

A Study on Construction Elements of New Rural Sports Culture in China and Related Influence: an Empirical Analysis Based on Online Survey

Chang Youjiang¹, Dong Youzhen¹, Tao Ganchen² and Long Xiaodong^{2*}

¹*P.E. Department, Southwest Jiaotong University (emei), Emei, Sichuan, China*

²*P.E. Department, Jinggangshan University, Ji'an Jiangxi, China
171761779@qq.com*

Abstract

With the development of the information technology, the internet has become an indispensable part of most people's daily life. In this paper, we test the development status of new rural sports culture in China by using online survey. Factor analysis results show that, $KMO = 0.883$, Bach Wright test value $X^2=116.128$, $P=0.000<0.01$, there are 4 common factors, including "material sports culture factor", "spirit sports culture factor", "system style education factor" and "behavior sports culture factor". Contribution rate as 35.272%, 19.376%, 10.495%, 9.809%, the cumulative contribution rate is 74.952%, and there is a high degree of correlation between them.

Keywords: *Online survey; New rural area; sports culture; Big data, Factors*

1. Introduction

Network across time and space, fast, convenient, high degree of information sharing features, making more and more people will be part of their lives relying on the network. Internet development interests as a major factor in the emerging virtual space. Among the main sports Interests virtual organization emerged and developed rapidly. It is the development and popularization of network technology, the result of many factors in human lifestyle changes, economic development, social mainstream value orientation, competitive sports and other joint action. With the popularity of the Internet, the network has become an integral part of most people's daily lives part [1]. Network across time and space, fast, convenient, high degree of information sharing features, making more and more people will be part of their lives relying on a network, through e-learning, shopping, dating, entertainment, rights and so on. Internet development interests as a major factor in the emerging virtual space. And with sports as the main interests of the virtual organization came into being and developed rapidly. Internet Sports Virtual Development Organization. Conform to the needs of users; it is the historical development of the particular stage of the product. Development and popularization of the Internet is gradually changing people's way of life, netizen in the fast-paced life, work pressure, lack of social sports public service provision and other factors, it will naturally consider choosing a virtual organization on the Internet to meet their sports activities needs. Therefore, unlike other sports virtual organization virtual organization, communication lines will be converted to entities often sports activities under the line.

The Report on the 18th CPC Congress pointed out that: Boosting integrated urban and rural development and construction of new socialist countryside with Chinese characteristics is the key to construction of a harmonious society. The new rural cultural undertaking is a question of questions when it comes to construction of new countryside, while rural sports culture is subject to rural culture. It is obvious that it is imperative to

* Corresponding Author

construct and develop rural sports culture in new countryside [2]. In addition, Opinions on Facilitating Construction of Socialist New Countryside of Central Committee of the Communist Party of China pointed out that: it is the priority among priorities in boosting rural sports development to expedite implementation of peasant sports fitness projects in new countryside of China to meet various needs of peasants in new countryside of different levels and aspects [3]. This paper tries to discover the construction elements of new rural sports culture through data processing and mining, and logical reasoning and other main research methods focusing on elements of new rural sports culture, and sums up and sorts out those construction elements to obtain their mutual relation and influence, so as to provide valuable theoretical basis and data analysis grounds for sports culture construction in China [4].

2. Literature Review

2.1. Impact of Networks on Society

In today's society, spatial logic dictated by distance and organized resistance to the relationship between people and their production and consumption locations. In order to improve the efficiency of time to narrow the space through the distance, in the domain, the Town of conceptual space can be formed and practice field. Natural selection early urban land rich in natural resources trade facilitation roots; to minimize the cost to get the maximum profit; and consumption of place where you select the maximum number of sales. However, with the development of information and communication technology, originally this modern space logic will gradually degenerate, bring production and consumption areas of life network functions will gradually appear. Information and communication technology challenges of modern thought in spatial relationship with time, and is creating a non-spatial world[5].

Popularity of the network, convenient, high degree of sharing of information, promotes new forms of organization based on the Internet platform production. Some spaces have organizational characteristics of the network in the Field emerging. Custer believes that the rise of the Internet, shaping a kind of energy-based industrial era technological paradigm disparate IT paradigm, the core feature of this new technological paradigm that supersedes the information in the energy becomes a key factor in action become re-shaping of social structure, social re-structuring of the fundamental forces. As a historical trend, dominant functions and processes in the information age increasingly in network organized. Network building a new social form of our society, and the proliferation of network logic of essence changed production, experience, power and culture in the process of operation and results. Although the network in the form of social organization already exists in another space and time, but the new IT paradigm for its expansion throughout the entire social structure penetration provides the material basis. Custer this new form of society to network logic based, called the network society. Development of Internet technology has changed the past, the traditional forms of social organization. Yuan mentioned, along with the popularity of information technology in the world, the traditional hierarchical organizational structure will gradually lose the constraints of the previous system, it is no longer considered a rational choice. In other words, the possibility of widespread use of information technology as revolutionary achievements, the organization chooses bureaucracy in the initial operational phase will be greatly reduced.

2.2. Interactive Network

Interactive process performance Society for information transfer between people, communication emotional exchanges, ideas, exchange resources, *etc.*, that in the social space of exchange and communication process between people. Therefore, the communication, exchange see a man of this character [6]. And with every revolution in communications technology, human society appears to further expand and extend the skills. Network produced a profound impact on social interaction, breaking the previous restriction is not limited to space, time and social stratification and other factors, but mainly because of the popularity of the application in the network, the birth of a new interactive space, a new social interaction mode. In the online world, the two sides interact in a way the body without the presence of interactive exhibition, no like in the real world face to face communication, people can hide their identity, re-select or create a new virtual identity. In this way so that the original never met before, in terms of the spatial distance between each other, social status equal distant strangers can communicate and exchange.

Network interaction with the body as a non-anonymous interaction is characterized by the presence of both a remodeling I agree with the game, but also an interactive game between strangers. This social interaction is shaping a new kind of virtual network communities, when we send e-mail through the network, or when shopping online reservation hotel, we are in cyberspace. Because of the Internet for new space reshaping social relations and social structure has such tremendous power, since the Internet was born from that moment on, interactive network will become the focus of academic research.

3. Research Objects and Methods

3.1. Research Objects

Considering the geological condition of China, a total 52 experts in and officials in charge of sports culture research were selected from 10 colleges and universities (Beijing Sport University, Zhejiang University, Tongji University, Jiangxi Normal University, Wuhan Institute of Physical Education, Southwest Jiaotong university, University of Hainan, Jingtangshan University, Fujian University and Xi'an University) as respondents to the questionnaire survey. Those experts and officials from the 10 colleges and universities were regarded as the objects of this study.

3.2 Main Research Methods

3.2.1. Documentary Method: This paper tries to fully obtain domestic and foreign research literature, and absorb and digest achievements related to sports culture literature at home and abroad to understand the cutting edge and progress of sports culture related theory, especially theories and methods used by foreign scholars. This way, this paper uses the existing research achievements and research methods for reference and proposes the theoretical framework and assumptions, and tries to search for grounds for measurement scale data used in various concepts in the empirical study of this paper.

3.2.2. Interviewing Method: Interview mainly aims at initially validating and further adjusting the research plan, as well as learning from the experience of those experts and related persons for determination of specific content of the measurement scale for various variables used in the research conceptual model. In addition, the interview with related experts and persons laid a solid foundation for No. 1 trial questionnaire.

3.2.3. Questionnaire Method: Questionnaire is the main and major research method used in this research. Via discussing and establishing measurement scales for various variables used in the empirical study of this paper, and validating the influence of research conceptual factors and assumptions of the research through large-scale questionnaire survey during empirical study, it provided guarantee for reliability and validity of construction elements in this paper. There are influencing factors of 22 elements in the questionnaire of the research, for all of which the 5-level evaluation method was used. The scores range from 2 to 10. Ten scores indicate extreme importance; 8 scores indicate comparative importance; 6 scores indicate general importance; 4 scores indicate little importance; 2 scores indicate unimportance. A higher score indicates greater importance. A total of 60 expert questionnaires were handed out and 55 were returned, among which 52 were valid. This indicates a recovery rate of 91.67%, and effective rate of 94.55%. The “retesting method” was used to determine the reliability of the expert questionnaires. The correlation coefficient $r = 0.95$ and $p < 0.01$. This means that the reliability is inerrable. Structure and content testing method was used for the validity. The experts’ opinions are basically the same, and the content structure is both reasonable and valid [7-8].

3.2.4. Comparative analysis method: Comparison is the mostly frequently used thinking method to understand, extinguish and identify the similarity and difference between things, so as to reveal the essence of the things. This paper tries to understand the difference among psychological contracts of groups with different characteristics through comparison [9].

3.2.5. Mathematical Statistics: This method is mainly used to judge the value data collected, and validate the theoretical assumptions. Considering the research objectives, the SPSS 16.0 statistical software was used as the statistical analyzing tool for the research [10].

3.2.6. Logical Reasoning Method: Logical analysis was carried out on the data statistical significance result using comparison, deduction, induction, analysis and reasoning. Related theoretical conclusions were drawn.

3.3. Research Assumptions

The mutual influence relation among “material sports culture factor”, “spiritual sports culture factor”, “system sports culture factor” and “behavior sports culture factor”. The mutual influence relation among internal elements of various elements such as “material sports culture factor”, “spiritual sports culture factor”, “system sports culture factor” and “behavior sports culture factor”.

4. Empirical Analysis

4.1. Determinate Analysis of Common Factors of Construction Elements

This paper uses the statistics factor analysis method for the 22 element questions for the 52 experts or official questionnaires, so as to carry out classification analysis of the construction elements. Through test of KMO value and Bach Wright, it was drawn that: KMO value = 0.883; Bach Wright test value $X^2 = 116.128$ and $P = 0.000 < 0.01$. This indicates that there is very significant difference, and the research data are suitable for factor analysis of statistics. Results in Table 1 show that: There are 4 common principal factors with characteristic value higher than 2 (using the Keyser method). The contribution rates are respectively 35.272%, 19.376%, 10.495% and 9.809% and the accumulative contribution rate is 74.952%. Because the construction elements are highly complicated, a

lot of elements are not reflected. Considering their statistical significance, they have been able to reflect the overall quantity of information [11-12].

Table 1. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.229	35.272	35.272	10.229	35.272	35.272
2	5.619	19.376	54.648	5.619	19.376	54.648
3	3.044	10.495	65.143	3.044	10.495	65.143
4	2.845	9.809	74.952	2.845	9.809	74.952

4.2. Name and Classification of Common Factors of Construction Elements

The main elements of construction of new rural sports culture development in China are highly complicated. We have conducted variance maximization orthogonal rotation on the elements through statistical factor analysis and obtained 4 principal factors, which have been sorted out and classified as named as shown in Table 2. F1 refers to the “material sports culture factor” mainly consists of sports landmarks, main stadiums, sports publicity materials, main sports equipment, main sports photography, main sports venues and facilities, main sports photography and sportswear. F2 refers to the “spiritual sports culture factor” mainly consists of the sports spirit of fair play, sports spirit of confidence and optimism, sports spirit of heroism, sports spirit or patriotism, sports team spirit, sports spirit of practical reason and sportsmanship. F3 refers to the “system sports culture factor” mainly consists of learning of sports theoretical knowledge, learning of related sports systems, learning of sports skill knowledge and learning of sports practice. F4 refers to the “behavior sports culture factor” mainly consists of the perseverance in sports participation, motivation for sports participation, habit of sports participation and events of sports participation. It is obvious that those elements can be classified into four types, namely, “material sports culture factor”, “spiritual sports culture factor”, “system sports culture factor” and “behavior sports culture factor”.

Table 2. Component Matrix^a

Index	Component			
	1	2	3	4
Perseverance in sports participation	-.040	-.371	.534	.547
Sports spirit of fair play	.268	.784	-.013	.000
Learning of sports theoretical knowledge	-.051	-.180	.722	-.064
Sports spirit of confidence and optimism	-.026	.843	-.207	-.287
Motivation for sports participation	.207	.235	-.353	.799
Sports spirit of heroism	-.012	.874	.148	.112
Major sports landmarks	.871	-.259	.120	.123
Major stadium	.917	.117	.274	.078
Habit of sports participation	.329	-.410	.279	.548
Events of sports participation	-.451	.095	.058	.731
Sports publicity material	.885	.227	.046	-.258
Sports spirit of patriotism	-.052	.920	.239	.047
Sports team spirit	.163	.804	-.050	-.110
Sports spirit of practical reason	.322	.840	-.161	.058
Learning of sports related system	-.155	-.195	.864	.028
Major sports equipment	.912	-.116	.176	.226

Major sports photograph	.799	-.285	-.315	-.215
Learning of sports skill knowledge	.488	.084	.578	.045
Major sports venues and facilities	.951	.135	-.055	.035
Major sports photography	.837	-.222	-.190	.226
Sportsmanship	.154	.794	.079	-.395
Sports experiential learning	.425	.087	.654	-.422
Sportswear	.814	-.313	.271	.212

4.3. Mutual Relation

Mutual relation among “material sports culture factor”, “spiritual sports culture factor”, “system sports culture factor” and “behavior sports culture factor”. Results in Table 3 show that: Among the four aspects of new rural sports culture construction in China, the correlation coefficient between material sports culture factor and behavior sports culture factor is the highest, being 0.832, indicating high correlation. That between spiritual sports culture factor and behavior sports culture factor is 0.676, indicating medium correlation. Those between the material sports culture factor and spiritual sports culture factor, between material sports culture factor and system sports culture factor, between spiritual sports culture factor and system sports culture factor and that between system sports culture factor and behavior sports culture factor are respectively 0.566, 0.417, 0.382 and 0.512, indicating low correlation. It is obvious that the four aspects of new rural sports culture construction are not mutually independent. They are correlated to a certain extent. In particular, material sports culture and behavior sports culture and other cultures are more closely correlated.

Spiritual sports culture and behavior sports culture depend on material sports culture. On the other hand, spiritual sports culture and behavior sports culture constantly propose new requirements to boost material sports culture development. They are highly correlated and pose impact on each other. Material sports culture facilitates soundness and development of system sports culture, while the system sports culture provides necessary guarantee and constraints for material sports culture, spiritual sports culture and behavior sports culture, so as to ensure their rapid and sound development. It is obvious that material culture serves as the foundation, spirit sports culture serves as the pillar, system sports culture functions as the guarantee and behavior sports culture shows the moving direction.

Table 3. Analysis Table for Correlation Matrix of Index Contents of Four Aspects of Sports Culture (n=52)

S/N	Index content	1	2	3	4
1	Material sports culture factor	1			
2	Spiritual sports culture factor	0.566	1		
3	System sports culture factor	0.417	0.382	1	
4	Behavior sports culture factor	0.823	0.676	0.512	1

4.4. Mutual Influence Relation

4.4.2. Mutual Relation among Internal Factors of “Material Sports Culture Factor”:

Results in Table 4 show that: Among internal elements of “material sports culture factor”, the correlation coefficient between sports landmarks and main sports equipment, main sports photographs and main sports photography, that between main stadium and main sports venue and facilities, and sportswear, that between sports publicity material and main sports venue and facilities, that between sports equipment and main sports venue and facilities, and main sports photography, that between sports photograph and main sports

venue and facilities and main sports photography, and that between sports venue and facilities and main sports photography and sportswear are respectively 0.861, 0.878, 0.801, 0.848, 0.81, 0.819, 0.812, 0.889, 0.887, 0.866, 0.824 and 0.845, all greater than 0.8, indicating high correlation. The correlation coefficients of other elements are all more than 0.6, indicating medium correlation. It is obvious that the elements of material sports culture of rural countryside are not in existence independently, but are highly correlated to each other. In particular, sports equipment, main sports venue and facilities and sports photography elements are more closely correlated with other elements.

Basic elements constituting “material sports culture factor” mainly include sports venue and facilities, main sports equipment and sports landmarks. They play a decisive and important role in material sports culture and function as an important foundation for construction and development of sports culture. Their development also boosts the sound development of sports culture. In this era of network and 4G, photos and photography are drawing more and more attention. People now like to take pictures of or film the wonderful moments of sports vents and share them via weibo, wechat and other social networks or on the mobile phones. This way, their friends can also see such great moments, which helps with development of sports culture in a positive way.

Table 4. Analysis Table for Correlation Matrix of Internal Elements of “Material Sports Culture Factor” (n=52)

S/N	Index content	1	2	3	4	5	6	7
1	Sports landmarks	1						
2	Main stadiums	0.756	1					
3	Sports publicity materials	0.600	0.799	1				
4	Main sports equipment	0.861	0.796	0.651	1			
5	Main sports photography	0.878	0.748	0.683	0.789	1		
6	Main sports venues and facilities	0.779	0.848	0.819	0.812	0.887	1	
7	Main sports photography	0.801	0.755	0.601	0.889	0.866	0.824	1
8	Sportswear	0.662	0.811	0.711	0.78	0.658	0.845	0.755

Table 5. Analysis Table for Correlation Matrix of Internal Elements of “Spiritual Sports Culture Factor” (n=52)

S/N	Index content	1	2	3	4	5	6
1	Sports spirit of fair play	1					
2	Sports spirit of confidence and optimism	0.522	1				
3	Sports spirit of heroism	0.389	0.348	1			
4	Sports spirit or patriotism	0.311	0.370	0.516	1		
5	Sports team spirit	0.674	0.775	0.577	0.311	1	
6	Sports spirit of practical reason	0.328	0.377	0.461	0.421	0.417	1
7	Sportsmanship	0.561	0.640	0.318	0.326	0.630	0.304

4.4.2. Mutual Relation among Internal Elements of “Spiritual Sports Culture Factor”.

Results in Table 5 show that: among internal elements of “spiritual sports culture factor”, the correlation coefficient between sports spirit of fair play and sports team spirit, that between sports spirit of confidence and optimism and sports team spirit and sportsmanship, and that between sports team spirit and sportsmanship are respectively 0.674, 0.775, 0.640 and 0.630, all being higher than 0.6, indicating medium correlation. Correlation coefficients of other elements are all higher than 0.3, indicating medium-to-low correlation.

It is obvious that the elements of new rural spiritual sports factor are not mutually independent. The internal elements are mutually correlated to some extent. In particular, sports spirit of confidence and optimism, sports team spirit and sportsmanship are more closely related to other elements.

The major elements constituting “spiritual sports culture factor” include sports spirit of confidence and optimism, sports team spirit and sportsmanship, which are the essence for construction of spiritual sports culture. Sports can bring ultimate joy and confidence to people and help people get ride of worries and self-abasement. Meanwhile, it helps build lofty spirits such as faith in team work, mutual respect, mutual support, joint efforts and mutual trust, and prevents immoral conducts. This way, a fair, just, open and harmonious platform for harmonious development of sports culture can be built up.

4.4.3. Mutual Relation among Internal Elements of “System Sports Culture Factor”:

Results in Table 6 show that: among internal elements of the “system sports culture factor”, the correlation coefficient between sports spirit of fair play and sports team spirit, that between learning of sports theoretical knowledge and sports practical learning, learning of sports related system and learning of sports skill knowledge, and that between learning of sports skill knowledge and sports practical learning are respectively 0.722, 0.762 and 0.743, all being higher than 0.6, indicating medium correlation. Correlation coefficients of other elements are all greater than 3, indicating medium-to-low correlation. It is obvious that the elements of new rural system sports culture factor are not mutually independent, and the internal elements are highly correlated. In particular, sports practical learning and other elements are more closely related.

The major elements constituting the “system sports culture factor” include learning of sports theoretical knowledge, learning of sports related system and sports practical learning. Only when the theoretical knowledge of a person reaches a certain level can this person really know, understand and perceive sports, so as to guide sports practice. Sports practice is a long and hard course and it takes great perseverance to go to the distance. In addition, it is based on your understanding of sports, the value of sports for you and the basic guarantee of sports for you. Only with the guarantee provided by certain sports theoretical knowledge and related sports system can sports practice have sufficient power foundation to support development of sports culture.

Table 6. Analysis Table for Correlation Matrix of Internal Elements of “System Sports Culture Factor” (n=52)

S/N	Index content	1	2	3
1	Learning of sports theoretical knowledge	1		
2	Learning of related sports systems	0.362	1	
3	Learning of sports skill knowledge	0.384	0.762	1
4	Learning of sports practice	0.722	0.521	0.743

4.4.4. Mutual Relation among Internal Elements of “Behavior Sports Culture Factor”:

Results in Table 7 show that: Among internal elements of “system sports culture factor”, the correlation coefficient between perseverance in sports participation and motivation for sports participation, that between perseverance in sports participation and habit of sports participation and that between events of sports participation and habit of sports participation are respectively 0.601, 0.622 and 0.712, all being greater than 0.6, indicating medium correlation. The Correlation coefficients of other elements are all greater than 3, indicating medium-to-low correlation. It is obvious that the elements of new rural system sports culture factor are not mutually independent, and the internal elements are highly

correlated. In particular, perseverance in sports participation and habit of sports participation and other elements are more closely related.

Perseverance in sports participation and habit of sports participation are major elements constituting the “behavior sports culture factor”. Motivation guides the behavior of people to form a habit. To develop a favorable sports habit, one must have a sound sports motivation, which comes from enthusiasm about sports events. Perseverance is required to go to the distance. This way, the development of behavior sports culture can be guaranteed, and the development of sports culture be boosted.

Table 7. Analysis Table for Correlation Matrix of Internal Elements of “Behavior Sports Culture Factor” (n=52)

S/N	Index content	1	2	3
1	Perseverance in sports participation	1		
2	Motivation for sports participation	0.601	1	
3	Habit of sports participation	0.393	0.389	1
4	Events of sports participation	0.622	0.366	0.712

5. Conclusion

Construction of new rural sports culture in China mainly includes the following four aspects: “material sports culture factor”, “spiritual sports culture factor”, “system sports culture factor” and “behavior sports culture factor”. They are highly related to each other. The “material sports culture factor” mainly consists of sports landmarks, main stadiums, sports publicity materials, main sports equipment, main sports photography, main sports venues and facilities, main sports photography and sportswear, which are very highly related to each other. The “spiritual sports culture factor” mainly consists of the sports spirit of fair play, sports spirit of confidence and optimism, sports spirit of heroism, sports spirit or patriotism, sports team spirit, sports spirit of practical reason and sportsmanship, which are related to each other to a certain extent. The “system sports culture factor” mainly consists of learning of sports theoretical knowledge, learning of related sports systems, learning of sports skill knowledge and learning of sports practice, which are comparatively highly related to each other. The “behavior sports culture factor” mainly consists of the perseverance in sports participation, motivation for sports participation, habit of sports participation and events of sports participation, which are comparatively highly related to each other.

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