International Conference on Intelligent Education and Social Development (IESD 2024)

An Empirical Analysis of Factors Influencing Active Aging in the Context of the "Internet Plus"

Lina Zhang[1], Yan Zhang [1], Yining Zhou[2]
[1]Southeast University Chengxian College, Nanjing, Jiangsu, 210088, China
[2]Macau University of Science and Technology, Macao, 999078, China

Abstract: Aged population in China is rapidly increasing. Based on the reality of China and the characteristics of internet activities, this research explored the realistic needs and effect mechanisms of active aging under the background of "Internet Plus". A model was developed according to CHARLS and CLASS data structures to evaluate the roles of health, participation, intelligent old-age security, lifelong learning and other factors in promoting active aging in network environment. Research results indicated that the three main dimensions of health, intelligent pension security and lifelong learning had positive impacts on the active aging of the internet. Among health factors, internet has a significant effect on the mental health of the elderly and improving the assessment of active aging and obtaining health information are the most important subfactors which are the most popular ways for elderly people to use health functions. Intelligent elderly care security, life care, emergency calls, medical care, and safety testing all were found to have significant positive impacts on active aging. Factors of lifelong learning and online text reading also had positive impact on active aging. Then, ward strategic suggestions on the realization path of active aging were put forward from the perspectives of promoting intelligent equipment for the elderly, strengthening the supervision of internet information, accelerating the construction of an intelligent pension system and enriching the learning resources of network information for the elderly.

Keywords: Active Aging; "Internet Plus"; Wisdom Pension; Intelligent Elderly Care Security; Lifelong Learning

1. Introduction

According to the latest "Blue Book on Healthy Aging Development in China (2023-2024)" the population aged 60 and over in China is nearly 300 million. Experts predict this number will reach 500 million by the middle of this century. The trend of population aging in China is irreversible. In recent years, the willingness of the elderly to participate in Internet activities has significantly increased, with diverse forms and richer content, making the Internet a new pathway to promote active aging. Many scholars have conducted in-depth studies on the impact of Internet technology applications on aging. Through research, scholars have found that Internet use has a positive effect on promoting the precision of old-age care, promoting intergenerational harmony, improving social participation, and has a significant positive impact on active aging. However, current research on Internet use and active aging is often limited to a single dimension without comprehensive evaluation. There are very few studies that evaluate the impact of Internet use and active aging from multiple dimensions. Few of them have addressed this measurement within the four-pillar framework of the WHO active ageing model [1,2]. Some scholar mainly evaluated the biological and psychological aspects of positive ageing with survival [3-6]. With the continuous development of network technology, fragmented learning modes, and rich network resources have further expanded the learning space of the elderly. Scholars Analyzes lifelong learning as a separate factor into the influencing factors of active aging [7-10]. Moreover, existing research results lag in identifying the actual needs of the elderly, and there are certain research gaps.

Therefore, exploring the influencing factors of active aging in the Internet environment, helping the elderly to achieve digital integration, and exploring effective ways to improve the elderly's life happiness index are

of great significance to vigorously promote the construction of an elderly-friendly society and promote social harmony and stability.

2. Research mechanism and Research Hypotheses

2.1 Research Mechanism

Active aging focuses on the needs of the elderly, aiming not only to meet their material needs but also to improve their quality of life and happiness index in multiple aspects. With the deepening of aging in China, aging has substantial impacts on the economic, social, and technological innovation fields. In recent years, benefiting from the popularization and application of the Internet and the rapid development of new media platforms, the Internet has become a new space for elderly activity. The network participation of the elderly has been significantly improved, which has injected impetus into the development of the intelligent pension industry. Active aging is a trend in which the proportion of the elderly in physical and mental health, participation in society, and security access are rising and the level is constantly improving. In the " Active Aging-Policy Framework " adopted by the Second World Assembly on Ageing in 2002, active aging was identified as a policy framework to cope with population aging, and three pillars of active response to aging were proposed: health, participation, and security. Most scholars' research on active aging revolves around these three pillars.

There are great differences in scholars' interpretations of the subdivision indicators of active aging. This paper expects that the indicators of the evaluation model can not only conform to the theoretical connotation but also the domestic reality. Therefore, the domestic authoritative elderly survey is studied, and the data of the latest China Health and Retirement Longitudinal Study (CHARLS 2018) and China Elderly Social Tracking Survey (CLASS 2018) are structured, as shown in Figure 1. The statistical information of CHARLS 2018 reflects the basic information of the elderly surveyed. The reference parts are date of birth (age), education, and marital status; the basic information of the family members is not necessary for the research of this paper; for the family, we can refer to the time to take care of parents and children's visits and the two-way financial exchange between parents and children; we can investigate the contact between the elderly and their children by using the Internet in our research. The remaining part of the survey on health status and function can be used as a reference for the health pillar. Health care and insurance, retirement, and pensions, and housing conditions can be included in the reference category of protection, while income, expenses, assets, and work can be included in the consideration of economic participation. The psychological feelings, physical activity, health, and related services of CLASS 2018 can be included in the health pillar, and the old-age care and social support can be included in the study of the security pillar. In summary, through the combination of the two survey data structures, the sub-factor direction of the subdivided indicators of the four pillars can be obtained, which provides a theoretical guarantee for subsequent empirical analysis.

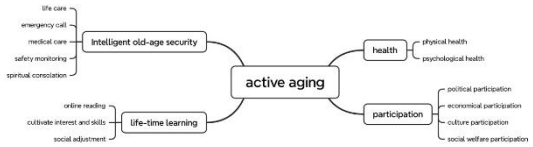

Figure 1. Influencing Factors of Active Aging

2.2 Research hypotheses

Health is divided into two levels: physical health and mental health, and the two levels can promote each other. The evaluation status is basically consistent, that is, the investigators often present a good physical condition and a good psychological condition at the same time. The health of the elderly is the basis of the other three pillars, and health is the most important variable affecting the social participation activities of the elderly [11-12], the health self-evaluation of the elderly was positively correlated with their life satisfaction [13]. In summary, this paper proposes the following hypothesis:

H1: Health has a positive impact on active aging:

H1a: Physical health has a positive impact on active aging;

H1b: Mental health has a positive impact on active aging;

Participation mainly refers to social participation, including political, economic, cultural, social work, participation, and so on.

Under the network environment, information acquisition is more convenient and fast, and various public welfare activities are showing a digital development trend. The scope and form of social participation of the elderly are becoming more and more diversified, which has a positive impact on the life of the elderly. Online public welfare donation has become the main way of online public welfare, which provides a new world for the elderly to participate in social welfare.[14] Social participation, including voluntary participation, labor participation, and political participation, has a significant positive impact on the life satisfaction of the elderly without controlling variables [15]. Based on the research foundation of the former writers, this paper puts forward the following hypothesis:

H2: Participation has a positive impact on active aging;

H2a: Political participation has a positive impact on active aging;

H2b: Economic participation has a positive impact on active aging;

H2c: Cultural participation has a positive impact on active aging;

H2d: Social welfare participation has a positive impact on active aging.

Security is the sense of security that Chinese old-age care industry urgently gives to the elderly. "Old people have a place to rely on and are well cared for" is a major issue concerning the people's livelihood in China The development of the Internet gives more directions for the development of old-age security. Intelligent old-age care covers a wide range. Life care, emergency assistance, health care, safety monitoring, and spiritual comfort [16-18]. Combined with the coverage function of today's Intelligent old-age security and its impact on the elderly, the following assumptions are proposed:

H3: Intelligent old-age security has a positive impact on active aging:

H3a: Life care has a positive impact on active aging;

H3b: Emergency call has a positive impact on active aging;

H3c: Health care has a positive impact on active aging;

H3d: Safety monitoring has a positive impact on active aging;

H3e: Spiritual comfort has a positive impact on active aging.

The behavior of the elderly to participate in lifelong learning is mainly divided into two categories: information acquisition and skill training. Lifelong learning is an important means for the elderly to participate in social life and realize the value of life. New media technology has become a powerful tool to promote the learning of the elderly. Lifelong learning activities for the elderly include online course learning, online text reading, interest and skills training, and social adaptability improvement. The elderly can realize their value through lifelong learning [11,18-20]. Therefore, this paper proposes the following hypothesis:

H4: Lifelong learning has a positive impact on active aging:

H4a: Online text reading has a positive impact on active aging;

H4b: Cultivating interest/skills has a positive impact on active aging;

H4c: Social adaptation has a positive impact on active aging.

3. Empirical Analysis

3.1 Statistical Analysis of the Basic Information of the Sample

After recovered, the data is preprocessed, reviewed and cleaned in order to reduce the noise. And then the descriptive statistical analysis of the sample is carried out with SPSS software, which reflects the age, education, marital status, health, participation, intelligent pension and learning of the elderly surveyed in the process of network use. Among the respondents, 51.03% were male and 48.97% were female, indicating a relatively balanced gender ratio. The error caused by gender differences in statistical results is relatively small. According to the age distribution of the respondents, 22.41 % of the respondents were 55-60 years old, 65.17 % were 60-75 years old, and 12.42 % were over 75 years old. The respondents can comprehensively reflect on the Internet participation of the elderly. From the perspective of the education level of the respondents, 21.72 % of the respondents have a primary school education or below, 31.03 % have a primary school education, 23.79 % have a junior high school education, and 23.46 % have a high school education or above. The educational structure is in line with the overall knowledge level of the elderly.

From the perspective of the income of the target, the middle-income accounts for 65.17%, the lower income accounts for 23.45%, the higher income accounts for 10.34%, and the high-income accounts for 1.04%. This is consistent with the overall economic situation of the elderly. The above data analysis results show that the sample data has good representativeness.

From the perspective of the length of network use of the elderly, the proportion of network use time within 0.5 hours is 22.07%, the proportion between 0.5 hours and 1 hour is 13.10%, the proportion of 1-2 hours is 18.97%, and the proportion of 2 hours and above is 45.86%. The vast majority of the elderly use the network and have a certain dependence on the network. From the purpose of the Internet, 93.10% of the elderly contact family and friends through the network, 66.55% of the elderly use the network for leisure and entertainment, 33.79% of the elderly learn and cultivate their interests and hobbies through the internet, 10.69% of the elderly t consume or invest through the internet, 20.00% of the elderly access health information through the internet.

3.2 Descriptive Statistical Analysis of Sample

Furthermore, SPSS is used to calculate the descriptive statistical results of each measurement index of the Internet active aging assessment model. From the mean value perspective, the mean value of health is the largest, 3.82, followed by lifelong learning, with a mean value of 3.37, followed by Intelligent old-age security, with a mean value of 3.35, and the mean value of participation is the smallest, 2.95. The standard deviation is between 0.7 and 1.1, and the dispersion of the data is not large. The absolute value of the skewness value of each measurement item is less than 1, and the absolute value of the kurtosis value is less than 1, so it can be determined that the sample data satisfies the normal distribution.

3.3 Reliability and Validity Test of the Data.

Reliability test. In this study, Cronbach's α was used to test the reliability of each sub-factor. The reliability values of the four indicators were 0.77,0.75,0.72,0.78, and the scale for assessing the degree of realization of active aging was 0.88, all above 0.7. The total reliability value of the questionnaire is 0.815, indicating that the reliability of the whole questionnaire is good and the reliability of the questionnaire is strong. According to the Cs results, the data on the left side of the mean is more dispersed. In summary, the setting of each scale and index is reasonable, and the reliability of the questionnaire is high.

Validity test. The factor analysis method was used to analyze the explanatory scalar, and the KMO value was 0.74 and the sig value was less than 0.01, which could preliminarily verify that the structural validity of the questionnaire was good. Based on KMO reaching the standard, exploratory factor analysis was carried out. Five-factor eigenvalues were greater than 1, with a cumulative loading of 66.46% for the sum of squared rotations of five-factor components. The principal component analysis method is used for extraction, and Caesar's normalized maximum variance method is used for rotation matrix operation. Using data with factor loadings above 0.4, component 1 is categorized as participation, which includes four sub-indicators: economic participation, cultural participation, political participation, and social welfare participation; Component 2 is categorized as intelligent elderly care security, which includes five sub indicators: life care, emergency call, medical care, safety monitoring, and spiritual comfort; Component 3 is categorized as lifelong learning, including three sub indicators: online text reading, cultivating interests or skills, and social adaptation; Component 4 is categorized as a comprehensive evaluation of elderly life, including two sub indicators: life satisfaction and happiness index; Component 5 is categorized as health, including two sub indicators: physical health and mental health. All the above sub-indicators are in line with the initial indicator model design, so the factor analysis has achieved the expected results, and the item design of this questionnaire can be re-tested to meet the requirements and have a high degree of effectiveness.

3.4 Correlation Analysis and Regression Analysis

Further, the correlation between the evaluation indicators and active aging is verified, and the data analysis results are shown in Table 1.

From Table 1, it can be seen that the correlation coefficients between the evaluation sub-factors and each dimension are greater than 0.6, and most of the correlation coefficients are between 0.7 and 0.9, that is, each evaluation index is strongly correlated with each dimension, which can prove that the dimensions corresponding to the evaluation indicators of the Internet active aging in this paper are reasonable.

Table 1. Correlation analysis of each evaluation index and each dimension

Dimensional	Segmentation dimensions	Correlation coefficient
Health	In good health	0.899***
	Mental health	0.904***
Participation	Political participation	0.706***
	Economical participation	0.776***
	Culture participation	0.795***
	Social welfare participation	0.742***
Intelligent old-age security	Life care	0.632***
	Emergency call	0.643***
	Medical care	0.782***
	Safety monitoring	0.729***
	Spiritual comfort	0.643***
Lifelong learning	Online text reading	0.800***
	Cultivate interest or skills	0.855***
	Social adjustment	0.845***

Note: * * * denotes p < 0.001, * * denotes p < 0.05, * denotes p < 0.1

According to the results of data analysis, the P-P diagram and the scatter diagram of the four factors of Internet health, Internet participation, intelligent old-age security, lifelong learning, and the realization of active aging are drawn. The chart data shows that Internet health, Internet participation, intelligent old-age security, lifelong learning, and the realization of active aging are basically on the same line, basically in line with the linear relationship.

In order to measure the impact of each evaluation factors and the realization of active aging, the next step is to conduct regression analysis with the Internet active aging as the explanatory variable and health, participation, intelligent old-age security, and lifelong learning as the independent variables. The results of the analysis are shown in Table 2. It can be seen from Table 2 that the independent variable participation has no significant impact on the comprehensive evaluation of the dependent variable. The independent variables health (0.177), Intelligent old-age security (0.308), and lifelong learning (0.157) have a positive impact on the comprehensive evaluation, and participation (-0.049) has a negative impact on the comprehensive evaluation. Therefore, the H1, H3, and H4 hypotheses are established, and the H2 hypothesis is not established. The regression equation is expressed as:

Active aging = 1.833 + 0.177 * Health+ 0.308 * Intelligent old-age security + 0.157 * Lifelong learning

Table 2. Four dimensions regression analysis

model		**Non-standardized coefficient**		**Standardized coefficient**	**t**	**Significance**	**Colinearity statistics**		**R^2**	**F**
		B	**Stderr**	**Beta**			**Allowance**	**VIF**		
Independent variable	(constant)	1.833	0.284		6.446	<0.001			0.242	22.765 P<0.001
	Health	0.177	0.055	0.177	3.222	0.001	0.885	1.130		
	Participation	-0.049	0.064	-0.042	-0.764	0.446	0.876	1.142		
	Intelligent old-age security	0.308	0.060	0.296	5.116	<0.001	0.794	1.260		
	Lifelong learning	0.157	0.047	0.199	3.379	<0.001	0.768	1.301		

Dependent variable: Internet active aging

The data show that health, intelligent old-age security and lifelong learning have a significant impact on active aging, among which Intelligent old-age security has the greatest impact on active aging. Through intelligent old-age equipment and services, it provides convenient services and resources for the elderly, improves the quality of life of the elderly, and promotes the construction of a friendly society for the elderly. At the same time, health and lifelong learning also have a significant impact on active aging.

Furthermore, to gain a deeper understanding of the impact of each indicator on the active aging of the elderly, we analyzed the sub-factors under each indicator.

First of all, under the health indicators, the impact of network applications on the physical and mental health of the elderly is analyzed. The specific data are shown in Table 3:

Table 3. Regression analysis on health

model		Non-standardized coefficient		Standardized coefficient	t	Significance	Colinearity statistics		R^2	F
		B	Stderr	Beta			Allowance	VIF		
Independent variable	(constant)	2.752	0.216		12.753	<0.001			0.119	19.376 P<0.001
	physical health	-0.008	0.065	-0.009	-0.121	0.904	0.610	1.639		
	mental health	0.313	0.063	0.350	4.937	<0.001	0.610	1.639		

Dependent variable: Internet active aging

Active aging = 2.752+ mental health * 0.313

It can be seen from the data in Table 3 that the impact of network applications on physical health has a negative impact on active aging, and the H1a hypothesis is not valid. This may be related to the fact that most elderly people induce eye diseases, damage to cervical and lumbar spine health, cause lower extremity venous thrombosis, and even affected the enthusiasm for offline activities. The impact of network application on mental health has a positive and significant impact on active aging. The elderly can alleviate psychological stress, anxiety, and depression by watching online videos, seeking news advice, chatting, and other forms, thereby reducing their sense of loneliness. Further, by analyzing the sub-indicators of mental health, it is found that mental health self-assessment and cognitive improvement have a significant impact on active aging, as shown in Table 4.

Table 4. Regression analysis of mental health subdivision index

model		Non-standardized coefficient		Standardized coefficient	t	Significance	Colinearity statistics		R^2	F
		B	Stderr	Beta			Allowance	VIF		
Independent variable	(constant)	2.448	0.195		12.533	<.001			0.194	17.201 P<0.001
	Self-assessment of the mental health	0.152	0.045	0.2	3.384	<.001	0.816	1.225		
	Family connections	0.121	0.044	0.165	2.752	0.006	0.788	1.269		
	External communication	0.125	0.05	0.178	2.503	0.013	0.563	1.778		
	Cognitive improvement	0.033	0.046	0.048	0.712	0.036	0.628	1.593		

Dependent variable: Internet active aging

Secondly, it analyzes the influence of each sub-factor of intelligent old-age care on active aging. The specific data is shown in table 5:

Table 5. Regression analysis of intelligent old-age security

model		Non-standardized coefficient		Standardized coefficient	t	Significance	Colinearity statistics		R^2	F
		B	Stderr	Beta			Allowance	VIF		
Independent variable	(constan)	2.448	0.195		12.533	<.001			0.192	13.492 P<0.001
	life care	0.152	0.045	0.2	3.384	<.001	0.816	1.225		
	emergency cal	0.121	0.044	0.165	2.752	0.006	0.788	1.269		
	health care	0.125	0.05	0.178	2.503	0.013	0.563	1.778		

	safety monitoring	0.033	0.046	0.048	0.712	0.036	0.628	1.593		
	network spiritual comfort	0.007	0.041	0.010	0.165	0.869	0.827	1.210		

Dependent variable: Internet active aging

Active aging = 2.448 + life care * 0.152 + emergency call * 0.121 + health care * 0.125+ safety monitoring*0.033

It can be seen from the data in Table 5 that among the sub-indicators of intelligent old-age security, life care, emergency calls, medical care, and safety testing all have a significant positive impact on active aging, so H3a, H3b, H3c, and H3d are established. The influence of network spiritual comfort on active aging is not significant, so it is assumed that H3 e is not established.

Finally, the influence of various sub-factors of lifelong learning on active aging is analyzed. Specific data are shown in Table 6:

Table 6. Regression Analysis of Lifelong Learning

model		**Non-standardized coefficient**		**Standardized coefficient**	**t**	**Significance**	**Colinearity statistics**		**R^2**	**F**
		B	**Stderr**	**Beta**			**Allowance**	**VIF**		
Independent variable	(constant)	3.020	0.153		19.736	<.001			0.136	15.057 P<0.001
	online text reading	0.182	0.042	0.284	4.335	<.001	0.703	1.422		
	cultivating interest/skills	0.036	0.047	0.057	0.768	0.443	0.55	1.819		
	social adaptation	0.058	0.052	0.084	1.123	0.262	0.546	1.831		

Dependent variable: Internet active aging

Active aging = 3.02 + online text reading * 0.182

It can be seen from Table 6 that online text reading has a significant positive impact on active aging, so it is assumed that H4a is established; the influence of network interest or skill training and network social adaptability on active aging is not significant, so H4b and H4c are not established.

4. Conclusions and Recommendations

The core of the concept of active aging is to identify the actual needs of the elderly, with its actual needs as the main body, to help them better spend their old age. Internet technology has given the elderly more pension resources, ways, and means. Through the linear regression of each factor, it is finally verified that among the health factors, obtaining health information and cognitive improvement can significantly improve the realization level of active aging of the elderly; among the factors of intelligent old-age care, life care, emergency call, medical care, and safety testing have a significant positive impact on active aging; among the lifelong learning factors, online text reading can effectively improve active aging.

Therefore, to effectively promote the process of active aging, we need to improve from the following three aspects. (1) Create a healthy, safe, and convenient network environment for the elderly. This requires the joint efforts of the government, enterprises, and other parties. As far as government departments are concerned, they need to strengthen the supervision of Internet information, strengthen the construction of laws and regulations, standardize network transactions, create a safe network environment, and protect the legitimate rights and interests of the elderly. At the same time, we should actively carry out network security knowledge training, popularize network security knowledge to the elderly through thematic activities, production of thematic publicity materials and other forms; as far as the enterprise sector is concerned, it should provide network security education and training to help the elderly set up security measures, identify network scams, and protect personal information. At the same time, when enterprises use big data algorithms and other technologies to push interesting content to the elderly, they should avoid excessive incentives

and rewards, prevent the elderly from indulging in ' information cocoons ', prevent the elderly from indulging in the network, and then cause physical health, mental health, and other problems. (2) Accelerate the transformation of aging, so that information technology can better serve the elderly. The government should be demand-oriented, improve standards and norms, establish and improve a market-oriented mechanism that balances supply and demand and multiple inputs, and continuously improve the accessibility of aging-appropriate transformation. Cultivate and develop key enterprises suitable for aging, support chain operation and brand creation, guide large-scale network operation, and promote industrial agglomeration and development. In the process of aging transformation, enterprises should fully stand in the perspective of the elderly, constantly optimize the details, integrate scientific and technological services into the daily life of the elderly, and truly implement the aging measures. (3) Build a new model of "intelligent physical health care." The current old-age care focuses too much on the medical treatment of the elderly, ignoring the needs of the daily life of the elderly, such as elderly care, monitoring and prevention of chronic diseases, and exercise testing of the elderly, which cannot meet the full-cycle care needs of the elderly. Therefore, it is necessary to realize the deep integration of intelligent Internet technology and the ' combination of sports and medicine ', provide multi-level old-age care services through intelligent technology, and provide services such as old-age care, health prevention, intervention, treatment, nursing, and rehabilitation, to further realize the positive health concept of learning and enjoying old age based on ensuring that the elderly can be supported and treated. (4) Enrich the learning resources of the elderly, pay attention to the learning content of the elderly, identify the preferences of the elderly, update the learning resources in time, and help the elderly master the skills and enrich the life of the elderly with supporting learning materials.

Acknowledgement

This work was Supported by Ministry of Education Industry University Research Collaboration Project (project number: 220601766143705) and Key Project of Philosophy and Social Sciences in Jiangsu Province's Universities (project number: 2017 ZDIXM020)

References:

[1] Paul, C., Ribeiro, O., & Teixeira, L. (2012). Active ageing: An empirical approach to the WHO model. Current Gerontology and Geriatrics Research, 2012, 382972. https://doi.org/10.1155/2012/382972.

[2] Tareque, M. I., Hoque, N., Islam, T. M., Kawahara, K., & Sugawa, M. (2013). Relationships between the Active Aging Index and disability-free life expectancy: A case study in the Rajshahi district of Bangladesh. Canadian Journal on Aging = La Revue Canadiennedu Vieillissement, 32(4), 417–432

[3] Domenech-Abella, J., Mundo, J., Moneta, M. V., Perales, J., Ayuso-Mateos, J. L., Miret,M, Haro, J. M., & Olaya, B. (2018). The impact of socioeconomic status on the association between biomedical and psychosocial well-being and all-cause mortality in older Spanish adults. Social Psychiatry and Psychiatric Epidemiology, 53(3), 259–268.

[4] Kim, H. J., Min, J. Y., & Min, K. B. (2019). Successful aging and mortality risk: The Korean longitudinal study of aging (2006-2014). Journal of the American Medical Directors Association, 20(8), 1013–1020.

[5] Kollia, N., Caballero, F. F., Sanchez-Niubo, A., Tyrovolas, S., Ayuso-Mateos, J. L., Haro, J.M., Chatterji, S., & Panagiotakos, D. B. (2018). Social determinants, health status and 10-year mortality among 10,906 older adults from the English longitudinal study ofaging: The ATHLOS project. BMC Public Health, 18(1), 1357.

[6] Nosraty, L., Enroth, L., Raitanen, J., Hervonen, A., & Jylha, M. (2015). Do successful agerslive longer? The Vitality 90+ study. Journal of Aging and Health, 27(1), 35–53.

[7] Song Shijie, Song Xiaokang, Zhao Yuxiang, et al. The impact of Internet use on the loneliness of the elderly-an empirical study based on CHARLS data National Books an Intelligence, 2019 (1):

63-68.
[8] Xu Xiaowen, Li Zezhen, Gao Qiong. Does Internet use affect the loneliness of the elderly? -An empirical study based on CHARLS data Journal of Shandong University of Finance and Economics, 2021,33 (3): 100-108.
[9] Guo Jing, Xu Yishan, Chen Shilu, et al. The Effect of Internet Use on Loneliness in the Elderly: The Moderating Role of Age Health service research, 2021, 14 (8): 29-36.
[10] Hijas-Gómez, Ayala, Rodríguez-García, Rodríguez-Blázquez, et al. The WHO active ageing pillars and its association with survival: Findings from a population-based study in Spain. Archives of Gerontology and Geriatrics, 2020, 90: 1-14.
[11] Wu Yijuan. Network participation of the elderly from the perspective of active aging academic exchanges, 2021 (5): 141-155.
[12] Zhang Wenjuan, Zhao Deyu. Study on the social participation model of the middle-aged and young elderly in the city Population and development, 2015, 21 (1): 78-88.
[13] Wang Chunyuan. Research on the relationship between health self-assessment, life meaning and life satisfaction of the elderly. Harbin: Harbin Engineering University, 2015: 1-61.
[14] Cheng Honglei. Effect of social participation on life satisfaction of the elderly Aging Science Research, 2016, 4 (5): 20-28.
[15] Sui Dangchen, Peng Qingchao. 'Internet+ home care': smart home care service model. Journal of Xinjiang Normal University, 2016 (37): 128-135.
[16] Sun Jian'e, Zhang Zhixiong. Research on the 'Internet+' pension service model and its development path Journal of Social Sciences of Hunan Normal University, 2019 (3): 46-53.
[17] Li Dawei. 'Internet + old-age care' innovative service model——Taking Putian 's ' Smart Pension' as an example . Nanjing: Nanjing University of Posts and Telecommunications, 2020: 1-54.
[18] Zhang Jing. Research on the relationship between learning needs and subjective well-being of the elderly — a case study of Shijiazhuang. Hebei: Hebei Normal University, 2017: 3-46.
[19] He Jiamin, Yang Xuhao. Thinking about the development of lifelong learning for the elderly from the perspective of active aging Journal of Guangzhou Radio and Television University, 2021 (1): 40-43.
[20] Qiao Ailing. Investigation report on the status quo of lifelong learning among the elderly in the Internet era Electrified education research, 2019 (7): 121-128.