

Research on Active Aging Learning and Satisfaction in the Elderly in the age of artificial intelligence

Tsai Yen-Ni ^{1,*}, Chen Ming-Tsung²

¹The Education Science Department, Zhaoqing University, Zhaoqing city, 526061, China

²School of Public Administration, Nanfang College of Sun Yat-sen University, Guangzhou, Guangdong, 510000, China

Abstract. At present, artificial intelligence has become an important driving force for a new round of technological revolution and industrial transformation. Under the background of the increasingly significant trend of global population aging, it is an important issue to consider how to serve cognitive aging and geriatric linguistics research based on artificial intelligence technology to serve the transformation of the elderly from healthy aging, active aging to active aging. The research and application of artificial intelligence based geriatric linguistics and services for the aged include at least three fields: basic research on gerontology, detection of aging and diseases, and cognitive rehabilitation of aging language. This study explores the correlation between active aging learning and satisfaction among senior citizens. Taking the students from the Senior College of Central Taiwan as the research object, the Active Aging Learning and Satisfaction Questionnaire was used as the research tool. A total of 440 copies were sent out using a convenient sampling method. 400 questionnaires, deducted 20 incomplete questionnaires, effectively recovered 380 points, and the effective recovery rate was 86.36%. SPSS (Statistical Package for the Social Science) for Window statistical suite software was used as an analysis tool for descriptive statistics. Data analysis was performed by statistical methods such as single factor variation analysis, regression analysis, item analysis, and factor analysis. The results of statistical analysis show that there is a significant difference in active aging learning and satisfaction among older people. In addition, research has found that the relationship between active aging learning and satisfaction has predictive power. Based on preliminary research, researchers have found that active aging learning has an effect on improving the satisfaction of older people, and makes relevant suggestions for future research and teaching units.

1 INTRODUCTION

1.1 Research background and motivation

With the continuous improvement of medical technology, the average life expectancy in Taiwan has increased. According to statistics, the proportion of the elderly population in Taiwan will continue to rise from 11.33% at the end of July 2013 to 20% by 2025 (Labor Development Department of the Ministry of Labor, (P. 105), and Taiwan will face an ultra-aged society in 2025. The elderly population over 65 will account for 20.1% of Taiwan's total population. Therefore, the Taiwan authorities have begun to attach importance to this serious issue and began to promote labor pensions in 2004. The Regulations also introduced the "White Paper on Aging Social Labor Policies" in 2008. It is important to effectively plan solutions to various problems caused by the aging of the population.

The concept of active aging was put forward earlier in 1998 by the Organisation for Economic Co-operation and Development (OECD), arguing that lifelong learning and medical support can increase autonomy in old age.

Academic research has been valued, but research on the topic of active aging learning and satisfaction of truly elderly people is still extremely rare. It is necessary to investigate and analyze the relationship between active aging learning and satisfaction. This study conducts an empirical study on the satisfaction of the elderly, which can supplement the data on the psychological status of the elderly and provide a reference for teaching strategies in the academic circle.

1.2 Research background and motivation

Based on the above research motivations, the purpose of this study is to explore the significance of the satisfaction of elderly people after active aging learning and to clarify the potential association between their learning activities and satisfaction. According to the research purpose, there are three questions to be answered in this study:

- a. Analyze the differences in active aging learning among older students of different demographics;
- b. Explore the differences in satisfaction among older students of different demographics after learning;
- c. Investigate the predictive ability of active aging learning and satisfaction of middle-aged and senior

*Corresponding author. Email: 306470714@qq.com

students;

d. Based on the results of the study, develop strategies to assist older students in active aging learning.

2 LITERATURE DISCUSSION

2.1 Elderly people

Some scholars abroad have defined the elderly as citizens over 55 years old (Kawakami, M., Inoue, F., Ohkubo, T., & Ueno, T., 2000). In Taiwan's "Elderly Welfare Law", those who are over 65 are defined as the legal age of the elderly. This study uses Kawakami, M., Inoue, F., Ohkubo, T., & Ueno, T.'s definition of senior citizens, that is, national senior citizens who are 55 or older.

2.2 Active aging learning

The term "active aging" is derived from the title in the "Active Aging Policy Framework Report" published by the WHO in 2002. It mainly encourages elderly people to strengthen their health, living standards, safety, and participation when they are old. In the process of society, I hope that through the experience of life, I will understand the potential of the individual's body, mind, society and other aspects, and can protect himself when needed. This research adopts Huang Fushun's (Min 97) perspective, and defines senior learning as a planned learning model that can be applied to past experience and new knowledge acquired through learning, resulting in a more conducive sense of achievement. The score of the Active Aging

Learning Scale is the operational definition of active aging. The higher the score, the higher the active aging index

2.3 Satisfaction

The term "satisfaction" was once considered by Hackman & Oldham (1975) if improved job characteristics can stimulate workers' work motivation, make them have higher job satisfaction, and constantly show personal potential, and achieve it through goals and experiences Satisfaction and growth in the heart, and then realize the potential. And Beard and Ragheb (1980) also developed the LSS scale to study, and found that the standard of personal assessment will change with the situation. This study focuses on the satisfaction defined by Beard and Ragheb (1980). The score of satisfaction from the "Satisfaction Self-scale" is an operational definition of satisfaction. The higher the score, the higher the happiness index.

3 RESEARCH METHODS

3.1 Research Framework

The research framework includes three parts: the first part: "demographic variables"; the second part: "active aging learning"; the third part: "satisfaction". Based on Huang Fushun (Min 97) 's active aging learning and Beard and Ragheb (1980) scholars' satisfaction, the research framework of this study is shown in Table 1.

Table1. valuation value and book value of subject assets

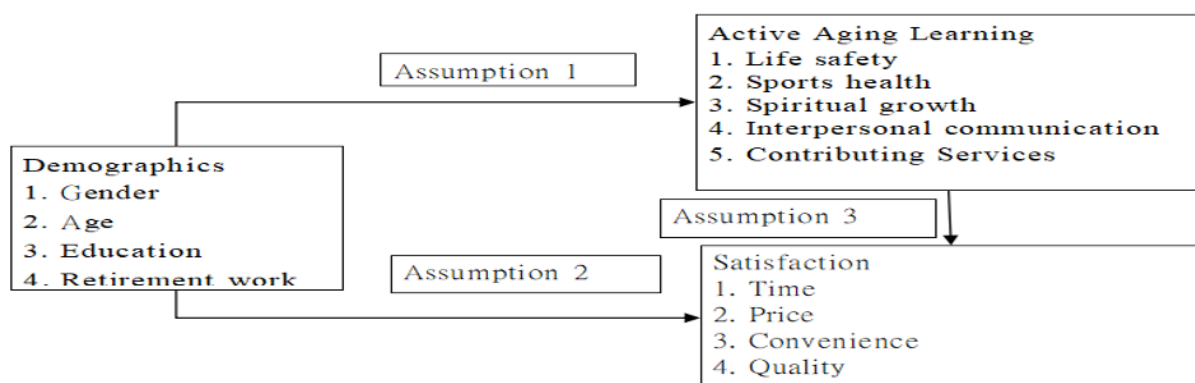


Table source: collation of this study

3.2 Research hypotheses

According to the research framework, the research hypotheses established in this research are as follows:

Hypothesis 1: Population attributes have a significant relationship to active aging learning

Hypothesis 2: Demographics have a significant relationship with satisfaction

Hypothesis 3: Active aging learning predicts the relationship between satisfactions

3.3 Research objects

In this study, we set up an elderly university in a certain region of central Taiwan as the research area, and adopted sampling sampling, supplemented by snowball sampling to seek research cases. A total of 400 questionnaires were sent out and 380 valid questionnaires were finally recovered.

3.4 Analysis method

3.4.1 Descriptive statistics

In this study, a total of 440 questionnaires were distributed using a stratified random sampling method, with 110 points distributed in each region. After the questionnaires were recovered, invalid questionnaires were deleted. A total of 380 valid questionnaires were recovered. The

effective recovery rate was 86.36%. After the collection of the sample data, it was found that the majority of seniors are females, accounting for 255 (67.1%), aged 65-69 years old, accounting for 135 (35.5%), and having the highest education level in the country, accounting for 228 (60.0%), the occupation is the most industrial, accounting for 123 people (32.4%). Based on this, the "Analysis Table of Research Subject Background Data" (Table 2) is summarized as follows:

Table2. Analysis of background information of research objects (N: 380)

Project	Category	Number of people	Percentage (%)
Gender	Male	125	32.9
	Female	255	67.1
Age	55-59 years	53	13.9
	60-64 years	102	26.8
	65-69 years	135	35.5
	70 years and over	90	23.7
Education Level	Elementary school	84	22.1
	Secondary	228	60.0
	High school	68	17.9
Occupation	Military, civil service, faculty	59	15.5
	Business professionals	50	13.2
	Industrial workers	123	32.4
	Agricultural workers	30	7.9
	Service Industry Practitioners	118	31.1

Data Source: collation of this study

3.4.2 Reliability analysis

Reliability, also called reliability, refers to the consistency and stability of the scores measured by a scale. Reliability can be divided into two categories: "external reliability" and "internal reliability". External reliability usually refers to the reliability of the scale when measured at different times. Intrinsic reliability usually refers to whether each scale measures a single concept. At the same time, the degree of internal consistency that composes the

questionnaire scale. Cronbach's α statistical coefficient is the most commonly used test method to measure intrinsic consistency.

In the first part of the scale of "active aging learning", this study uses the self-made "active aging learning scale", supplemented by SPSS statistics (Wu Minglong, Tu Jintang, Min 96) for analysis, which is consistent with the scale reliability analysis. The minimum standard of reliability is above 0.5, so it shows obvious reliability, as shown in Table 3.

Table3. Reliability analysis of various facet variables of the Active Aging Learning Scale

Facet	Questionnaire number	Cronbach's α
Factor One (Life Safety)	Five questions (1, 2, 3, 4, 5)	0.828
Factor two (sports health)	Six questions (6, 7, 8, 9, 10, 11)	0.842
Factor Three (Spiritual Growth)	Six questions (12, 13, 14, 15, 16, 17)	0.874
Factor Four (Interpersonal Communication)	Six questions (18, 19, 20, 21, 22, 23)	0.844
Factor Five (Contributing Services)	Four questions (24, 25, 26, 27)	0.699

Data Source: The researcher self-constructed table based on his research data.

In the second part of the "Satisfaction" scale, this study uses a self-made "Satisfaction Scale" supplemented by SPSS statistical analysis. It meets the minimum reliability

standard of 0.5 or more in the scale reliability analysis, so it shows obvious reliability For details, see Table 4.

Table4. Reliability analysis of various facet variables of the "Satisfaction Scale"

Facet	Questionnaire number	Cronbach's α
Factor one (time)	Five questions (1、2、3、4、5)	0.806
Factor two (price)	Three questions (6、7、8)	0.755
Factor three (convenience)	Four questions (9、10、11、12)	0.797
Factor four (quality)	Six questions (13、14、15、16、17、18)	0.889

Data Source: The researcher self-constructed table based on his research data.

3.4.3 Factor analysis

In this study, the "construction validity" of the scale was obtained by factor analysis. The principal component analysis mode of the principal axis method was used. Those with a KMO value > 0.6 and factors with a characteristic value greater than 1 were selected. The method with the largest number of variations in the orthogonal axis method was used. , To carry out the factor axis. Name the factors based on items with a factor load greater than 0.3 (Huang Junying, Lin Zhenyan, 1994), and exclude items that do not meet the standard, replace the five major facets with complex questionnaire items. In the factor analysis, the KMO value was 0.867, and Bartlett's

spherical test value was 5547.718 (degrees of freedom was 351). The significance was 0.000 and the significance was significant. Therefore, all 27 questions reached the selection criteria.

After factor analysis, five factors were extracted. The first factor has a characteristic value of 7.917, the second factor has a characteristic value of 4.484, the third factor has a characteristic value of 1.569, and the fourth factor has a characteristic value of 1.415. The fifth factor has a characteristic value of 1.286, the cumulative explanatory variation of the entire scale is 61.743%, and the explanatory variation of each factor is 15.9389%, 14.257%, 12.508%, 11.262%, and 7.780%. Presented in the active aging learning factor analysis summary table (Table 5), as shown below.

Table5. Aggregated analysis of active aging learning factors

Original Question number	Formal Question number	Factor one Life safety	Factor two Sports health	Factor three Spiritual growth	Factor four Interpersonal communication	Factor five Contributing Services
19	1	0.856				
20	2	0.738				
21	3	0.702				
22	4	0.653				
23	5	0.608				
1	6		0.713			
2	7		0.713			
3	8		0.706			
4	9		0.701			
5	10		0.672			
6	11		0.595			
7	12			0.830		
8	13			0.812		
9	14			0.795		
10	15			0.675		
11	16			0.667		
12	17			0.639		
13	18				0.792	
14	19				0.737	
15	20				0.671	
16	21				0.644	
17	22				0.568	
18	23				0.552	
24	24					0.703
25	25					0.672
26	26					0.644
27	27					0.338
Eigenvalues		7.917	4.484	1.569	1.415	1.286

Explained variation (%)	15.938	14.257	12.508	11.262	7.780
Cumulative explanatory variation (%)	15.938	30.194	42.702	53.963	61.743

Data Source: collation of this study

In the factor analysis of the satisfaction question, the KMO value was 0.886, and Bartlett's spherical test value was 3764.915 (degree of freedom: 153). The significance was 0.000 and the significance was significant. Therefore, all 18 questions met the selection criteria. The eigenvalue of the first factor is 8.125, the eigenvalue of the second factor is 1.4944, the eigenvalue of the third factor is 1.183,

the eigenvalue of the fourth factor is 1.041, and the cumulative interpretation variation of the entire scale is 65.796%, and the explanatory variation of each factor was 19.687%, 15.888%, 15.249, and 14.971%. Presented in the summary table of satisfaction factor analysis (Table 6), as shown below.

Table6. Summary table of satisfaction factor analysis

Original question number	Official title	Factor one Time	Factor two Price	Factor three Convenience	Factor four Quality
7	1	0.732			
8	2	0.714			
9	3	0.663			
10	4	0.562			
11	5	0.561			
16	6		0.767		
17	7		0.715		
18	8		0.697		
12	9			0.832	
13	10			0.686	
14	11			0.669	
15	12			0.648	
1	13				0.815
2	14				0.740
3	15				0.685
4	16				0.617
5	17				0.572
6	18				0.567
Eigenvalues		8.125	1.494	1.183	1041
Explained variation (%)		19.687	15.888	15.249	14.971
Cumulative explanatory variation (%)		19.687	35.576	50.825	65.796

Data Source: collation of this study

4 RESEARCH RESULTS

4.1 Analysis of differences in active aging learning among middle-aged and older people with different demographic attributes

4.1.1 Gender

Whether there is a significant difference in active aging learning according to different genders, according to research data, it can be found that: in life safety (T = 1.787, P > 0.05), sports health care (T = 0.286, P > 0.05), spiritual growth (T = 0.526, P > 0.05), interpersonal communication (T = 0.593, P > 0.05), contributing services (T = 1.295, P > 0.05) and other five facets have no significant differences, which indicates that the two genders have not been

actively studying in the aging study. There are obvious differences.

4.1.2 Age

According to the population attributes, there is a significant relationship between active aging learning, and different ages have significant differences in active aging learning. According to research data, Table 6 can be found that in the "sports health care" section, the F value is 4.318. In the "spiritual growth" part, the F value is 2.706, and in the "interpersonal communication" part, the F value is 2.946. You can find that there are significant differences in these three aspects and age. Further inspection by Scheffe found the following:

a. "Sports health care" section: At 55-59 years old, more emphasis is placed on sports health care than 60-64

and 70 years old.

pay more attention to interpersonal communication.

b. "Interpersonal communication" part: People who are over 70 years old and more important than 55-59 years old

Table7. Analysis of age single factor variation (active aging learning)

	Life safety	Sports health	Spiritual growth	Interpersonal communication	Contributing Services
55-59 years	3.0717	3.1289 ^{1>2,4}	2.5755	3.2170	3.6321
60-64 years	2.8863	3.4641	2.4069	3.4412	3.8333
65-69 years	2.9363	3.3309	2.3086	3.3728	3.7796
70 years and over	2.7600	3.5000	2.2907	3.5148 ^{4>1}	3.8472
	(2.446)	(4.318) **	(2.706) *	(2.946) *	(2.040)

Note: F values in parentheses *p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

4.1.3 Education

According to the population attributes, there is a significant relationship between active aging learning, and different education has significant differences in active aging learning. From Table 7, it can be found that in the "life safety" part, the F value is 4.223, and in "sports health care" The F value of the part is 3.807, and the F value is 3.553 in the "interpersonal communication" part. It can be found that only three aspects and education are

significantly different. Further inspection by Scheffe found the following:

a. "Life safety" part: People in junior high schools pay more attention to life safety to people below elementary school.

b. "Sports health care" section: People below elementary school pay more attention to sports health care for those in high school.

c. "Interpersonal communication" part: People below elementary school elementary level have higher secondary vocations who value interpersonal communication.

Table8. single-factor variation analysis table for education (active aging learning)

	Life safety	Sports health	Spiritual growth	Interpersonal communication	Contributing Services
Below elementary school	2.7071	3.5218 ^{1>3}	2.2857	3.4821 ^{1>3}	3.8571
Junior High School	2.9500 ^{2>1}	3.3721	2.3845	3.4247	3.7829
High school	2.9706	3.2230	2.4142	3.2328	3.7279
	(4.223) *	(3.807) *	(0.901)	(3.553) *	(1.086)

Note: F values in parentheses *p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

4.1.4 Occupation

According to the demographic attributes, there is a significant relationship between active aging learning, and different occupations have significant differences in active aging learning. From Table 8, it can be found that in the

"life safety" part, the F value is 3.255, and in "spiritual growth" For the part, the F value is 2.801. It can be found that both facets and occupations are significant. Further inspection by Scheffe found the following:

"Life safety" part: The occupation of military public education pays more attention to the safety of life to the business occupation.

Table9. Analysis of occupational single factor variation (active aging learning)

	Life safety	Sports health	Spiritual growth	Interpersonal communication	Contributing Services
Military, civil service, faculty	3.0712 ^{1>2}	3.3164	2.4294	3.2994	3.7458

Business professionals	2.6480	3.4533	2.1733	3.4467	3.8250
Industrial workers	2.8943	3.3388	2.4133	3.3875	3.8069
Agricultural workers	3.1000	3.4389	2.6222	3.4000	3.9083
Service Industry Practitioners	2.8763	3.4040	2.3079	3.4534	3.7479
	(3.255) *	(0.490)	(2.801) *	(0.710)	(0.698)

Note: F values in parentheses *p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

4.2 Analysis of the difference in satisfaction among middle-aged and elderly people with different demographic attributes

4.2.1 Gender

Whether there is a significant difference in satisfaction according to different genders. According to the research data, it can be found from Table 9: time (T = 0.142, P > 0.05), price (T = 8.061, P < 0.01), convenience (T = 8.032, P < 0.01), quality (T = 0.197, P > 0.05) and other four facets, there are significant differences between the two facets of gender, price and convenience, which shows that the two sexes in the surveyed elderly people There is a significant difference in satisfaction. It can be known that in a society where traditional male protagonists and female protagonists are in control, women are unable to grasp the current status of their funds, and their physical ability has gradually declined as they get older. Price and convenience.

Table10. Analysis table of gender t test (satisfaction)

t value				
	Time	Price	Convenience	Quality
Gender	-0.142	8.061**	8.032**	0.197
	*p < 0.05	**p < 0.01	***p < 0.001	

Data Source: The researcher self-constructed table based on his research data.

4.2.2 Age

Among populations that have a significant relationship with satisfaction, different ages have significant differences in satisfaction. According to research data, Table 10 shows that in the "quality" part, the F value is 2.895, which can be found. There were significant differences in facet and age. Further inspection by Scheffe found the following:

"Quality" part: People who are over 70 years old pay more attention to the quality of learning than those who are 55-59 years old.

Table11. Analysis table of age single factor variation (satisfaction)

	Time	Price	Convenience	Quality
55-59 years	3.4755	3.4906	3.2358	3.3774
60-64 years	3.5843	3.5621	3.2721	3.5833
65-69 years	3.5970	3.5506	3.2519	3.5383
70 years and over	3.5556	3.6370	3.2250	3.6537 ^{4> 1}
	(0.802)	(0.874)	(0.117)	(2.895) *

Note: F values in parentheses *p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

4.2.3 Education

According to the demographic attributes, there is a significant relationship between satisfaction, and different education has significant differences in satisfaction. From Table 11, it can be found that in the "time" part, the F value

is 4.139 and in the "price" part The F value is 6.158, in the "convenience" part, the F value is 4.924, and in the "quality" part, the F value is 3.602. There are significant differences between the four facets and education. Further inspection by Scheffe found the following:

a. "Time" part: time in high school (vocational) education is more important than education in elementary school.

b. The "price" part: the education level in high school (vocational) is lower than that of elementary school and the education level of junior high school is higher.

c. "Convenience" part: the education level in junior high school is more convenient than the education level in elementary school.

d. "Quality" part: In high school (vocational) education level, education level below elementary school pays more attention to price.

Table12. Education single factor variation analysis table (satisfaction)

	Time	Price	Convenience	Quality
Below elementary school	3.4452	3.3849	3.0774	3.4187
Junior High School	3.5798	3.6082 ^{3>2}	3.3015 ^{2>1}	3.5797
High school	3.6735 ^{3>1} (4.139) *	3.6471 ^{3>1} (6.158) **	3.2831 (4.924) **	3.6422 ^{3>1} (3.602) *

Note: F values in parentheses *p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

4.2.4 Occupation

According to the demographic attributes, there is a significant relationship between satisfaction, and different occupations have significant differences in satisfaction.

From Table 12, it can be found that in the "time" part, the F value is 0.883, and in the "price" part, The F value is 1.063, in the "convenience" part, the F value is 1.481, and in the "quality" part, the F value is 0.136. It can be found that this aspect and occupation are not significant.

Table13. Analysis table of single-factor variation in residential area (satisfaction)

	Time	Price	Convenience	Quality
Military, civil service, faculty	3.4576	3.4576	3.1186	3.3814
Business professionals	3.5640	3.6400	3.2200	3.5733
Industrial workers	3.5886	3.6043	3.2927	3.6057
Agricultural workers	3.6200	3.5000	3.1500	3.5833
Service Industry Practitioners	3.5864 (0.883)	3.5650 (1.063)	3.3051 (1.481)	3.5749 (0.136)

Note: F values in parentheses *p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

4.3 Exploring the relationship between active aging learning and satisfaction has a predictive ability

Based on the theories of experts and scholars, this study compiled the "active aging learning scale" and "satisfaction scale", and then used SPSS statistical analysis to analyze the relationship between active aging learning and satisfaction in a regression mode to find active aging learning It has predictive power for the relationship of satisfaction, and regards the active aging learning facet as an independent variable, and satisfaction as a dependent variable to test its impact on "satisfaction". From the test results, it was found that active aging learning had a significant positive impact on satisfaction ($\beta = 3.730$, $P < 0.001$), and the regression model reached a

significant level. The results are shown in Table 13. According to the regression equation obtained by the regression analysis method: Satisfaction = 3.730 + 0.008 * sports health care + 0.136 * spiritual growth + 0.050 * interpersonal communication + 0.044 * contribution service, which means that the higher the requirements for active aging learning in senior middle school, the higher the satisfaction will be.

Table14. Regression analysis of "satisfaction" from "active aging learning"

Independent variable	Mode 1 regression coefficient
Constant term	3.730***
Sports health	0.008
Spiritual growth	0.136*
Interpersonal communication	0.050
Contributing Services	0.044
R ²	0.019
Adj R ²	0.009
F	1.814

*p < 0.05 **p < 0.01 ***p < 0.001

Data Source: The researcher self-constructed table based on his research data.

5 CONCLUSION

After the reform of non tradable shares, the overall listing of private placement has become a hot stream in China's refinancing market. More and more state-owned enterprises are listed as a whole through private placement. This paper studies the case of China Power Construction and draws the following enlightenment.

5.1 Population attributes have a significant relationship with active aging learning

In terms of gender, no significant difference was found in the five facets, indicating that there was no significant difference between the genders in the active aging learning of the elderly under investigation. In terms of age, it is found that there are significant differences in the three aspects (sport health care, spiritual growth, interpersonal communication) and age, and it is inferred that 55-59 years old is just at the stage of retirement, and if they are in good health, they will be more active. Invest in new knowledge or new technology, and students over 70 years of age pay more attention to interpersonal interaction and communication skills in society. In the part of education, we found that there are significant differences in three aspects (sports health care, life safety, interpersonal communication) and education. It can be seen that the elderly under the elementary school pay more attention to the knowledge of physical health and sports health, and the people in the junior high school pay more attention to Life safety status and low degree of participation of highly educated people. In the professional part, I found that there are two aspects (spiritual growth, life safety). The military public education attaches great importance to spiritual growth and life safety. It can be inferred that due to the relationship between retirement benefits, public education personnel hope to receive a longer month retirement. Therefore, more emphasis is placed on the spiritual growth and safety of life in later life. From the above data, it is found that the five major learning aspects of active aging (life safety, sports health, spiritual growth, interpersonal

communication, and contribution services) and their curriculum attributes show that most of the senior learners of senior education in Central District think that adult education attaches importance to practicality Sex and life are the main needs.

5.2 Demographics have a significant relationship with satisfaction

In terms of gender, significant differences were found in the second facet (price, convenience), which indicates that there is a significant difference in the learning satisfaction between the sexes in the survey. Women are unable to grasp the current status of funds, and due to their physical actions when they are old Capability is declining, so price and convenience are more of a concern. In terms of age, a significant difference was found between a facet (quality) and age, and people over 70 years of age valued learning quality more than 55-59 years old. In the part of education, four aspects (time, price, convenience, quality) and education were found to be significantly different, and high school and junior high school were more satisfied with the education level below elementary school, indicating a high degree of education In the identification of satisfaction, seniors tend to affirm the quality of learning, and feel that they should have requirements to participate in learning so that they can retain the value and motivation of learning (Wu Yusang, Lin Jianping, Min 98), and they also have a sense of time. It can be inferred that highly educated people pay more attention to efficiency, and another level is price. It can be inferred that life has reached the later stage. People with high education have a concept of income and expenditure, and it is easier to evaluate the income and expenditure of learning. In the professional part, we can find that this aspect and occupation are not significant. From the above data, it is found that among the four major aspects of satisfaction (time, price, convenience, and quality), the majority of senior-aged learners who show that the middle area still believes that adult education can produce satisfaction.

5.3 Active aging learning has a predictive relationship to satisfaction

This study finds that the elderly and middle-aged education participants of seniors and middle-aged education show active ageing and overall satisfaction in active ageing learners, according to the regression analysis method. The regression equation obtained: satisfaction = $3.730 + 0.008 * \text{sports health care} + 0.136 * \text{spiritual growth} + 0.050 * \text{interpersonal communication} + 0.044 * \text{contribution service}$, indicating that the higher the requirements for active aging learning in the middle and middle age, the higher the satisfaction will be. From this, it can be known that appropriate curriculum content design can increase the learning needs of senior learners and increase their satisfaction.

6 RESEARCH APPLICATION AND SUGGESTIONS

6.1 Suggestions for reference by educational institutions

In addition to no significant differences in gender among middle-aged and senior-aged learners, it can be found that the five facets of seniority learning are all somewhat significant. In the future, when designing courses, if you want to attract more senior students, you can add relevant interpersonal relationships. Courses, and sports health care and spiritual growth are also stable courses that allow students to participate in learning. If you want to guide more low-educated people to participate in senior learning, you can plan more sports health care, and recommend three lesson plans such as life safety and interpersonal communication. Research, if you want to recruit more military and public education trainees to invest in learning, you can provide more courses related to spiritual growth, life safety, etc. If you can deeply understand the needs of senior students, it is in line with the motivation and inner views of participating students In order to set up more levels of courses and stimulate student satisfaction.

6.2 Suggestions for future researchers

This research uses questionnaires to conduct research. Although the study results found that learning needs and satisfaction are related, it is not possible to know the more subtle feelings of learning needs and satisfaction. It is suggested that interviews or longitudinal inertial studies can be added in the future. The history study clearly understands the reasons for the important curriculum arrangements for the learning needs and satisfaction of middle-aged and elderly people, making the study a more powerful reference.

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