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Research on the Influencing Factors of Internet Use among the Elderly from the Perspective of "Digital Divide"

-- Empirical Analysis based on CGSS Database

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Abstract

In the era of "Internet +", all walks of life have taken the "car" to move forward, but this does not seem to be very friendly to the "silver-haired family". The "digital divide" problem faced by the elderly has become increasingly prominent. At the same time, the state is also striving to eliminate the barriers for the elderly to integrate into the Internet era, so that the elderly can catch the express of the times and enjoy the Internet dividends. Based on the latest data from the China General Social Survey (CGSS), this paper uses a multi-layer logistic regression model to analyze the local influencing factors of Internet use among the elderly from three macro levels: individual status, family status, and regional and provincial levels. The research results verify the localization. State of the suitability of multidimensional explanatory models. The influencing factors of the elderly's Internet use were also analyzed through the structural equation method: (1) social networks and their own conditions have a significant positive impact on the elderly's Internet use; (2) the difficulty of use has a significant negative impact on the elderly's Internet use . Therefore, we should eliminate the gap with the mentality of "the old and the old and the old", fully mobilize the service departments and other forces to strengthen the network construction of the elderly group, try our best to reduce the difficulty of their mobile Internet use, and simultaneously improve the elderly. Ability to utilize information tools. In the pace of rapid development, always pay attention to looking back at the elderly, and don't let the digital divide keep the elderly out of the age of intelligence. The research results verify the suitability of the localized multi-dimensional interpretation model to a certain extent. In-depth research on the phenomenon of aphasia and unequal access to the Internet of the elderly in the digital society is conducive to promoting the digital integration of the elderly in China in the context of the new era. In order to expand the boundaries of existing research.

Keywords

Digital Divide; Social Network; The Elderly; Structural Equation; Influencing Factors.

1. Introduction

The elderly are a group with social value and social functions. Under the joint guidance of the delayed retirement policy and the three-child policy, their social value has been continuously improved and their social functions have been continuously improved. Social value emphasizes that "the elderly can participate in decision-making in social life according to their own wishes and abilities" (Ai Ru et al., 2011) [3] From the perspective of social function (Li Haifeng et al., 2009) [4], traditional concepts The status of the middle-aged and elderly determines the reference value and influence of the social experience of the elderly on their children and grandchildren, helping to take care of housework and taking care of their children and

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grandchildren. Secondly, the state also has an old-age security mechanism for the elderly who have lost labor supply (Fan Zhihao et al., 2021)[5], so most elderly people subjectively tend to return to their families and enjoy life.

Nowadays, the trend of "mobile Internet" is hot, which has brought us a lot of convenience and has been integrated into our life. However, for the elderly, although "Internet +" is close at hand, it is more like it is out of reach. According to the survey, the total elderly population in my country will exceed 300 million during the "14th Five-Year Plan" period, and the country will gradually enter a moderate aging. According to the 49th "Statistical Report on the Development of China's Internet" released by the China Internet Network Information Center (CNNIC), as of December 2021, the number of Internet users in my country reached 1.032 billion, of which 119 million were elderly Internet users aged 60 and above, and 119 million were elderly Internet users. The number of Internet users accounts for 11.53%. From the data, it can be seen that the use of the Internet by the elderly is relatively insufficient.

In a smart life where everything is connected, the "digital divide" may be difficult to fill, but we strive to make it at least a little shallower. There is a certain gap between the elderly and young people in the acceptance of information technology, the frequency of use and the mastery of information knowledge and skills. In recent years, with the popularization of the four new inventions such as mobile payment "QR code", online reservations, and the rise of online social networking, "digital life" has become the mainstream of society, but it cannot be ignored that some elderly people do not use Internet products , making intelligence a digital divide for the elderly. For example, affected by the epidemic, an old man in a subway station in a certain place was blocked from riding a car because he did not have a health code, which caused trouble for the travel of the elderly; the father of a reader in Chongqing, Ms. Liu, planned to go to the hospital by himself, but because he did not have a health code They have to ask others for help because they know how to make an appointment with a mobile phone; many elderly returning tourists do not know how to book tickets online, and do not know how to show their health code to enter the station.

In the context of the strong social functions of the elderly and the Internet flooding all aspects of people's lives, we must attach great importance to the "digital divide" of the elderly, and analyze the factors that affect the use of the Internet by the elderly. In academia, many people have carried out relevant analysis on the factors affecting the Internet use of the elderly (Chen Shaojun et al., 2022) [6], but the research factors are mostly fragmented. In view of this, this paper adopts the latest Chinese social survey data, uses structural equations and multi-dimensional Logistic model to systematically explore the influencing factors of Internet use among the elderly, and provides suggestions for the status quo of the national "digital divide", and promotes the construction of an information barrier-free environment for the elderly and helps the elderly. The elderly are better integrated into the Internet life.

2. Theoretical Assumptions and Model Selection

2.1. Logistic Regression

2.1.1. Model Assumptions

Throughout the existing research, the factors that affect the use of the Internet in the elderly have been extensively discussed. Based on a macro perspective, this study analyzes the local factors that affect the elderly's Internet use. The influencing factors mainly include three nested structures: individual characteristic factors, family characteristic factors, and regional characteristic factors. Based on the existing research, the following hypotheses are drawn:

① Hypothesis 1 (h1): From the perspective of personal circumstances, one's own education level, one's own health status, one's marital status, and one's adaptability to the information society all have a certain positive impact on the acceptance of the Internet among the elderly.

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From the perspective of individual family situation, family living environment, housing style, and the number of children will all have a certain degree of influence on the Internet usage of the elderly.

②Hypothesis 2 (h2): The Internet penetration of the regional residence affects the Internet usage of the elderly, and the Internet usage frequency of empty nesters and the elderly with fewer children may be higher. Due to the lag in the development of some sparsely populated network infrastructure and the difference in Internet access, it may lead to digital inequality among individuals in the region.

③ Hypothesis 3 (h3): Different provinces in the development of information systems will also affect the use of the Internet by the elderly. We measure it through the Information Society Index. In other words, the development of the Internet in the regional society provides opportunities and space for the elderly to use the Internet to a certain extent.

2.1.2. Model Selection

The content of the questionnaire variable selection involves the hierarchical nesting relationship of individuals, regions and provinces. If we still use the traditional multiple stepwise regression method, the standard error of the target will be underestimated to a certain extent, and the statistical value may be overestimated. value. Therefore, in order to ensure the reliability of the analysis, we adopt a hierarchical nonlinear model, which not only considers individual factors, but also takes into account the influence of social status and regional network status.

2.2. Structural Equation

2.2.1. Model Assumptions

At the micro level. The author believes that the psychological mechanism of the elderly, their own conditions, social network, social status, difficulty of use and Internet access needs have an important impact on the Internet use of the elderly, and make the following assumptions:

① Hypothesis 1 (H1): The psychological mechanism has a positive impact on the Internet usage of the elderly.

According to the data, the elderly population occupies an important position in our country, and changes in their psychological conditions will directly affect their living habits and lifestyles. Many relevant studies have shown that psychological distress has a correlation with the Internet usage of the elderly, and is usually closely related to the elderly with loneliness and low happiness index. Loneliness, helplessness and psychological anxiety are all manifestations of psychological mechanisms, which have a direct impact on the use of the Internet. According to the research, the elderly who are mentally healthy, have no real problems, are accompanied by family members and do not feel lonely are more likely to accept new things. Therefore, we propose that the psychological mechanism has a positive impact on the use of the Internet in the elderly.

②Hypothesis 2 (H2): Self-status has a positive impact on the Internet usage of the elderly.

Their own conditions are closely related to the use of the Internet in the elderly. Many scholars have analyzed that the higher the social status of the elderly, the more likely they are to use the Internet. When analyzing the characteristics in detail, many scholars also found that family situation, education level, etc. are all influential contents. Elderly groups with high education level are willing to accept new things, and they will be more active in learning how to use the Internet; home equipment also affects their usage habits to a certain extent. Therefore, their own conditions have a positive impact on the Internet use of the elderly.

③ Hypothesis 3 (H3): Social network has a positive impact on the Internet usage of the elderly.

The Internet has certain social and entertainment attributes. Active use of the Internet by the elderly can effectively increase their contact with relatives and friends. In other words, the

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Internet maintains the social network of the elderly. Elderly people with extensive social networks are better at maintaining emotional relationships with those around them, learning new things to promote communication and increase the frequency of contact. Therefore, social networks have a positive effect on the Internet usage of the elderly.

④ Hypothesis 4 (H4): Difficulty of use has a negative impact on the Internet usage of the elderly.

The most important factor for people to use the Internet is its convenience. The elderly lack skills and cannot effectively use the convenience brought by the Internet, which increases the difficulty for the elderly to use the Internet. The elderly are relatively slow to reflect, so Internet learning will take a long time, "more than enough effort", which correspondingly reduces the enthusiasm and enthusiasm of the elderly group for learning. Many developers of software and hardware design focus on young customers with consumption potential. The development of aging-appropriate software is slow, and the designation of related configurations is not friendly to the elderly who are not good at "operation". When older people think that they are not suitable for access to the Internet, and more use is used by young people, their Internet usage will also decrease. Therefore, difficulty of use has a negative impact on the Internet usage of older adults.

⑤ Hypothesis 5 (H5): There is a correlation between one's own situation and the difficulty of use.

There is an interaction between own condition and difficulty of use. Research shows that the higher a person's education level is, the more they need to use the Internet in their life and work, so the difficulty of using the Internet will be reduced accordingly; Condition is also better. In the Internet age, your own situation will have a certain impact on the difficulty of use. Different own conditions directly lead to differences in Internet access. The elderly often return to their families, and their demand for the Internet, such as online shopping and payment, is much lower than that of young people. There is a correlation between its own condition and the difficulty of use.

2.2.2. Model Selection

In this paper, the structural equation model is selected, which can directly and effectively measure the latent variables, and can also measure the relationship between the various latent variables, and the use of structural equations can well handle each measurement error. This paper analyzes the direct and indirect factors affecting the Internet use of the elderly, and lists four aspects: psychological mechanism, self-condition, social network and use difficulty, but these cannot be directly measured, so we use the obvious variables to analyze and investigate. . Therefore, we used structural equations to explore the influencing factors of Internet use among the elderly.

3. Empirical Analysis

3.1. Data Source and Variable Selection

The data in this article comes from the latest data from the China Social Survey (CGSS). CGSS data is based on the regular and systematic collection of various data on the Chinese people and social status, summarizing the laws and trends of social changes in my country, and in-depth discussions on social issues of practical significance. The China Social Survey started in 2003, and after that, it conducts a continuous cross-sectional survey of more than 10,000 households in my country every year. Among them, Parts A and C of the questionnaire all involve Internet-related parts, which are very representative data. We screened the questionnaire information and obtained 4,327 valid samples of elderly people over 60 years old. After deleting the missing values of the main information, we obtained 1,462 final samples.

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3.1.1. Logistic Regression Sample and Variable Selection

Table 1. Basic characteristics of samples (N=1462)

variable name	variable type	Variable Interpretation and Description
Age	Numeric class	Mean68.12,Sd6.99
Gender	two-class	Female =0(45.64%)Male =1(54.36%)
Type of household registration	two-class	Rural household =0(53.88%) Urban household =1(46.12%)
Marital status	two-class	No spouse =0(27.12%)Married =1(72.88%)
Years of education	Numeric class	Mean 6.02,Sd 3.99
Hhysical health	Multiclass	Healthy =1(51.76%) There are certain health problems, the health level is average =2(32.09%)Unhealthy =3(16.15%)
Cognitive status quo	Numeric class	Mean 6.02,Sd 0.81
Social function	Numeric class	Mean 27.30,Sd 3.26
Number of children	Numeric class	Mean 2.38,Sd 1.22
Does the family have an internet connection?	two-class	Have =0(43.92%) None =1(56.08%)
empty nest situation	two-class	Yes =0(54.01%) No=1(45.99%)
Information Society Indicators	Numeric class	Mean 0.55,Sd 0.08

It can be seen from the above table that the average age of the elderly in the sample is 68.12 years old, and the number of males is slightly more than that of females, and most of the interviewed elderly have spouses, most of them have rural hukou, good health, moderate cognitive status, and social The functional performance is relatively good, more than half of them are empty nesters, and the Internet access is not high. The average score of the information society index is 0.55, indicating that the country is in a period of rising information development, information technology is expanding, and it is facing the unbalanced development of age information. question.

3.1.2. Structural Equation Samples and Variable Selection

According to the previous assumptions, we selected the obvious variables in the questionnaire, screened out the valid information in parts A and C, and re-coded them to ensure the standardization of the data.

Table 2. Variables and coding

Latent variable	Explicit variable	coding
Psychological mechanism	X1 Feeling a lack of company	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X2 Feeling isolated from others	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X3 Feeling left out	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X4 Feeling unhappy and depressed	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X5 Difficulties pile up and struggle to overcome them	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
Own condition	X6 Health assessment	1= Extremely good 2= Very good 3=Good 4= Generally 5=Bad
	X7 How many Internet devices do you currently have?	1=None 2=One 3=Two 4=Three 5= three or more

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	X8Education level	1= Elementary school and below 2= Junior high school 3= High school 4= Specialist 5= Bachelor's degree and above
Social network	X9 The frequency of social entertainment with neighbors is	1= Never 2= Several times a year or less 3= Several times a month 4= Several times a week 5= Every day
	X10 How often you socialize with other friends is	1= Never 2= Several times a year or less 3= Several times a month 4= Several times a week 5= Every day
	X11 Do you often socialize	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X12 The frequency of participating in group activities is	1= 1 or more times a week 2=1-3 times a month 3= Been there a few times last year 4= Went once last year 5= never go
Difficulty to use	X13 Use computer to open website	1= Very much in line 2= Meets 3= It doesn't matter if it matches or not 4= Incompatible 5= Very inconsistent
	X14 Will use smartphone to download apps	1= Very much in line 2= Meets 3= It doesn't matter if it matches or not 4= Incompatible 5= Very inconsistent
	X15 Know what to do when you want to express your thoughts online	1= Very much in line 2= Meets 3= It doesn't matter if it matches or not 4= Incompatible 5= Very inconsistent
Mobile internet usage	X16 Connect with people through social events	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X17 Protect your rights through the Internet	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently
	X18 Pay and shop online	1= Never 2= Rare 3= Sometimes 4= Often 5= Frequently

3.2. Model Building

3.2.1. Build a Logistic Regression Model

In order to ensure the reliability of the analysis, a hierarchical nonlinear model is adopted, which not only considers individual factors, but also takes into account the influence of social status and regional network status. The model can be expressed as:

$$\text{logit}(\pi_{ij})=\log(\frac{\pi_{ij}}{1-\pi_{ij}})=\beta_{oj}+\sum_k \beta_{jk}x_{kij} \quad (1)$$

$$\beta_{oj}=\eta_{oo}+\sum_q \eta_{oq}G_{qj}+u_{oj} \quad (2)$$

$$\beta_{jk}=\eta_{jo}+\sum_q \eta_{jq}G_{qj} \quad (3)$$

π_{ij} indicates the probability of using the mobile Internet for the sample i in province j, β_{oj} represents the random intercept, η_{oo} represents the overall mean, u_{oj} is the residual item at the provincial level, x_{kij} is the variable at the individual level of the elderly, Gqj represents the explanatory variable at the provincial level, this paper uses random Intercept term model.

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3.2.2. Build a Structural Equation Model

Model building is a crucial step in structural equations, and we try to keep them as concise as possible, and the correlations in them fit the theory. In this paper, on the basis of making assumptions and selecting relevant variables, using Amos 24.0 software to run, we get the relevant path diagram of its structural equation model.

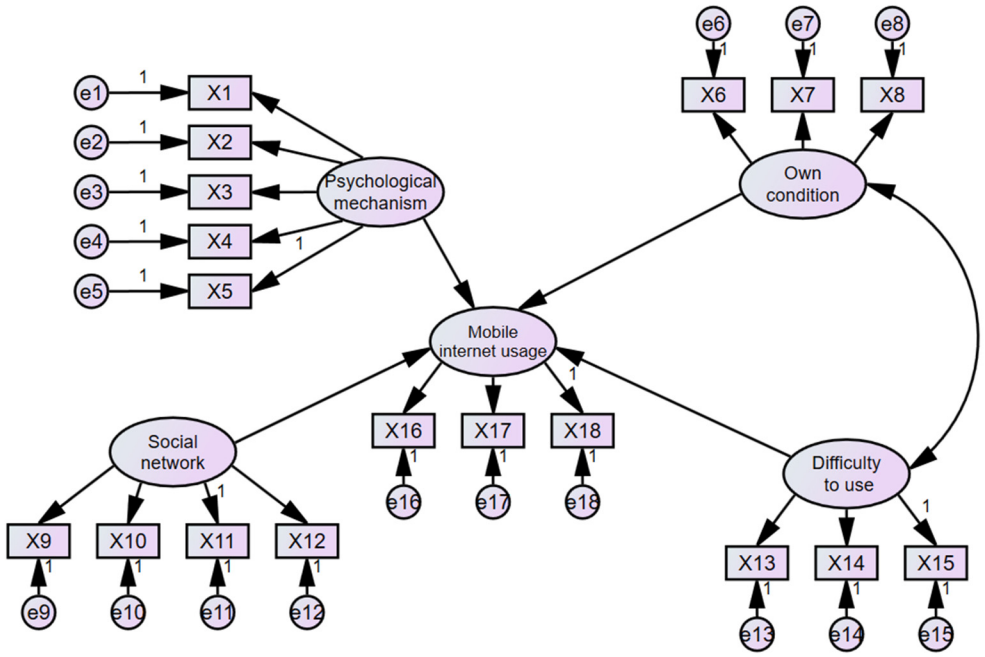

Figure 1. Structural equation model path

3.3. Reliability and Validity Test

Using SPSS software to test the reliability and validity of the structural equation, we performed Cronbach's Alpha reliability test on the five latent variables. The reliability of the total sample questionnaire was 0.829, which was greater than 0.7, indicating that the questionnaire data was quite reliable and had internal consistency. The coefficient value of X1, X2, X3, X4, X5 is 0.842, the coefficient value of X6, X7, X8 is 0.705, the coefficient value of X9, X10, X11, X12 is 0.678, the coefficient value of X13, X14, X15 is 0.899 , the coefficient values of X16, X17, and X18 are 0.832. Among them, the data coefficient values are all greater than 0.6, and the coefficient values of three dimensions are all greater than 0.8, indicating that the reliability of the questionnaire has a high level and can pass the reliability test.

The KMO test and Bartlett test were used to test the validity. The KMO test result was 0.709, which was greater than 0.7, and the test result showed significant, which could pass the validity test.

Table 3. Latent variable reliability test

Dimension	Alpha	Number of items
Psychological mechanism	0.842	5
Own condition	0.705	3
Social network	0.678	4
Difficulty to use	0.899	3
Use of mobile internet	0.832	3

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Table 4. Reliability analysis of the total scale questionnaire

Alpha	Based on standardization Alpha	Number of items
0.807	0.829	18

Table 5. KMO and Bartlett test

KMO and Bartlett test		
KMO Sampling Suitability Quantity		0.709
Bartlett's sphericity test	Approximate chi-square	5202.735
	Degrees of freedom	66
	Salience	0.000

3.4. Result Analysis

3.4.1. Analysis of Logistic Regression Results

This paper fits a set of logistic models. Among them, model 1 is a zero regression model, also known as a null model, which does not include any variables, mainly to verify whether it is necessary to establish a hierarchical nonlinear model; model 2 only includes variables at the provincial level , mainly to test the ability of provincial variables to explain the entire multi-layer model; Model 3 mainly includes the basic information control variables of the elderly; Model 4 adds latent information variables to the basic control variables of Model 3; Model 5 On the basis of Model 4, family status variables are added; Model 6 includes all variables and constitutes a complete model.

In model 1, the variance of the intercept at the provincial level is 1.320, and the result shows $p<0.001$, indicating that the result is very significant. This can fully explain the large differences in the status quo of Internet access between provinces. We generally believe that when p is greater than 0.059, it is necessary to use a multi-layer analysis model, because it can change the error of parameter estimation caused by sample autocorrelation, so we use Logistic model for analysis.

In the second model, the information society index variable is added on the original basis. After adding this index, it is found that the direct difference at the provincial level has an obvious decreasing trend, which shows that the difference between the provincial levels can be explained by the information society index, and With the increase of the information index, the Internet usage of the elderly group has also improved. The specific performance is that the elderly residents in the provincial-level regions with large information society index values have better mobile Internet use effects.

In model 3, the results show that the respondents' gender and age have no significant impact on Internet usage, but marital status and household registration type have a significant impact on the Internet usage of the elderly. It shows that urban-rural differences have a profound impact on the use of information technology by individuals. Groups with good family conditions and good health are better able to accept new things, so the Internet use effect is better.

In Model 4, latent variables are added on the basis of the original variables, and have a significant positive impact, which fully verifies the assumptions H2 and H3 of the structural equations in the article. Internet learning is also a cumulative and progressive learning process, so people who are well educated in the early stage are more adaptable to the Internet; not only that, but older people who are good at interpersonal communication have better Internet usage. In other words, the Internet sustains the social network. The older people with extensive social networks, the better at maintaining emotional relationships with those around them, the easier it is to learn new things to promote communication and increase the frequency of contact.

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Table 6. Multi-layer Logistic Model of Influencing Factors of Internet Use among Chinese Elderly

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age			0.098	-0.021	-0.086	-0.329
			(0.088)	(0.122)	(0.103)	(0.005)
Gender			-0.128	-0.127***	-0.057***	-0.763***
			(0.006)	(0.006)	(0.003)	(0.026)
Urban household Type			-0.021**	-0.154	-0.184	-0.329
			(0.222)	(0.009)	(0.120)	(0.028)
Married			1.237***	0.778***	0.649***	0.752***
			(0.114)	(0.121)	(0.131)	(0.046)
Years of education				0.096***	0.066***	0.370***
				(0.012)	(0.108)	(0.005)
Physical fitness (moderate)				0.230*	0.765	0.150
				(0.029)	(0.023)	(0.102)
Physical health (health)				0.758***	0.673	0.035**
				(0.021)	(0.026)	(0.029)
Social cognition				0.472***	0.268	0.854***
				(0.030)	(0.002)	(0.034)
Social function				0.276**	0.876	0.465**
				(0.045)	(0.045)	(0.024)
Internet at home					3.987***	3.953***
					(0.005)	(0.107)
Number of children					-0.758**	-0.567*
					(0.068)	(0.012)
Old man empty nest					0.865***	0.578***
					(0.101)	(0.033)
Information Society Indicators		6.997***				4.089**
		(1.554)				(1.425)
Intercept term	-2.479***	-5.999***	3.998***	-3.723***	-5.892***	-7.821***
	(0.221)	(0.609)	(0.502)	(0.775)	(0.901)	(1.063)
Inter-provincial Level intercept variance	1.320**	0.667**	1.167**	0.822**	0.766**	0.553**
	(0.451)	(0.213)	(0.229)	(0.265)	(0.232)	(0.183)

Note: In the above figure, *** means p value < 0.01, ** means p value < 0.01, * means p value < 0.05.

In Model 5, the results show that when the housing environment has the Internet, the elderly have better results in using the Internet. Elderly people with living children are less likely to use the Internet, and the inner loneliness and loss of empty nesters are more conducive to their access to the Internet, indicating that emotions can promote Internet use, which verifies H1 of the structural equation of the article, but the specific results need further verify.

In Model 6, the information society index has a positive correlation with the Internet usage of the elderly.

3.4.2. Analysis of Structural Equation Results

①Model parameter estimation

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In this paper, Amos 24.0 is used for the structural equation analysis model. We use the maximum likelihood estimation in the estimation method. We use the standardized parameter estimates, C.R. ratio values (t value of t test), and standard errors of parameter estimates. We can It can be seen that the parameters corresponding to multiple paths all meet the requirement of significance, so they can be used to measure the latent variable value.

Table 7. Model parameter estimation table

Facet	Index	Model parameter estimates				
		Unstandardized parameter estimates	S.E.	C.R	P	Standardized parameter estimates
Psychological mechanism	X1	1.208	0.087	23.056	***	0.798
	X2	1.732	0.065	17.098	***	0.564
	X3	1.909	0.045	19.765	***	0.432
	X4	1.117	0.032	9.286	***	0.987
	X5	1.000				0.786
Own condition	X6	1.372	0.063	15.278	***	0.542
	X7	1.689	0.076	13.453	***	0.931
	X8	0.643	0.028	19.276	***	0.886
Social network	X9	1.000				0.458
	X10	0.437	0.037	10.654	***	0.917
	X11	1.046	0.052	13.298	***	0.892
	X12	1.213	0.043	14.563	***	0.839
Difficulty to use	X13	1.137	0.036	20.348	***	0.654
	X14	0.915	0.078	27.892	***	0.698
	X15	0.987	0.049	29.978	***	0.963
Mobile internet usage	X16	1.000				0.927
	X17	1.237	0.101	31.287	***	0.691
	X18	1.298	0.023	15.234	***	0.786

Note: In the above figure, *** means p value < 0.01, ** means p value < 0.01, * means p value < 0.05.

②Fitness test

The fit index is an index used to evaluate the degree of fit between the model and the measurement data. In this paper, two indicators of absolute fit and value-added fit are used to test the fit to see if the next step can be analyzed. The results are shown in the figure. Among them, all indicators are within the ideal range, it can be seen that the setting of this theoretical model is acceptable.

Table 8. Fit index

Index	Absolute fit index				Value-added fit index			
	Value	RESEA	GFI	AGFI	IFI	TLI	NFI	CFI
Suggested value	P<0.05	<0.08	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9
Numerical value	0.000	0.034	1.231	0.987	0.982	0.919	0.932	0.974

③Path analysis

According to the contents of the following charts: (1) Hypothesis 1 does not hold. The standardized path coefficient of psychological mechanism and Internet usage of the elderly

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group is 0.048, and the p value is 0.192, indicating that it does not hold at the 5% significant level. Psychological mechanisms do not significantly affect Internet usage in older age groups. (2) Assumption 2 holds. The standardized path coefficient of the self-status and the Internet usage of the elderly group is 0.049, and the p value is 0.009, indicating that it is established at the 5% significant level. Their own conditions will significantly affect the Internet usage of the elderly group. (3) Assumption 3 holds. The normalized path coefficient of social network and Internet usage of the elderly group is 0.029, and the p value is 0.005, indicating that it is established at the 5% significance level. Social networking significantly affects internet usage in older age groups. (4) Assumption 4 holds. The normalized path coefficient between the difficulty of use and the Internet usage of the elderly population is -0.786, and the p-value is significantly established at the 0.1% significance level. The difficulty of use will significantly affect the Internet usage of the elderly group, and the standardized path coefficient is too large, indicating that improving the difficulty of use can effectively solve the problem of Internet use of the elderly, and can increase the development of suitable apps for the elderly, and increase the development of the aging society. "Silver Hair Economy" is a sunrise industry in the 21st century. (5) Assumption 5 holds. The standardized path coefficient of self-status and the difficulty of using the Internet in the elderly group is -0.576, and the p-value is established at the significant level of 0.1%. There is a significant negative correlation, and the improvement of their own conditions will reduce the difficulty of using the Internet in the elderly group.

Table 9. Path coefficient table

Assumption number	Unnormalized Path Coefficient Plot	Normalized path coefficients	P	Support
H1	0.032	0.048	0.192	No
H2	0.085	0.049	0.009**	Yes
H3	0.037	0.029	0.005**	Yes
H4	-1.286	-0.786	***	Yes
H5	-0.989	-0.576	***	Yes

Note: In the above figure, *** means p value < 0.01, ** means p value < 0.01, * means p value < 0.05.

4. Conclusion and Countermeasures

4.1. Research Conclusion

On the basis of the existing research, this paper excavates three nested variables of personal status, family status, and regional network status from a macro perspective, and from a micro perspective, it explores the psychological mechanism, social network, and social function of the elderly individuals. In-depth analysis is carried out in order to more realistically and specifically describe the influencing factors of Internet use among the elderly. The following conclusions were drawn from the above methods:

1. Urban-rural differences have a profound impact on the use of information technology by individuals. Groups with good family conditions and good health are more receptive to new things, so the Internet use effect of the elderly is better.

2.The elderly with extensive social networks are better at maintaining emotional relationships with those around them, and the easier it is to learn new things to promote communication and increase the frequency of contact.

3. Elderly people with living children are less likely to use the Internet, and the inner loneliness and loss of empty nesters are more conducive to their access to the Internet, indicating that emotions can promote the use of the Internet.

4. The information society index has a positive correlation with the Internet usage of the elderly. The specific performance is that the elderly residents in the provincial-level regions with large information society index values have better mobile Internet use effects.

4.2. Countermeasures and Suggestions

Regarding the influencing factors of Internet use among the elderly shown in this paper, we should make joint efforts in three aspects: self-family attention, social cooperation, and government-enterprise linkage.

4.2.1. Self-family Value

As an elderly group, we should actively embrace the information age, recognize the benefits and convenience brought by the current informationized life, and stimulate our inner self-directed and active learning ability. By mobilizing the strength of the family, children can strengthen face-to-face communication and interaction with the elderly at home to teach the experience of using new media for feedback, guide the elderly to actively "connect to the Internet", and teach the elderly basic Internet operation functions. Under the current social background of population change and mobility, actively promoting the status quo of Internet popularization among the elderly can alleviate the intergenerational pressure to a certain extent and promote the development of family atmosphere.

4.2.2. Social Collaboration

Optimize services and be the guardians of vulnerable groups. Communities and social organizations vigorously promote digital services for the elderly, for example, elderly activity centers and elderly universities set up relevant courses; the content of volunteer services is increased to teach the elderly to learn and use smartphones, the Internet, etc.; the community provides more one-to-one services for the elderly window. Increase the advantage of "access to the Internet" for the elderly, and encourage the elderly who give priority to "access to the Internet" to actively play a leading role to form a better internal "self-help" effect.

4.2.3. Government-enterprise Linkage

The government should appropriately increase capital investment, strengthen infrastructure construction, promote information popularization among elderly groups, and increase efforts to narrow the gap between urban and rural areas and regional network differences; Large-scale production and replacement; and the relevant business processes and ways of doing things should be reset to minimize the burden on the elderly.

Numbers have no temperature, but the society behind them can. As an important group in society, the elderly also have the opportunity to enjoy social "dividends". Although the "digital divide" is an indisputable fact, the digitalization process should not go backwards. With more temperature and value, especially for special groups such as the elderly, we should really turn the "divide" into a "dividend".

References

[1] You Shuping, Zhang Xuelian, Yang Fei, Yan Ping, Liu Tao, Zhou Yong. Path Analysis of Factors Influencing Self-care Ability of Rural Elderly Based on Structural Equation Model [J]. Occupation and Health, 2022, 38(09): 1218-1222+1226.

[2] Yu Xiaofen, Fu Dai. A review of multi-index comprehensive evaluation methods [J]. Statistics and Decision, 2004 (11): 119-121.

[3] Ai Ru. Research on the social participation of the elderly from the perspective of functionalism: Taking the Z community in Beijing as an example [J]. Journal of University of Science and Technology Beijing (Social Science Edition), 2011, 27(02): 111-117.

[4] Li Haifeng, Chen Tianyong. Social function and subjective well-being of the elderly [J]. Advances in Psychological Science, 2009, 17(04): 759-765.

ISSN: 2688-9323

[5] Fan Zhihao. Analysis of the impact of population aging on labor supply in Henan Province [D]. Yunnan Normal University, 2021.

[6] Chen Shaojun, Zhou Shuanglei, Jiang Tianhe. A Study on the Influencing Factors of the Elderly Internet Use in the Digital Age [J/OL]. Lanzhou Journal: 1-12 [2022-05-18].

[7] Wu Jia, Wang Yongmei. Research on the current situation and influencing factors of Internet use among the elderly in my country: Based on the analysis of CGSS data in 2017 [J]. Research on Aging, 2021, 9(09): 43-58.

[8] Wang Bin. Research on the influencing factors of Internet use among Chinese elderly from the perspective of multi-dimensional interpretation [J]. Population and Development, 2020, 26(03): 98-106.