases with age. Gender significantly impacts employment, with females having 0.495 times the probability of males, reflecting gender discrimination and male-dominated household income structures. Residence significantly affects employment: compared to urban/town centers, those in urban-rural fringes have 1.479 times, rural residents 5.703 times, and special area residents 6.193 times higher employment probability, likely due to weaker pension coverage and greater economic pressure in rural areas.

Human Capital: Education significantly affects employment—college-educated elderly have 0.487 times the employment probability of those without schooling. Vocational skills significantly increase employment probability by 3.475 times, as skilled elderly possess greater employment enthusiasm and employers value experience. Health status significantly impacts employment: those in poor health have 0.534 times, and very poor health 0.292 times the probability of those in very good health, confirming health as an objective prerequisite for employment.

Economic Status: Financial support from children shows no significant effect. However, financial support to children significantly increases employment probability: 1.487 times for 1-1000 RMB, 1.831 times for 1001-2000 RMB, 1.451 times for 2001-3000 RMB, and 1.284 times for 3000+ RMB, indicating that economic burden motivates employment. Pension receipt significantly reduces employment probability to 0.370 times that of non-recipients, as pensioners have better economic security.

Family Characteristics: Grandchild care shows no significant effect. Marital status significantly affects employment: widowed individuals have 0.656 times, and never-married individuals 0.262 times the probability of married cohabiting seniors, suggesting these groups are less likely to work. Number of children shows no significant effect.

4 Conclusion

This study analyzes factors influencing young elderly employment in China across four dimensions using SEM. Key findings:

1. **Individual characteristics:** Age, gender, and residence significantly affect employment. Employment rates among young elderly decrease with age, with males showing higher rates than females. Rural residents demonstrate greater employment propensity than urban counterparts.
2. **Human capital:** Health status significantly constrains employment decisions—only healthy seniors consider continued work. Vocational skills significantly impact employment, as skilled elderly exhibit stronger motivation and possess labor market advantages. Education level influences employment status, social position, economic conditions, and attitudes

toward work.

3. **Economic status:** Financial support to children and pension receipt significantly affect employment. Young elderly economic sources include pensions, social insurance, labor income, investments, and family support. Economic conditions importantly influence employment decisions.

4. **Family characteristics:** Marital status significantly affects employment, while grandchild care and number of children do not. Spousal characteristics (health, economic status, employment) influence joint decision-making about employment.

Policy Recommendations:

1. **Institutional level:** Strengthen legal protections for young elderly employment rights. The 14th Five-Year Plan proposes actively developing elderly human resources and implementing gradual retirement age delays. With top-level design completed, detailed implementation rules should be formulated promptly to standardize retirement policies and provide legal safeguards.

2. **Social level:** Expand employment information channels. Establish specialized employment service agencies providing guidance and consultation. Create information 档案系统 (archival systems) for elderly job seekers and build professional platforms offering reliable recruitment information. Establish dedicated management agencies to supervise employers, standardize hiring practices, and protect elderly workers' rights.

3. **Educational level:** Enhance skills training for young elderly employment. Increase investment in elderly education funding, staffing, and resources, particularly in underfunded townships. Utilize community resources to establish community-based elderly colleges. Develop specialized curricula focusing on vocational skills training aligned with employment needs.

4. **Individual level:** Foster objective, positive attitudes toward young elderly employment. The 14th Five-Year Plan for Elderly Care advocates promoting elderly social participation and active aging perspectives. Creating a supportive social atmosphere will enable capable and willing young elderly individuals to achieve employment goals, benefiting society, economy, families, and individuals.

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Note: Figure translations are in progress. See original paper for figures.