

Evaluation on Home Fitness and Community Sports Activities Based on Network Survey

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Abstract

With the gradual popularization of the network, the national fitness campaign should apply the developed network system, and provide the scientific method of fitness. In recent years, home fitness and community sports promotes the popularization of the national fitness program, and become the mainstream way of fitness. In this paper, the authors construct the evaluation system of community sports activities by using network survey. The result shows that “community sports service system” is the most important factor in primary indicators; the weight is 0.2906; while “socialization degree of community sports”, “residents’ sports science literacy” and “sports family” are also the important indicators. At the same time, sports features and consumption are the key factors of home fitness. On this basis, the author puts forward some suggestions on optimizing the evaluation system of community sports activities.

Keywords: *Network survey, home fitness, statistical analysis, community sports*

1. Introduction

China as a country with a large population, how to use limited resources to provide more health services, so that more and more in the elderly enjoy sports bring health and happiness. With the popularization of the network, the advantages of the network also increasingly reflected. Through the network to carry out fitness exercise can not only integrate more resources, but also can save cost, can provide science for fitness guidance. After the development of more than 20 years of reform and opening up, China's urban and rural residents Engel's coefficient in 2000 is the first time less than 50%, indicates that China has entered the well-off society. But our current well-off is reached in the overall well-off, or a low level, not comprehensive, well-off development is very uneven. This imbalance firstly appeared in the economic imbalance in regional development. Although our country has been a part of areas and people get rich first, but the vast rural areas still a lot of people's living conditions is not good, is still in the level of food and clothing, cities also have a large number of laid-off workers, their income level is very low. The social development is not balanced but also the imbalance in the development of the culture. In recent years, China's economy has maintained a high growth rate, but the ideological and cultural construction to a certain extent not timely. As is known to all, basic necessities of life are human survival and development needs, in the basic needs are met, the high level needs to be were excited. Due to the growth of the economic income, the masses have to enjoy and develop more and more healthy and civilized way of life. So, we should not only pay attention to the improvement of living standards, but also pay special attention to people's spiritual life, enjoy democratic rights and improve the living environment, to the overall social progress for the purpose.

With the popularity of the rapid development of information technology in the world, the information superhighway construction and computer, electronic information

technology has entered all areas of social life, human society is moving towards the era of information network, all kinds of network culture is to radiation propagation and impact every corner of the world. A large number of surveys show that teenagers and many young people have become the most important users of the Internet. Network will be the same as newspapers, television, and radio and so on as more and more important to disseminate information and knowledge of the media. And at present is being vigorously promoted the nationwide fitness campaign should be using to developed a network system of the transmission channel and the carrier, to pass the scientific methods of fitness to people, avoid misunderstanding of fitness and the fitness people get a scientific and efficient fitness guidance. In construction of the previous national fitness system, we put forward city to focus on community, rural to urban as the focus and the urban community sports did in a certain extent promotes the promotion and implementation of the national fitness program, but the community sports in the implementation, difficulty exists, so that the further development of unsustainable. From the past to the community sports survey found that the lack of time is an important reason why people do not participate in community sports activities. When asked not to participate in sports activities, the majority of people answer is busy, and has no time. In fact, with the implementation of the five day work system in our country, the liberation of housework, people's leisure time more and more, but many people's leisure time to sleep, shopping, watching TV, surfing the Internet and chatting. According to the survey, China's urban residents per capita daily TV time is usually 140min, 183min on Sunday, that is, half of the leisure time spent watching TV. This shows that the "lack of time" but people do not participate in sports activities of the excuse, the deep-seated reasons for the problems of sports concept. China's about 600 thousand existing sports, 70% is built after the reform and opening up. To speed up the construction of public sports facilities, the state has invested heavily in the construction of more than 2000 National Fitness route". But these sports facilities still cannot meet the growing needs of sports population. In the stadiums, public welfare accounted for a certain proportion, this part of the stadium in ball games venues. While the distribution at work and school, completely open to the society has certain difficulty; and social profitability stadiums more than the pursuit of luxury, expensive, beyond the real capacity to pay people, limited fitness path due to poor management was sabotage or diverted to it. So the majority of the population only in the park space, streets and backyards of fitness activities, limits the further development of community sports. The lack of venues and equipment has become a bottleneck restricting the development of community sports. Participation in sports is one of the basic rights of all the people, but the community sports is a typical sports life, is the realization of Life Sports and lifelong sports the basic way. Let the sports city residents, there is a study on the relationship of city life and the characteristics of sports is necessary, so that the sports activities combined with life activities, life has become public behavior.

2. Literature Review

2.1. Sports Living Community

Sports life is a kind of comprehensive intervention on people's daily life under the guidance of modern health concept and sports concept. Physical life is to physical fitness activities penetrated into people's daily life, and closely combined with the people's daily life, become the fifth largest life of the basic elements of the outside of the clothing, food, housing, transportation, promoting people to develop a lifelong sports as the guiding ideology of life, truly realize the sports in general, regular. The lifestyle community of sports is urban community in more developed economy and culture as the basic geographical unit, to the surrounding community public sports facilities to rely on, to perfect sports associations and family sports organization system, community members

advocating scientific, civilized and healthy life style, with a higher proportion of sports population and family as the basic characteristics of a new kind of community sports. The characteristic is not only "advanced", but also a good self-management, self-service; community residents from self to the consciousness of body-building consciousness and behavior; family sports in the community more; community managers really put the health of the residents in the life as a good services, but is not only good management. Have four characteristics: 1) in ordinary masses autonomy, self-discipline organization; 2) compared to full fitness venues and facilities; 3) held a regular community sports activities; 4) the masses and family sports fitness high enthusiasm and universal. More attention is paid to the sports life of the community, such as the strong sense of physical fitness, fitness awareness and other factors of the characteristics of software.

With the development of society, fitness has become a part of people's life. Due to the wide range of knowledge systems involved in scientific fitness, fitness information has become an important information resource on the Internet. Domestic some sites, sports sites, sports agency websites and portals have their fitness programs and sports channels, to the public the methods of fitness and fitness to teach the knowledge and provide information related to fitness, fitness venues and sports organizations. Present stage of fitness network through various ways, widely to the public the network scope of services, service characteristics, research skills, working process and quality assurance, make public potential consciousness to the fitness of the importance, learned fitness information consulting and his life is closely related to, to take the initiative to carry out consultation on fitness. In addition the site provides a variety of resources, for the user to query, browse, read and download provides a lot of convenience, such as for users provide special online retrieval, the latest fitness information query, at any time to provide users with the latest fitness information and so on. The funding sources of community sports in our country mainly include national administrative funding, social support, and social capital raising and industrial development. The state funding is the main source, although in recent years, the state funding has a certain degree of growth, but for a large group of social sports is only a drop in the bucket at the same time, as a developing country, countries do not have enough resources to community sports at the expense of all pack down, not to mention this is not consistent with the law of self-development of sports. As social sports and competitive sports, social impact and less attention, so the amount of social support is not large, and more in the form of specific material to achieve. Community sports industry development is basically blank, which makes the lack of necessary financial support for community sports. At the same time, China's social sports instructor has reached more than 20 million, but in relation to actual need, there is a big gap, and the quite a few did not or rarely engaged in practical work, not to mention policy propaganda. There are a number of community sports management departments; they do the content of the sports publicity column basically unchanged for a few months. The lack of necessary information to make the mass sports propaganda, organization, management, there is a certain difficulty.

2.2. Family Sports

China's family oriented traditional and modern family structure changes and lifestyle changes, family sports become a good degree of leisure an important choice, in the construction of national fitness system in the new period has its own unique advantages, can be in a certain extent overcome the shortage of community sports. Family sports life of the community in sports should be accounted for more than the total number of communities in 50%, and increased year by year. Family sports is sports sociology put forward the new concept, refers to the modern family in at least two members has basically reached the standard of sports population and family members are active in sports and life attitude and the sports activities into family life of the family. It is the basic cell of sports life.

- 1) ***Guarantee on time:*** due to the increased competition in modern society, social instability factors increased, people's sense of security to reduce mutual trust, people have turned to the family to find the comfort of feelings. "Family oriented" ideas make people pay attention to family health, willing to spare leisure time to accompany the family and the sharing of family happiness. In recent years, the rise of domestic tourism fever is a significant sign. In the modern family and the "civilization disease" is the potential spread of background, people in general to a means of physical exercise as the enhancement physique, debugging psychological state and training ability of social adaptation, which can guarantee a certain amount of time to exercise.
- 2) ***Voluntary Investment:*** as a result of family sports is a true self investment, self-benefit, so every family is willing to invest in health. A few years ago, most people cannot accept the idea of spending money to buy health, also believes that sports is the cause of social welfare. But now, most residents not only accepted the concept of "sports consumption", many families also buy fitness equipment, and fitness equipment from the previous few hundred dollars to several thousand dollars to the transition.
- 3) ***The request for the site condition is low:*** the family sports because of the few personnel involved, the request for the site condition is low, the content is various, the method is flexible, can carry on in a lot of places. Can be a device, but also can be no equipment, family sports can be in their own room in the courtyard, but also in the park open space, you can go to the wild. This small variety of forms of exercise is very suitable for China's current public sports venues lack of the status quo.
- 4) ***Exercise methods are varied:*** family sports because of the closeness of the relationship between the participants, the form of activities is not very formal, can be appropriate to change the rules and play, showing the characteristics of fun and randomness. In the activities in the process, the family members can be the guidance of health exercise method to each other, such as children can be introduced in school to exercise means, parents can teach in units or community activities to master the method of exercise, elderly people can also be groping for a long time to fitness experience. Such mutual inspiration and guidance, enjoyable, not only exercise the body, and enhance the mutual affection, learning exercise method, which makes up for the lack of social sports instructors.

3. Research Design

3.1. Research Objects and Methods

The national health system is a basic goal of building a well-off society. Lack of community sports in the capital, sites, equipment, the social sports instructors, the family sports as a new mass sports organization to build with Chinese characteristics national fitness system has its advantages, this paper attempts to the concept of life sports and sports life community is defined. The sports life of the attention of the people to establish lifelong sports as the guiding ideology of the way of life, truly realize the sports general and regular; and formed with a higher proportion of sports population and family has the basic characteristics of the model of community sports for the lifestyle community of sports, and preparation of its own unique. On this basis, this paper presents two characteristics index: family sports and sports backbone. Sports family is a new concept in the field of sports sociology, it is the basic cell of the realization of sports life; the backbone of sports is a set of sports skills and dedication to the body of the fitness activists. After the expert

questionnaire, the establishment of the index system with the characteristics of and four level indicators were service system of community sports, community sports socialization degree, residents sports science literacy and exercise behavior and the effect as well as the family sports; community sports organization and leadership, security system, facilities and funding socialization, residents of exercise behavior and results, family sports fitness traits *etc.* second level indicators.

Research methods are mainly:

- 1) **Delphi method:** that is, expert questionnaire the 15 universities in Shandong province social sports experts to conduct three rounds of expert consultation, screening in line with the characteristics of sports community characteristics of the indicators and determine their weight.
- 2) **Field survey method:** for better collection of sports and the "life of" close to the evaluation index, the research group to Ji'nan City, the advanced community, such as field research and inspection. Interview a number of constructions of the sports community in charge of the person in charge; put forward the sports life of community evaluation index.
- 3) **Mathematical statistics method:** recycling of the 3 round of expert questionnaire with SPSS software processing, statistical expert opinion concentration, variation coefficient and other indicators, screening, adjustment index. Recovery rate and effective questionnaire rate were more than 95%. Each round of the questionnaire is used mathematical statistics and feedback of expert information to the next round of the questionnaire, and to be adjusted. And all involve the open question, asks the expert to put forward the suggestion to the questionnaire.

3.2. Questionnaire Investigation

Statistical methods for screening with each index of the arithmetic mean M_j analysis the concentration of expertise; with the coefficient of variation of the indicators V_j to analyze the coordination degree of the expert opinion; computing expert third grade indexes can be operation of D_j to analyze the degree of exercise.

- 1) Expert opinion concentration: The arithmetic mean (M_j) of each index analysis expert opinion concentration degree.
- 2) Expert opinion coordination degree: The coefficient of variation (V_j) of indicators to analyze the degree of coordination of expert opinion.
- 3) Operational level: Calculate the three level indicators of the operational level (D_j) to analyze the extent of its operation.

$$M_j = \frac{1}{n} \sum_{i=1}^n X_{ij}$$

$$S_j = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (X_{ij} - M_j)^2}$$

The calculation formula of coefficient of variation: $V_j = S_j/M_j$; $V_j = j$ is the variation coefficient; $S_j = j$ is index standard deviation; $M_j = j$ is the arithmetic average; the smaller the V_j means the higher the degree of coordination degree of expert opinion. After the expert opinion table is recovered, the weight of each index is determined by the average value of the statistics.

$$\varpi_i = \frac{\sum_{j=1}^n \omega_{ij}}{m} \quad (i = 1, 2, \dots, n)$$

After normalization processing on ϖ , we can get the index system weight set. Based on the above theoretical research and statistical theory, the first round of the questionnaire was composed of 4 first level indicators, two 14 indicators, as shown in Table 1.

Table 1. Content of Expert Questionnaire

Primary indicators	Secondary indicators
A1 government provides public service of sports	B1 basic site, and equipment
	B2 sports culture education and publicity
	B3 Sports organization
A2 Socialization degree of community sports	B4 organizations spontaneously
	B5 skeleton staff
	B6 Degree of financial socialization
A3 Behavior and attitude of exercise group	B7 sports population
	B8 Sports Science Literacy
	B9 participation behavior and effect
A4 Family sports activities and sports family	B10 family sports behavior characteristics
	B11 family sports consumption
	B12 family sports culture
	B13 family sports program
	B14 sports family number

4. Empirical Analysis

4.1. Index Modification

According to the data obtained by the above methods, the data obtained by the expert questionnaire, calculating the "opinion concentration" and "opinion coordination", the results are as follows: Table 2, Table 3, Table 4.

Table 2. First Order Statistical Results

Primary indicators	Opinion concentration degree	Opinion coordination degree
A1 government provides public service of sports	8.3333	0.117108
A2 Socialization degree of community sports	8.2000	0.154256
A3 Behavior and attitude of exercise group	7.9333	0.210202
A4 Family sports activities and sports family	7.1333	0.269441

Table 3. Second Order Statistical Results

Secondary indicators	Opinion concentration degree	Opinion coordination degree
B1 basic site, and equipment	8.6000	0.096279
B2 sports culture education and publicity	7.2667	0.251964
B3 Sports organization	6.3333	0.351379
B4 organizations spontaneously	7.8000	0.130024
B5 skeleton staff	8.4667	0.108127
B6 Degree of financial socialization	8.2000	0.123682
B7 sports population	8.4667	0.140223
B8 Sports Science Literacy	7.2667	0.142127
B9 participation behavior and effect	8.1429	0.158716
B10 family sports behavior characteristics	7.1538	0.266732
B11 family sports consumption	7.3636	0.203909
B12 family sports culture	6.0000	0.216815
B13 family sports program	6.0000	0.172958
B14 sports family number	6.7143	0.28275

Seen from the above, A1 weight is the largest, which indicates that the highest degree of importance in the index set; the opinions of the four first level indicators are more than 0.7, the opinion concentration is higher, the opinion coordination degree is higher, all keep. A4 family sports and family sports opinion concentration degree is relatively low ($M_j = 7.1333$, coordination degree higher ($V_j = 0.269441$), explain the large differences of opinion, and the second level indicators B12 family sports culture and B13 family sports program concentration, both less than 0.05, were removed. Second level indicators B3 administrative type sports organization quantity and quality opinion concentration less than 0.05 ($M_j = 6.3333$), according to expert opinion, the B3 adjusted to administrative sports organization and security system; the characteristics of family sports is no specific meaning; while others think the lifestyle community of sports is the way, and home fitness is the basis. This paper argues that sports family and family sports are one of the characteristics of sports life of the community, and keep A4 sports family and family sports activities ".

Table 4. Primary Indicators of the Original Weight and Normalization

Index	A1	A2	A3	A4
Original weight	0.2833	0.2708	0.2292	0.1917
Normalized weight	0.2905	0.2777	0.2352	0.1966

Comprehensive opinions, mainly: 1) the sports life of the community should weaken the administrative functions, stressed that the community residents to implement self-management, self-service; reflect the masses of the autonomy. 2) From the point of combination of sports and life. 3) From the family to the community to increase publicity, the government to provide services, focusing on the support of non-governmental sports organizations. The fine-tuning of the second round of questionnaire based on the above

analysis and statistics. To reflect the association of sports and life, add the following three level indicators sports family for the holidays in sports activities such as; at the same time root interview; add three level indicators are as follows: site is adjacent; the market mechanism obtained sports funding ratio and so on. The second round of the questionnaire statistical results will be concentrated degree, secondary indicators B2 sports culture education and propaganda, B11 family sports consumption with low concentration, the rest are more than 70; more than 19 three level index concentration were more than 70, delete it. Integrated with experts, the index system were following realignment: the increase of sports organization members accounted for the proportion of the total number of residents; supplement `community residents' Sports Attitude, re adjust the questionnaire increased after on the third level indicators of quality and, the formation of the three rounds of expert questionnaires. See Table 5, two level index only B12 family sports consumption" with low concentration ($M_j = 5.7273$), is also more consistent ($V_j = 0.1761$).

Table 5. Secondary Indicators Variation Coefficient and Weight

Secondary indicators	Opinion concentration degree	Opinion coordination degree	weight
B1 community sports organization	8.2727	0.1219	0.2264
B2 sports publicity	7.7273	0.1744	0.1741
B3 support system	8.0909	0.1699	0.2782
B4 scientific guidance	7.5455	0.1238	0.1655
B5 physique test	7.5000	0.1658	0.1605
B6 sports club	8.2727	0.1219	0.3273
B7 Sports activities	7.9091	0.1320	0.3227
B8 socialization of site facilities	7.5455	0.2084	0.3500
B9 sports science literacy	7.5455	0.2084	0.4409
B10 Behavior and effect of exercise	7.9091	0.1320	0.5591
B11 Family sports fitness characteristics	7.3333	0.1575	0.5773
B12 Family sports fitness consumption	5.7273	0.1761	0.4227

4.2. Evaluation Index System

Combined with the sports community meeting information and expert feedback, the three level indicators were quantified and normalized treatment, and finally built a sports community evaluation index system, as shown in Table 6. Lifestyle Community of sports index system should be in practice will continue to adjust the study and application of evaluation index and need to through the social investigation to test the operation and effectiveness, also need through the social investigation this channel continuous delivery and provide the necessary information. If there is no social survey, research and application of evaluation indicators will lose the vitality of development. Lifestyle Community of sports is a process, in based on the understanding of the sports life of the community structure and the characteristics of and need to global and dynamic perspective to study the development law and the operating mechanism, with the change of new situation and appropriate adjustments, to make up for the lack of expert investigation method depression.

Table 6. Evaluation Index System of Sports Life Community

Primary indicators	weight	Secondary indicators	weight
A1 Community sports service system	0.2906	B1 community sports organization	0.2253
		B2 sports publicity and fitness atmosphere	0.1733
		B3 support system	0.2769
		B4 scientific index	0.1647
		B5 physical fitness test	0.1597
A2 Socialization degree of community sports	0.2777	B6 Sports Club	0.3273
		B7 Sports activities	0.3227
		B8 site facilities	0.3500
A3 Residents' sports science literacy	0.2351	B9 sports science literacy	0.4409
		B10 resident exercise behavior	0.5591
A4 Sports family	0.1966	B11 sports home fitness features	0.5773
		B12 sports home fitness consumption	0.4227

5. Conclusions

This paper defines the concept of "sports life" and "sports life community". The sports life of the attention of the people to establish lifelong sports as the guiding ideology of the way of life, truly realize the sports general and regular; and formed with a higher proportion of sports population and family has the basic characteristics of the model of community sports for the lifestyle community of sports, and preparation of its own unique. Two characteristic indexes are put forward: "sports family" and "sports backbone". Sports family is a new concept in the field of sports sociology, it is the basic cell of the realization of sports life; the backbone of sports is a set of sports skills and dedication to the body of the fitness activists. After three rounds of expert questionnaire was established with the characteristics of the index system, four level indicators were service system of community sports, community sports socialization degree, residents sports science literacy and exercise behavior and the effect as well as the family sports; community sports organization and leadership, security system, facilities and funding of socialization, residents of exercise behavior and effect, family sports fitness 12 secondary indicators; more than three community sports autonomous organization of the inhabitants, folk sports associations, within the jurisdiction of the open unit sports rate above 80%, and 29 three level indicators. The index in the level of community sports service system the maximum weight that is closely related to the quality of community residents to exercise the effectiveness and where the community sports service, it just highlights the lifestyle community of sports and the "national urban sports advanced community" phase difference. Two and three indicators also reflect the characteristics of the former, such as the requirements of the community facilities and funds must have a sense of community sports organizations and residents of fitness.

The index system of the sports life of the community should be combined with the community's own situation. Sports is to build a harmonious society is an important content and measure, where the lifestyle community of sports area, population and the level of economic development and community original foundation conditions different, resulting in the evaluation standard of the lifestyle community of sports also has the stress. Sports life of the community must be combined with the specific conditions of the community will have vitality. In the course of future use may appear new situation, new changes, the opening of the requirements in the practice of the index system to make appropriate changes and perfect.

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