



Model of Exercise, Sports and Health for the Elderly to Promote Sports Tourism in Qinling Mountain, Shaanxi Province, China

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Abstract

Background: Under the dual background of China's aging population and the vigorous development of the sports industry, "sports health tourism" has developed rapidly, especially favored by the elderly. Aim :1. To study the current context of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.2. To create a model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.3. To evaluate the model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.

Material and Methods: The target population consisted of 50 staff members, 105 elderly visitors and 17 experts. The research tools included staff questionnaires, elderly tourists' questionnaires, and expert questionnaires. The software used in the data analysis were Excel and SPSS (20.0).

Results: The results are as follows) Taijiquan, fast walking, the bicycles have always been deeply loved by the elderly. 2) The evaluation index of sports health tourism for the elderly in the Qinling Mountains is constructed. There are 4 first-level indicators, 11 second-level indicators, and 47 third-level indicators. Its weight is arranged in order from large to small. Product index weight (0.5549), facilities & physical evidence index weight (0.2232), promotion index weight (0.1327), and people & process index weight (0.0893).3) The service quality evaluation of the Qinling sports and health tourism by the elderly tourists was generally PS≥ES. The staff believes that the Qinling Mountains have a high development potential as a destination of sports health tourism for the elderly.

Conclusions: The Qinling government has provided strong policy and financial support for the sports health tourism of the elderly. And when some service quality evaluations are low, humanistic care can be used to compensate for services.

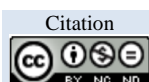
Keywords: Sport Tourism; Elderly; Health Promotion; Qinling Mountain

Background and Problem Statement

The current state of the health status of the elderly in China. In May 2021, the China Association on Aging issued a Report on the Status and Development of Care Services for Cognitive Disordered Elderly. According to the report, there are about 15.07 million people with cognitive disorders over the age of 60 in China. The demand for care services for the elderly with cognitive disorders is growing rapidly (Lu Rucai, 2021). The cognitive disorder is the seventh leading cause of death worldwide. It is the main reason why older people need care services. Smoking, obesity, diabetes, and low levels of education are the main causes of cognitive disorders in the elderly. According to the 2010 General Administration of Sport of China, the proportion of obesity among the elderly is increasing year by year. China has entered an aging society in 2000. In the aging society, one of the problems faced by the elderly is obesity. According to the National Physical Fitness Monitoring Bulletin released by China in 2010, the proportion of overweight and obese among the elderly was 9.8% and 13%, respectively (Yi Ming, 2021).

The current state of the health status of the elderly in Mount Qinling, Shaanxi Province, China. According to the data of the seventh national population census in 2020, the healthy and basically healthy elderly people in Shaanxi province accounted for 86.5%, 5.2 percentage points higher than that in the sixth national population census. The average life expectancy reached 77.80 years, 3.12 years longer than the 74.68 years in the sixth national census, reflecting that the health status and life expectancy of the elderly in our province have greatly improved in recent years (Wu Ming, 2022).

Sports and health tourism needs of the elderly in China. The outbreak of COVID-19 in 2020 has created a "compression" problem for society such as economic transformation, population aging, urban environment deterioration, population sub-health, and other problems, which have been once again paying attention to. With the rapid development of China's national economy, people's health





awareness is gradually enhanced, and the traditional health concept of "no disease is healthy" has changed into the concept of "overall health". "Overall health" mainly includes three elements: physical health, mental health, and social relationship health. These three influences, complement and are inseparable (Li Ting, 2020). Among them, physical health is the foundation, mental health is an important guarantee, and social health is the reflection of the highest level of human health. Tourism, especially health tourism, can be effective in promoting physical health and reducing psychological stress, but also plays a positive role in rebuilding social relationships. Therefore, tourism is one of the health preservation methods pursued by many elderly people today and even in the future.

The role and importance of exercise. Physical exercise can improve the volume of brain structures such as the hippocampus and the cerebellum, and different types of physical exercise can promote a variety of cognitive functions. But it is influenced by many factors, such as individual differences, time, and sports (Xia Haishuo, 2018). The research direction of physical exercise on the elderly is as follows. Physical exercise can not only directly improve the executive function of the elderly group, but also indirectly improve the executive function of the elderly through self-efficacy and aging attitude (Zhang, L., & Yan, S-X. 2017). Both Tai Chi and fast walking contribute to the executive and memory function of the elderly, but Tai Chi is more advantageous. 12 weeks of Tai Chi exercise can improve the executive function of the elderly, and 24 weeks can improve the memory function of the elderly (Cui, Y., & Yang, H. 2019). The moderate intensity of physical activity is effective in Alzheimer's disease (AD) intervention (Lu, J., & Xu, Y., 2019). The research direction of the psychological impact of physical exercise on the elderly is as follows. Walking not only makes the elderly feel the sense of achievement of insisting on doing one thing, but also the physical pleasure after sweating, but also makes the mood feel better unconsciously (Sun, C. 2020). Although the subject of these studies is not physical health tourism for the elderly, the content of the study is available for reference.

Advantages of the Qinling Mountains as a destination for sports and health tourism for the elderly. Climate resources: As the watershed of the north and south of China, the Qinling Mountains have the characteristics of moderate temperature, low rainfall, and low humidity. This effectively reduces the risk of slipping and falling in rain, snow, and fog, especially suitable for rheumatism and arthritis elderly sports health tourism. Forest resources and spa resources: Forest baths and spa baths can effectively treat insomnia and relieve muscle pain. Forest bath Taijiquan and hot spring bath Taoist meditation are popular sports and health tourism projects for the elderly. At present, there are more Qinling Taijiquan invitational tournaments than the championships. Convenient transportation and medical treatment: The Qinling sports and health tourism projects for the elderly are mostly distributed in the two-hour economic circle of Xi'an, with very convenient transportation and large passenger flow. Xi'an, the capital of Shaanxi Province, is rich in medical resources that can meet the medical needs of the elderly. Human resources: China is called China. The Qinling Mountains pass through Weinan City" Huashan, Xiayang." This area is the source of the name "Huaxia", "Hua" is taken from the "Hua" of Huashan Mountain, and "summer" is taken from the "summer" of Xia Yang.

The physiological characteristics of the elderly: are low bone water, low density, easy to fracture; nerve and muscular system function degradation, and slow and inaccurate movement. The psychological characteristics of the elderly: are memory decline, poor cognitive ability is poor, lonely cold feelings.

It is necessary to develop models of exercise, sport, and health for the elderly to promote. According to the above characteristics of the elderly, centrifugal exercise can help to slow down the degradation of muscle function in the elderly. The terrain of the Qinling Mountains is an excellent place for the elderly to exercise. The air humidity of Qinling Mountain is small, and the elderly are not easy to fall. To develop mountain sports health tourism for the elderly, it is necessary to "amplify" the positive effect of centrifugal exercise and "narrow" the negative effect of fall risk. At present, the current situation of mountain sports health tourism in China is mainly a single traditional sightseeing tourism. China's health tourism market for the elderly is faced with the dilemma of booming development of health products and other products out of touch with the consumer needs of the elderly. However, mountain sports are health tourism for the elderly. Neither natural landscape nor



cultural landscape resources should stay on the surface of the explanation. Today's tourists pay more attention to experience and participation, which requires a deep exploration of the uniqueness of local tourist attractions. The main consumption of the elderly in mountain sports health tourism is in health care and elderly care. Therefore, mountain scenic spots should be equipped with intelligent elderly care equipment (wearable type, home type), intelligent elderly care monitoring, etc. For example, the platform of the Internet of Things to realize the whole unmanned operation of care for disabled elderly. For example: the construction of an intelligent information platform for the elderly, a one-click call to help clean, help transportation, help doctors, help meals, urgent.

Common prosperity for all the people to achieve economic growth. In October 2021, the General Administration of Sport of China issued the 14th Five-Year Plan for Sports Development. It proposed that the total scale of China's sports industry should reach 5 trillion yuan by 2025, with the added value accounting for 2% of the GDP, the total sports consumption of residents exceeding 2.8 trillion yuan, and more than 8 million employees (Lin Jian.2021). Make "Sports health tourism" developed rapidly, especially favored by the elderly. "Sports and healthy mountain tourism for the elderly" has become a new engine of economic growth. China's 14th Five-Year Development Plan points out that the demand for the pension industry will see explosive growth in the future. At that time, the number of nursing homes, hospitals, fitness centers, and rehabilitation centers would be three times higher. In addition, according to the seventh census data, single consumption will shine at all ages. This, of course, includes single spending in the pension industry.

In 2012, Shaanxi Provincial Sports Bureau and Shaanxi Provincial Tourism Bureau jointly started to build the "Qinling Mountain Sports Tourism Economic Circle". In 2017, Qinling Yingpan Town was named the first batch of sports and leisure towns by the General Administration of Sport of China. In the same year, Zhujiawan Village in Qinling Mountains also won the title of "the most beautiful Village in China". Yingpan Town of Qinling Mountains has invested 1.56 billion yuan to build several "sports + tourism" characteristic industrial projects, such as the national youth rock climbing sports base, jogging, and slow riding. Therefore, the elderly have obvious advantages in conducting sports and health tourism in the Qinling Mountains. The construction of the evaluation index system of sports health tourism for the elderly is in line with the needs of social and economic development and the life of the elderly. It has certain academic research significance.

Objectives

1. To study the current context of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.
2. To create a model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.
3. To evaluate the model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.

Research Benefits

1. The paper constructs the evaluation system of Qinling sports and health tourism destinations for the elderly.
2. This paper supplements and improves the research content of sports and health tourism.
3. It provides theoretical support for the construction and planning of mountain sports and health tourism destinations for the elderly.

Literature Review

Exercise. Elderly people show the degeneration of the nervous and muscular system in daily and physical health exercise. The degeneration of the nervous system is manifested by delayed response and inaccurate movements in sports. When the body ages, its muscles will shrink. This leads to a decrease in the number of muscles connected to the nerve in the exercise and inaccuracies in the movement. So, the imprecision is caused by both the nervous system and the muscular system. The physical health exercise of the elderly promotes the reorganization of nerves and muscles, making the



muscle work more accurate. Effectively relieve the muscle atrophy (Shen B,2016). A large number of studies have shown that medium low-intensity and long-duration exercise are suitable for older people.

On March 11, 2021, the fourth Session of the 13th China approved the "gradually delaying the legal retirement age by the principles of small adjustment, flexible implementation, classified promotion, and overall consideration" (Liu, J.,2021). The system of raising the retirement age was formulated by taking into account the changes in China's population structure and employment. Its main content is that the retirement age for women is delayed by one year every three years for women and one year for men every six years until the age reaches 65 in 2045.

A study on the elderly care tourism areas in Thailand, Singapore, and Malaysia. The growth in elderly care tourism has had a positive impact on the health system of tourist destinations. Specifically, the improvement of the health policy of the destination, the improvement of practitioners' qualifications, and the increase of medical investment (Chen, H., Sun, H., Dai, J. 2017). Some scholars believe that elderly care medical tourism affects the fairness of health resource resources. It enlarges the gap between the rich and the poor among the elderly, and will have adverse social effects (Goldys, A. 2017). Some scholars believe that health tourism has brought about continuous technological innovation in income, employment, and health science in tourism destinations (Kwan, P., Ali, A., & Deuris, P. 2016). Some scholars conducted a questionnaire survey on tourists, which showed that medical service is the most concerned factor for sports and health tourism for the elderly, followed by the environment, accommodation, and health services (Plzakova, 2019). Some scholars have proposed the experience forms of medical travel holidays, such as hot spring spa, and forest-negative oxygen ion baths (Droli, 2013).

The current situation of the elderly sports and health tourism in Qinling Mountains: the number of sports elderly people participating in sports tourism is increasing, but the per capita consumption is less. Although the demand for the elderly is large, the market service supply is backward. Studies have shown that medical services are the most important factor, followed by the environment, accommodation, and health services. Convenient transportation and convenient medical treatment are the advantages of the elderly to choose the Qinling sports and health tourism. Based on this, the follow-up research can be deeply studied from the policy guarantee, market supply, talent transmission, and other aspects.

To vigorously develop health care and pension industry projects with obvious ecological, low-carbon, and service characteristics in the Great Qinling Mountains is in line with the historical mission of "integrating the economic development units in Xi'an" in the Qinling counties (Su Naikun, 2013). The pension industry and health care industry are both comprehensive industries, and they are all derived from the comprehensive primary, secondary, and tertiary industries, with the characteristics of public nature, welfare, and high profitability. The development of the remote pension function in the Qinling Mountains not only optimizes the industrial structure but also promotes employment and other social benefits. Most of the surrounding counties will be included in the Xi 'a two-hour economic circle, which is in line with the greater Xi' a metropolitan area planning.

In the development of sports and fitness tourism resources for the elderly in Qinling Mountains, attention should be paid to the protection of the ecological environment in Qinling Mountains. Avoid the following phenomena, such as paying attention to development, despising protection, paying attention to the foundation, and despising science. A check and balance mechanism should be established to protect the ecological civilization and make the orderly development of sports and fitness tourism resources. Finally, there is a shortage of professionals. The lack of professional talents not only refers to sports tourism talents but also includes sports guidance talents and tourism management talents for the elderly (Fan Xiaoyu, 2018).

Conceptual Framework

The paper titled "Model of Exercise, Sports and Health for the Elderly to Promote Sports Tourism in Qinling Mountain, Shaanxi Province, China" was designed as follows;

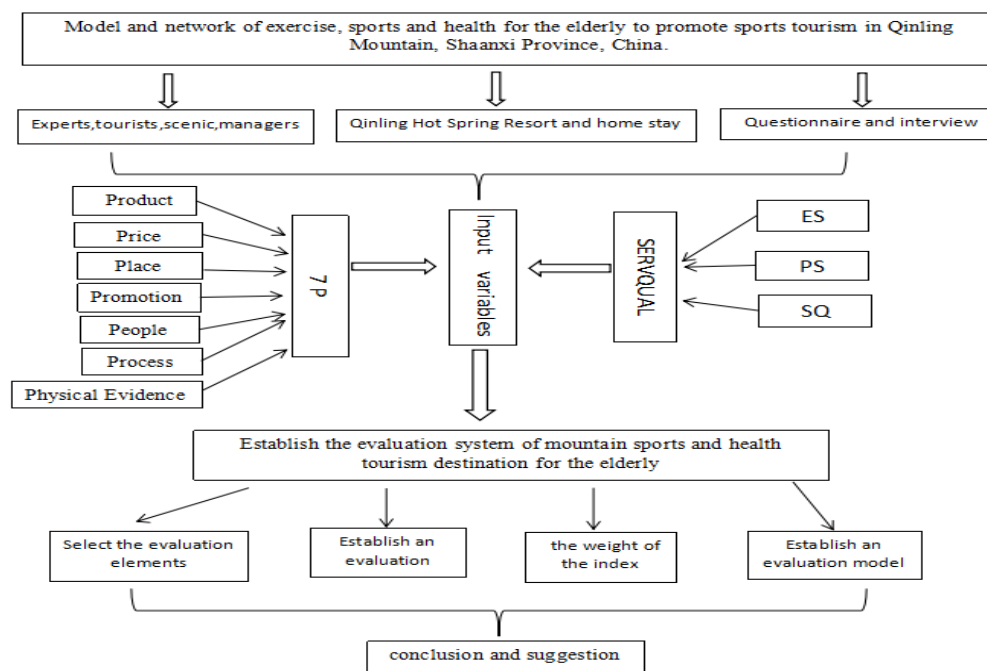


Figure 1 Conceptual Framework

Methodology

Population size and specification

Expert 17 experts. Two rounds of expert questionnaires. The experts involved in the questionnaire can be divided into three categories, professors, officials, and managers. University professors have more than 15 years of research experience. The professors specialize in sports for the elderly, sports tourism, and tourism management. Government officials are from the Qinling Provincial Bureau of Culture and Tourism. The managers are from the public and private accommodation operators in the Qinling Mountains, with more than 10 years of management experience.

Tourist 100 questionnaires were distributed. Elderly passengers living in the Qinling Sanatorium are studied. Most of them are retired workers or retired teachers of state-owned enterprises and live there for about 1 month.

Manager Issue 50 questionnaires for Scenic area managers. The studied managers all have more than 5 years of working experience in the scenic area. The educational level of the studied managers is not limited.

Research tools

1. Construction of indicators Expert questionnaire
2. The weight of the index Excel
3. Cronbach's alpha

Cronbach's alpha is currently the most commonly used indicator of reliability in social research. As a tool for reliability evaluation, it tests its internal consistency according to the formula, which effectively overcomes the disadvantages of half-method calculation. It is measuring the reliability of the "sum" of a set of synonymous or parallel tests. Cronbach's alpha can be written as a function of the number of test items and the average interrelation between the items. Below, for conceptual purposes, we present the standardized Cronbach's alpha formula:



$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Formula interpretation: N is the number of items, c is the mean covariance between items, and v is the mean-variance. Therefore, if the number of items is increased, the Cronbach alpha increases. Furthermore, if the inter-item correlation is low, the α coefficient will be low. Similarly, the correlation between items is higher, and the α coefficient will be higher (keep the number of items unchanged).

Using SPSS software to calculate the Cronbach α coefficient of this study, if the α coefficient is <0.6 , the internal consensus reliability is generally considered insufficient; $0.7 < \alpha$ coefficient <0.8 means the scale has comparable reliability, and $0.8 < \alpha$ coefficient <0.9 means the scale reliability is very good.

The reliability statistics of the staff questionnaire

Cronbach's Alpha	Cronbach's Alpha based on standardized items	N of items
.756	.782	47
KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy		.821
Bartlett's test of sphericity	Approx. chi-square	978.230
	df	46
	Sig.	.000

There were three steps used for calculating the weights: 1. The first-level index weight is calculated by applying the formula. 2. Calculate the weight of the second-level indicators. 3. Calculate the weight of the three-level indicators.

Step 1

Calculate the first-level index weight. This paper uses a hierarchical analysis to determine the weight of the indicators. The questionnaires of 17 experts were collected, and the statistical results and the judgment matrix were established. For example, the assignment of a primary indicator by an expert.

Judgment matrix of first-level indexes

	Product	Facilities & Physical evidence	Promotion	People & Process
Product	1	4	5	6
Facilities & Physical evidence	1/4	1	3	4
Promotion	1/5	1/3	1	2
People & Process	1/6	1/4	1/2	1

It will be calculated in different formulas.



First, calculate the product M_i in each line of the judgment matrix. According to the formula as follows:

$$M_i = \prod_{j=1}^n a_{ij}$$

To obtain the M_i of each row index:

$$M_1 = 1 \times 4 \times 5 \times 6 = 120$$

$$M_2 = 1/4 \times 1 \times 3 \times 4 = 3$$

$$M_3 = 1/5 \times 1/3 \times 1 \times 2 = 2/15$$

$$M_4 = 1/6 \times 1/4 \times 1/2 \times 1 = 1/48$$

Second, the calletch follows sulate the \bar{w}_i according to formula as follow:

$$\bar{w}_i = \sqrt[n]{M_i}$$

obtained \bar{w}_i for each row

$$\bar{w}_1 = \sqrt[4]{120} = 3.3098$$

$$\bar{w}_2 = \sqrt[4]{3} = 1.3161 \quad \bar{w}_3 = \sqrt[4]{\frac{2}{15}} = 0.1077 \quad \bar{w}_4 = \sqrt[4]{\frac{1}{48}} = 0.0677$$

Third, calculate the W_i , according to the formula as follows:

$$W_i = \frac{\bar{w}_i}{\sum_{j=1}^n \bar{w}_j}$$

$$W_1 = 3.3098 / (3.3098 + 1.3161 + 0.6043 + 0.3799) \approx 0.5900$$

$$3161 / (3.3098 + 1.3161 + 0.6043 + 0.3790) = 0.2346$$

$$(Aw)_i = a_{ij} \times w_i \quad \left\{ \begin{array}{c} 1 \ 4 \ 5 \ 6 \\ 1/4 \ 1 \ 3 \ 4 \\ 1/5 \ 1/3 \ 1 \ 2 \\ 1/6 \ 1/4 \ 1/2 \ 1 \end{array} \right\} \times \left\{ \begin{array}{c} 0.5900 \\ 0.2346 \\ 0.1077 \\ 0.0677 \end{array} \right\}$$

$$(Aw)_1 = 1 \times 0.5900 + 4 \times 0.2346 + 5 \times 0.1077 + 6 \times 0.0677 = 2.4731$$

$$(Aw)_2 = \frac{1}{4} \times 0.5900 + 1 \times 0.2346 + 3 \times 0.1077 + 4 \times 0.0677 = 0.9760$$

$$(Aw)_3 = \frac{1}{5} \times 0.5900 + \frac{1}{3} \times 0.2346 + 1 \times 0.1077 + 2 \times 0.0677 = 0.4393$$

$$(Aw)_4 = \frac{1}{6} \times 0.5900 + \frac{1}{4} \times 0.2346 + \frac{1}{2} \times 0.1077 + 1 \times 0.0677 = 0.2786$$

Then substitute the data into the following formula to find λ_{\max} .

$$\lambda_{\max} = \frac{1}{n} \sum_{i=1}^n \frac{a_{ij} \times w_i}{W_i}$$

$$\lambda_{\max} = \frac{1}{4} \times \left(\frac{2.4731}{0.5900} + \frac{0.9760}{0.2346} + \frac{0.4393}{0.1077} + \frac{0.2786}{0.0677} \right) \approx 4.15$$

Fifth, calculate the CI and first substitute the data into the formula as follows.

$$CI = \frac{\lambda_{\max} - n}{n - 1}$$

$$CI = \frac{4.15 - 4}{4 - 1} = 0.05 < 0.1$$



Sixth, calculate the CR and substitute the data into the formula as follows.
Query the RI table, n=4, R=0.89

$$CR = \frac{CI}{RI}$$

$$CR = \frac{0.05}{0.89} = 0.0562 < 0.1$$

Through the consistency test, with a satisfactory consistency. So, the weight value of this expert is shown as follows.

Weight of the first-level indexes

Level 1 index	Product	Facilities & Physical evidence	Promotion	People & Process
weight Wi	0.5900	0.2346	0.1077	0.0677

17 expert questionnaires, all were valid. Statistical results, to calculate the mean value of the index weight.

Weight of the first-level indexes

Expert number	Product	Facilities & Physical evidence	Promotion	People & Process	CR
1	0.5900	0.2346	0.1077	0.0677	0.0511
2	0.5492	0.0843	0.2121	0.1544	0.0516
3	0.5318	0.2702	0.1221	0.0760	0.0430
4	0.5317	0.2236	0.1535	0.0913	0.0573
5	0.5318	0.2702	0.1221	0.0760	0.0430
6	0.5492	0.0843	0.2121	0.1544	0.0516
7	0.5900	0.2346	0.1077	0.0677	0.0511
8	0.5318	0.2702	0.1221	0.0760	0.0430
9	0.5900	0.2346	0.0677	0.1077	0.0511
10	0.5900	0.2346	0.1077	0.0677	0.0511
11	0.5317	0.2236	0.1535	0.0913	0.0573
12	0.5318	0.2702	0.1221	0.0760	0.0430
13	0.5521	0.2076	0.1507	0.0896	0.0824
14	0.5900	0.2346	0.1077	0.0677	0.0511



Expert number	Product	Facilities & Physical evidence	Promotion	People & Process	CR
15	0.5318	0.2702	0.1221	0.0760	0.0430
16	0.5317	0.2236	0.1535	0.0913	0.0573
17	0.5317	0.2236	0.1535	0.0913	0.0573
average	0.5521	0.2232	0.1352	0.0895	0.0521

Through the consistency test, with a satisfactory consistency. Therefore, the weight value of the first-level index is shown as follows.

Weight of first-level indexes

Level 1 index	Product	Facilities & Physical evidence	Promotion	People & Process
weight W_i	0.5521	0.2232	0.1352	0.0895

Step 2

According to the above calculation steps, the secondary index weight under the product index is calculated. The combined weight is calculated by the weight of the secondary index multiplied by the weight of the above primary index (0.5549), calculated:

Weight of the secondary indicators under the product

Expert number	Natural resources	Health culture	Sports products	Health products	CR
1	0.5271	0.1402	0.2678	0.0650	0.0269
2	0.5583	0.0782	0.2279	0.1355	0.0118
3	0.3361	0.1227	0.4495	0.0797	0.0775
4	0.3137	0.1376	0.4690	0.0917	0.0211
5	0.1555	0.2449	0.5387	0.0559	0.0520
6	0.3361	0.1227	0.4495	0.0797	0.0775
7	0.3137	0.1376	0.4690	0.0917	0.0211
8	0.5271	0.1402	0.2678	0.0650	0.0269
9	0.3361	0.1227	0.4495	0.0797	0.0775
10	0.3137	0.1376	0.4690	0.0917	0.0211
11	0.1555	0.2449	0.5387	0.0559	0.0520
12	0.3361	0.1227	0.4495	0.0797	0.0775
13	0.3137	0.1376	0.4690	0.0917	0.0211
14	0.1555	0.2449	0.5387	0.0559	0.0520
15	0.3361	0.1227	0.4495	0.0797	0.0775
16	0.3137	0.1376	0.4690	0.0797	0.0775



Expert number	Natural resources	Health culture	Sports products	Health products	CR
17	0.3137	0.1376	0.4690	0.0797	0.0775
average	0.3319	0.1498	0.2417	0.0806	0.0499
Comprehensive weight	0.1832	0.0827	0.2417	0.0445	0.0499

According to the above, the weights and Comprehensive weights of all secondary indicators are calculated.

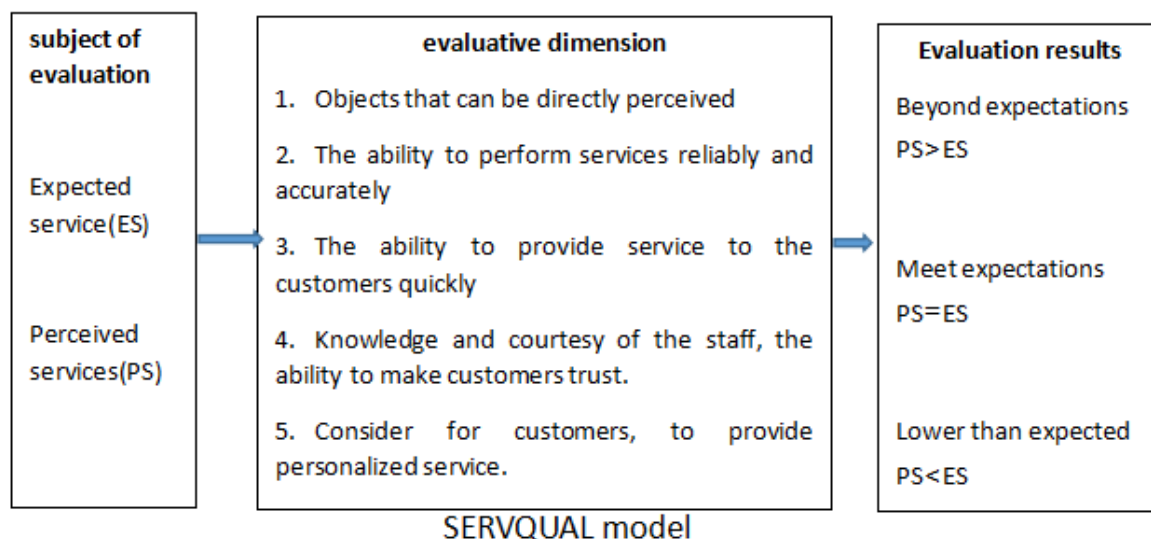
Level 1 index	Level 2 index	weight	CR	Comprehensive weight
	Sports products	0.4377		0.2417
Product 0.5521	Natural resources	0.3319	0.0446 < 0.1	0.1832
	Health culture products	0.1498		0.0827
	Keep health products	0.0806		0.0445
Facilities & Physical evidence 0.2232	Elderly facilities	0.5049		0.1127
	Medical security	0.3759	0.0231 < 0.1	0.0839
	Routine facility	0.1192		0.0266
Promotion 0.1352	Place	0.5324	0 < 0.1	0.0720
	Price	0.4676		0.0632
People & Process 0.0895	Customer	0.7951	0 < 0.1	0.0712
	Staff	0.2049		0.0183

Step 3

The same method can calculate the weight of all three-level indicators.



The final evaluation model was obtained as follows:



Research Results

1. To study the current context of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China. Taijiquan has always been deeply loved by the elderly sports lovers. In July 2020, the China Qinling Natural Health Summer Festival and the first Qinling Taijiquan Invitational Competition were jointly founded by Xi 'a Culture and Tourism Bureau and Xi 'a Sports Bureau. In May 2021, Qinling Zhuque Scenic Spot will hold a 6-day health care taijiquan training activity! In addition, there are regular and more professional taijiquan tournaments. There are two kinds of fast-walking trails in Qinling Mountains, one is a mountain fast-walking trail, and the other is fast fast-walking trail around a mountain road. The mountain trail is made of gravel to prevent skid. The trail is made of plastic, located in the green belt beside the road around the mountain, next to the bike path. Mountain brisk walking trails are established in areas with high forest coverage. The higher the forest coverage rate, the more negative oxygen ions and endosperm in the air. Endosperms is a forest volatile (BVOCs), which is used to make essential oils in life. Negative oxygen ions in the air into the human respiratory tract can make the bronchial smooth muscle relax. This may therefore relieve asthma and bronchitis Bicycle. China's second Mountain Bike Mountain Race was held at the Tiantai Mountain National Forest Park in the Qinling Mountains. The Huanshan Road in Qinling Mountains is made of plastic and located in the green belt beside the road around the mountain. It is 5 meters wide and is 166 km in length. Service areas on both sides of the road provide bike rental, sales, car parking, public toilets, and other services. There are three main kinds of meditation in sports health tourism for the elderly in the Qinling Mountains: Buddhist meditation, meditation meditation, Taoist station meditation, and yoga meditation. Yoga meditation is almost young people, the elderly are less than 5 people, can be ignored. At present, the most heavily attended meditation exercise is the elderly Hot Spring Buddhist Muse. Ninety-two of the elderly people interviewed said they had participated in Hot Spring Buddhist Muse. The hot springs in the Qinling Mountains are not only famous in China for their quality. It is also an important guarantee of tourist flow in winter. Most elderly people suffer from chronic diseases such as gastritis, arthritis, and rheumatism. Winter is the time when the disease returns. Hot springs can improve human blood circulation through thermal effect and can effectively relieve the symptoms of gastritis and rheumatism.

2. To create a model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.



Based on the characteristics of the elderly sports health tourism and 7 Ps marketing theory. The evaluation system is preliminarily set as 4 First-level indicators, 11 Second-level indicators, and 47 Three-level indicators. Four first-level indicators are respectively: Product, Facilities Physical evidence, Promotion, and Process. Among them, 11 secondary indicators are natural resources, health culture, sports products, health commodities, medical security, routine facilities, facilities for the elderly, price, promotion, customers, and staff. The first-level and second-level indicators are recognized in expert interviews and expert questionnaires. The three indicators are deleted, moved, added, and renamed. Three level indicators IOC score below 0.5 was deleted. The deleted index was a medicine bath. This is repeated with the hot spring index, placed under the second-level index of health goods, not in line with the facts and logic. Move the outdoor rescue team indicator to the conventional facility index. Experts suggest adding metrics such as camping, marathons, picking gardens, medical equipment, gyms, and paid classes. The renamed indicators are: sports product index skiing was renamed sleigh; promotion index newspaper advertising was renamed airplane newspaper advertising. The experts involved in the questionnaire are divided into three types: one is the professors of university sports health, sports tourism, and tourism management, with high theoretical knowledge; the government officials of Qinling Culture and Tourism Bureau who have deeper insight into the national policies on the development and protection of Qinling sports tourism; the last is the managers of public and private accommodation in Qinling, who are the actual controllers of sports health tourism marketing for the elderly in Qinling. Experts' opinions are objective, fair, and authoritative. The opinion was therefore adopted. Finally, the evaluation indexes of sports health tourism in Qinling, Shaanxi, China are as follows.

Table 1 Comprehensive weight of level 3 indexes under product index

Level 1 index	Level 2 index	Level 3 index	weight	CR	Comprehensive weight
Product 0.5521	Sports products 0.2417	Fast walk	0.2888	0.0417 < 0.1	0.0698
		Tai ji quan	0.2477		0.0599
		Bicycle	0.2012		0.0486
		Camping	0.1053		0.0255
		Marathon	0.0684		0.0165
		Muse	0.0503		0.0122
		Sleigh	0.0383		0.0092
	Natural resources 0.1832	percentage of forest cover	0.2941	0.0460 < 0.1	0.0539
		Landform	0.2677		0.0490
		Hot spring	0.1826		0.0335
		climatic	0.1502		0.0275
		Rare animals and plant	0.1054		0.0193
		Buddhist health culture	0.4194		0.0347
		products			
	Health culture products 0.0827	Taoist health culture	0.3383	0.0417 < 0.1	0.0200
		products			
		Confucius's healthy culture	0.2423		0.0280
		products			
	Keep health products 0.0445	Low-fat food	0.3975	0.0197 < 0.1	0.0177
		picking garden	0.2362		0.0105
		Free lectures	0.1863		0.0083
		Health care medicine	0.1073		0.0048
		charge course	0.0727		0.0032



Table 2 Comprehensive weight of level 3 indexes under facilities & physical evidence index

Level1 index	Level2 index	Level 3 index	weight	CR	Comprehensive weight
Facilities & Physical evidence 0.2232	Elderly facilities 0.1127	Handrail	0.3572	0.0220 < 0.1	0.0403
		Health Monitor	0.2500		0.0281
		Intelligent caller	0.1852		0.0209
		Hearing aid	0.1430		0.0161
		Electric wheelchair	0.0646		0.0073
	Medical security 0.0839	Drug	0.4985	0.0109 < 0.1	0.0418
		Medical qualification	0.3763		0.0316
		Medical equipment	0.1252		0.0105
		transportation	0.3893		0.0104
		Accommodation	0.3037		0.0081
	Routine facilities 0.0266	Water, electricity, and internet	0.1527	0.0233 < 0.1	0.0040
		gym	0.0873		0.0023
		Outdoor rescue team	0.0670		0.0018

Table 3 Comprehensive weight of level 3 indexes under promotion index

Level1 index	Level2 index	Level 3 index	weight	CR	Comprehensive weight
Promotion 0.1352	Place 0.0720	Mobile phone advert	0.4199	0.0289 < 0.1	0.0302
		Computer advert	0.2610		0.0188
		TV advert	0.1624		0.0117
		leaflet	0.0883		0.0064
		Plane newspaper advert	0.0684		0.0049
	Price 0.0632	Package price	0.5277	0.0096 < 0.1	0.0334
		Price of optional items	0.3163		0.0200
		VIP service prices	0.1560		0.0098

Table 4 Comprehensive weight of level 3 indexes under people & process index

Level1 index	Level2 index	Level 3 index	weight	CR	Comprehensive weight
People & Process 0.0895	Customer 0.0712	Satisfaction	0.6431	0 < 0.1	0.0458
		Loyalty	0.3569		0.0254
		Service attitude	0.4547		0.0083
	Staff 0.0183	first aid knowledge	0.2223	0.0123 < 0.1	0.0041
		communicate ability	0.1813		0.0033
		proficiency in operating	0.1417		0.0026
		equipment			

3. To evaluate the model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi Province, China.

From the above data analysis, the following conclusions are obtained. Among the first-level evaluation indicators of sports health tourism for the elderly in Qinling, the product indicators have the highest weight (0.5549), followed by the weight of facilities and tangible display indicators (0.2232). The weight of the marketing index (0.1327) is higher than that of the personnel participation process (0.0893). This reflects that marketing is an important reason to attract the elderly to join sports health tourism. Among the secondary indicators, the highest combination weight is the sports product index weight (0.2405). It is worth noting that among the many second-level indicators, the second combination weight ranking is the natural resources index weight (0.1855). It even exceeds the elderly facility index weight (0.1122). This shows that natural resources are a very important reason to attract the elderly to consume sports and health tourism in China. That is to say, tourism is still an important part of tourism for China's elderly. The combination weight of medical security indicators (0.0853), ranked fourth. Less important than the elderly facility indicators. The fifth order is the weight of the customer index combination (0.0715), which is higher than the promotion index combination weight in the sixth order (0.0712). This shows that promotion is important but in the current era of we-media. Customers volunteer to promote sports health tourism for the elderly in Qinling, which is more important than business promotion. It is worth noting that the combination weight of price indicators (0.0615) is second only to the first two, ranking 7th. This shows that accurate market pricing is equally important. Price still plays an important role in the elderly choosing kindling sports health tourism consumption.



Table 5 Old Tourists Questionnaire recycle

Questionnaire rounds	Quantity	Recycle	Effective	Recycle percent	Effective percent
1	150	120	105	80%	87.5%
2	105	102	102	97.1%	100%

Two rounds of questionnaires were conducted for the elderly tourists. Two rounds of questionnaires surveyed the same group of elderly people. Get the following conclusion. The service quality evaluation of the Qinling sports and health tourism by the elderly tourists was generally $PS \geq ES$, which exceeded or met expectations. Natural resources and healthcare goods and services were evaluated as Pestle reasons were analyzed and some suggestions were put forward. Landform and forest coverage rates belong to natural resources, its characteristics are relatively fixed. Can not blindly develop, and should pay attention to science and protection. Natural resources have their unchangeable properties. Service quality evaluation is low, and humanistic care can be used to compensate for services. The lounge can add massage chairs, and rental massage equipment, which can be used to educate tourists and slow down muscle fatigue methods.

Staff questionnaire distribution situation. The questionnaire was distributed offline, and a total of 50 questionnaires and 46 valid questionnaires were collected. The effective recovery rate of the questionnaire was 92%. Analyzed the staff questionnaire and the following conclusions were obtained. Staff training frequency occurs once every three months. The training includes service etiquette, first aid knowledge, communication skills, and instrument operation. However, with different types of staff training and assessment of different focus, the staff believe that the Qinling government has provided strong policy and financial support for the sports health tourism of the elderly. The staff believes that the Qinling Mountains have a high development potential as a destination of sports health tourism for the elderly.

Discussion

To study exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi province, China. Taijiquan, fast walking, the bicycle has always been deeply loved by the elderly.

To build a Model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi province, China. After two rounds of an expert questionnaire. The evaluation index of sports health tourism for the elderly in the Qinling Mountains is constructed. There are 4 first-level indicators, 11 second-level indicators, and 47 third-level indicators. The indicators are arranged in the order of weight from large to small.

To evaluate the Model of exercise, sports, and health for the elderly to promote sports tourism in Qinling Mountain, Shaanxi province, China. After two rounds of the questionnaire for the elderly visitors. Get the following conclusion. The service quality evaluation of the Qinling sports and health tourism by the elderly tourists was generally $PS \geq ES$, which exceeded or met expectations. Natural resources and health care goods and services were evaluated as $PS \approx ES$. The reasons are analyzed and some suggestions are put forward. Natural resources have their unchangeable properties. The service quality evaluation is relatively low, and humanistic care can be used to compensate for the service. Analyzed the staff questionnaire and the following conclusions were obtained. Staff training frequency occurs once every three months. The training includes service etiquette, first aid knowledge, communication skills, and instrument operation. However, different types of staff training and assessment of different focuses. The staff believes that the Qinling government has provided strong policy and financial support for the sports health tourism of the elderly. The staff believes that the Qinling Mountains have a high development potential as a destination of sports health tourism for the elderly.



Recommendations

1. Policy Recommendations

1.1 Therefore, it is suggested to increase the types of sports events for the elderly and increase the number of large competitions for the elderly. For safety, prepare more medical staff and medical supplies, do a pre-race physical examination, and sign a safety statement.

1.2 In addition, it is suggested to increase the news coverage of sports events for the elderly. Compared with the news reporting intensity of other sports events, the news reporting intensity of sports events for the elderly is weaker. Most of the sports events for the elderly are friendly matches and invitational competitions, with few competitive events. However, the intensity of media coverage should not be biased towards competitive events. Sports events for the elderly represent happy sports and lifelong sports. More need the media to report.

2. Implementation Suggestions

2.1 Operational suggestions for health products. Qinling has its brand in health products, it is called Yangling Qinling Mountain Modern Agriculture Co., LTD. During the visit, we learned that the family balcony business was highly praised by the elderly tourists. Elderly visitor feedback can increase the family balcony service.

2.2 Operational suggestions on medical security in the Qinling Mountains. The three-level evaluation indicators of the subordinate medical security facilities are drugs, medical qualification, and outdoor rescue team. It is worth mentioning that, in addition to the official fire brigade, the outdoor rescue team in the Qinling Mountains also has a non-governmental and spontaneously organized rescue organization called the Shaanxi Qinling Rescue Team. This shows the importance of vigorously developing and uniting the civil forces. Similarly, the private sector can also provide the guarantee of medical qualifications. It is suggested to give preferential policies to the elderly tourists engaged in medical work. In this way, the number of medical staff in the Qinling Mountains has actually increased during the elderly tourists' visit.

2.3 Operational suggestions for routine facilities. The three-level evaluation indicators for subordinate conventional facilities are transportation, accommodation, and water grid. The number of private cars is increasing, and the influence of traffic is declining. It is worth mentioning that in recent years, the development of private accommodation in China is getting better and better, and people have higher and higher requirements for the natural scenery of accommodation. Nowadays, the penetration rate of smartphones among the elderly is increasing, and the requirements for Internet speed are also high. Therefore, it is suggested to strengthen the plant planting and improve Internet speed in the accommodation area.

3. The suggestion for further research

3.1 Under the background of population aging, the construction of mountain sports health tourism destinations for the elderly is in full swing. China is a big country in mountain tourism. Many Chinese provinces have built mountain outdoor sports bases and mountain leisure and health care bases. It is hoped that future research can contribute to the scientific planning and healthy development of sports and health tourism destinations for the elderly, and promote the sustained and healthy growth of the local economy. Make sports health tourism become an effective way to promote the physical and mental health of the elderly. It complies with the country's goal of "constantly meeting the people's growing needs for a better life".

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