

Analysis of Factors Affecting the Unbalanced Development of Sports in Zhaoqing city

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ABSTRACT

This study utilizes the factor analysis method, draws on theoretical knowledge in the field of economics about the measurement of unbalanced development, and takes each region of Zhaoqing City as an individual unit, and measures and studies the evaluation indexes of unbalanced development of sports in each region and its influencing factors on the basis of comparing each region, with a view to providing a reference basis for the balanced development of sports in Zhaoqing City. The results show that (1) economic factors, socio-cultural factors, policy factors, geographic and natural factors, technological and information factors, and demographic factors are the primary factors affecting the unbalanced development of sports in Zhaoqing City at the first level, and that differences in the level of economic development, the development of the sports industry, the concept of sports, educational resources, sports policies, infrastructure development, topography, climatic factors, mobile population, digital sports facilities, and information dissemination are the secondary factors affecting the unbalanced development of sports in Zhaoqing; (2) proposed paths for the balanced development of sports in Zhaoqing, such as sports facilities planning, diversification of sports programs, sports talent cultivation, social sports organization and promotion, the application of digital technology, policy support and financial investment.

KEYWORDS

Sports development; Imbalance; Influencing factors; Factor analysis; Zhaoqing city.

1. INTRODUCTION

The report of the 19th Party Congress points out that "the main contradiction in our society under the new era has been transformed into the contradiction between the people's growing needs for a better life and unbalanced and inadequate development." Sports development is a part of social development, is one of the many problems of social development, sports development issues is the specific embodiment of social contradictions in sports development[1], is the service of national diplomacy, highlighting the competitiveness of the nation, displaying the image of a great nation, spreading the national claim carrier [2], is an important element of the overall layout of the socialist cause with Chinese characteristics and an important part of economic and social development [3]. The facts of sports development since the 20th century have proved that development is the hard way [4], and China's sports development adopts the "catching up" development mode, thus rising rapidly in the situation of insufficient resources and weak foundation [5]. In addition, the sports cause in the brilliant achievements at the same time, the development of the problem also presents a new feature different from the past [6].

Scholars point out that unbalanced development mainly refers to the imbalance in the degree and quality of development within the systems of the main body of development, as well as between

systems [7.8]. It can be manifested in the imbalance of development in the fields of politics, economy, culture, society and ecology, in the geographical aspects such as urban and rural areas and regions, in the sectors such as industry, commerce, agriculture and services, and in the groups of people such as the rich, the middle class and the poor, etc[9.10]. Zhaoqing is a prefecture-level city in Guangdong, an important node city in the Guangdong-Hong Kong-Macao Greater Bay Area, one of the cities in the Guangzhou Metropolitan Area, the "Guangzhou-Foshan-Zhaoqing Economic Circle", and an important part of the Pearl River-West River Economic Belt. It has the jurisdiction of Duazhou District, Dinghu District, Gaoyou District, Guangning County, Deqing County, Fengkai County, Huaji County, Sihui City, and two economic functional zones, Zhaoqing New District and Zhaoqing High-Tech Zone. At present, Zhaoqing City is in the post-regional sports period, Zhaoqing "tourism, sports" has become a trend, all kinds of sports events and sports for all the heat continues to diminish, wonderful, Zhaoqing is to build Guangdong, Hong Kong and Macao Greater Bay Area "sports city" goal to move forward. The key to realizing the balanced development of sports in Zhaoqing and the stable and coordinated development of sports in the whole country lies in having a comprehensive and profound understanding of the size of the imbalance in sports development, the development trend of the imbalance, and the influencing factors of the imbalance. The study aims to identify the factors of unbalanced sports development in Zhaoqing City, with a view to providing reference for the local government and relevant departments to formulate more targeted sports policies, and helping to promote fair and balanced distribution and utilization of sports resources. Moreover, identifying the factors affecting the unbalanced development of sports can identify the shortcomings and opportunities for the development of sports undertakings and industries, and then propose targeted solutions and strategies to promote the comprehensive and balanced development of sports undertakings and industries in Zhaoqing.

2. RESEARCH OBJECTIVE AND METHODOLOGY

2.1. Research object

Influencing factors of unbalanced sports development in Zhaoqing.

2.2. Research Methods

2.2.1. Literature method

The literature on sport development theory provides a strong theoretical foundation for the research to be carried out. In order to realize innovation and transcendence of analytical paradigms and theoretical results in the issue of sport development inequality, it is necessary to pay attention to the study of previous literature, to understand the overview of domestic and international research on the inequality of sport development and the known main influencing factors and their impact on the inequality of sport development, and to make sense of the current state of the research in the field of sport development and the latest developments.

2.2.2. Expert interview method

Visit or consult with experts and scholars in related fields by questionnaire. Focus on seeking advice from relevant experts, scholars and leaders on the current situation, problems, characteristics, needs, significance, modes and other core issues of physical education professional training in Zhaoqing, in order to inspire thinking and obtain theoretical support. At the same time, it is also necessary to visit the framework of this project, research ideas, research methods, chapters containing modules and the arrangement of their contained contents and other issues.

2.2.3. Factor analysis

Factor analysis is to aggregate many indicators into a few comprehensive indicators to reflect the information carried by the original many indicators, to find out a few major components that have the greatest influence on the overall factors, to achieve the purpose of indicator dimensionality reduction. Usually, the cumulative contribution rate of more than or equal to 80 is intercepted to determine the first K components for the study. According to the designed index system of unbalanced sports development in Zhaoqing City, the scale questionnaire of the factors affecting the index is designed, and according to the dimensionality reduction thinking of factor analysis, many factors are categorized, and the main factors affecting the unbalanced development of Zhaoqing City are found out finally.

3. RESULTS

3.1. Factor analysis of the factors affecting the unbalanced development of sports in Zhaoqing City

The data of this study were imported into SPSS.21 software, and factor analysis was carried out with the indicators of the factors affecting the imbalance of sports development in Zhaoqing City as variables, and variance-maximizing orthogonal rotation was used to maximize the sum of relative loadings squared and variance on the covariates. Table 1 and Table 2 are obtained. From Table 1, it can be seen that the KMO value of the data of the indicators of the factors influencing the imbalance of sports development in Zhaoqing City in this study is 0.937, and the value of Bartlett's test of sphericity is 623.72, with a P-value of less than 0.001, which proves that the data of the indicators of the factors influencing the imbalance of sports development in Zhaoqing City in this study are suitable for the factor analysis, and can be subjected to the next step of the operation.

Table 1. KMO and Bartlett's test table

Element	Value
Kaiser-Meyer-Olkin	0.937
Bartlett's test of sphericity	623.72
Degrees of freedom (df)	43.23
P(Sig)	0.0012

Table 2. Total variance explained

Ingredient	Initial eigenvalue			Extract the sum of squares to load		
	Total	Variance %	Accrue %	Total	Variance %	Accrue %
1	30.036	52.695	52.695	30.036	52.695	52.695
2	3.313	5.812	58.507	3.313	5.812	58.507
3	2.113	3.707	62.213	2.113	5.107	62.213
4	1.692	2.969	65.182	1.692	2.969	65.182
5	1.475	2.587	67.769	1.475	2.587	67.769
6	1.253	2.199	69.968	1.253	2.199	69.968
7	1.104	1.937	71.905			
8	0.905	1.588	73.493			
9	0.873	1.531	88.717			
10	0.767	1.345	90.522			
11	0.726	1.273	99.645			
12	0.621	1.089	100.000			

As seen from Table 2, Zhaoqing sports development imbalance influence factor index consists of 6 constituent factors, and its cumulative contribution rate reaches more than 69 percent, which is in line with the requirements of the factor analysis of this study, and covers most of the information quantity of the factors influencing the imbalance of sports development in Zhaoqing city, so it will be temporarily named as Factor 1, Factor 2, Factor 3, Factor 4, Factor 5, Factor 6,. According to the factor analysis matrix formula, the weight vector of these 6 main factors is calculated respectively, and the weight of factor 1 is 0.75, the weight of factor 2 is 0.08, the weight of factor 3 is 0.07, the weight of factor 4 is 0.04, the weight of factor 5 is 0.03, and the weight of factor 6 is 0.03. At the same time, according to the secondary indicator factors contained in each level of indicator factors (indicator rotation matrix) , Te named them as economic factors, socio-cultural factors, policy factors, geographic and natural factors, demographic factors, and technological and information factors, respectively.

3.2. Analysis of Various Influencing Factors of Uneven Sports Development in Zhaoqing City

3.2.1. Economic factors

(1) Differences in the level of economic development: there is a close connection between the level of economic development in Zhaoqing and its sports development. The strength of the economy may directly or indirectly affect all aspects of sports, from infrastructure construction to talent cultivation, from policy support to popular participation. In order to promote the balanced and sustainable development of sports, Zhaoqing may need to find an appropriate balance between economy and sports.

(2) Development of the sports industry: The development of the sports industry may lead to an imbalance in the development of sport, especially when the development of the industry is largely market-driven. In order to ensure a more balanced sports development in Zhaoqing, the government and relevant authorities may need to adopt a series of strategies and measures, such as increasing support for marginalized sports programs, promoting equitable distribution of sports resources, and encouraging a diversity of sports activities and events.

3.2.2. Socio-cultural factors

(1) Sports concepts: sports concepts, i.e. people's cognition, attitudes and value judgments about sports, will largely affect a community, region or country's investment in sports, the direction of development and participation. The concept of sport has an important influence on the development of sport. In order to achieve a balanced and comprehensive development of sports, it is necessary to establish a correct concept of sports, encourage broad and diversified participation in sports by the whole society, ensure a reasonable distribution of resources, and respect everyone's right to participate in sports

(2) Educational resources: The status and importance of physical education in schools, as well as the distribution of educational resources, all affect the popularization and development of sports. The imbalance in the development of sports in Zhaoqing City is largely affected by the distribution of educational resources: if certain areas or schools lack suitable sports facilities, professional sports teachers and inputs for sports education due to insufficient educational resources in Zhaoqing City, it may be difficult for local students to adequately develop their sports skills, health awareness and interests, which further affects the sports atmosphere and overall development level of the entire city .

3.2.3. Policy factors:

(1) Sports policy: the government's investment, policy support and emphasis on sports directly affects the popularization and improvement of sports. Sports policy is an important force that guides and shapes the development of sports in Zhaoqing. A policy that favors certain sports or regions may lead to a concentration of resources and attention to the neglect of other areas, resulting in an imbalance

in sports development; on the contrary, a sports policy that is comprehensive, fair, and encourages diversification can balance development and ensure that each program and region receives appropriate support and opportunities.

(2) Infrastructure development: The construction and distribution of public stadiums and sports centers affects the ease with which residents can participate in sports. Infrastructure development plays a key role in the development of sports in Zhaoqing. When certain areas or programs are supported by adequate facilities, such as modern sports venues, training equipment and supporting services, their sports activities and competitive levels will be significantly enhanced, while areas with resource shortages may lag behind, leading to imbalances in the development of sports in Zhaoqing City between geographic areas and programs, which in turn affects the overall level of competitiveness and the popularity of mass sports.

3.2.4. Geographic and natural factors:

(1) Topography and geomorphology: whether the terrain in Zhaoqing is complex, such as mountainous or hilly areas, may affect the construction of sports facilities. In areas with more rugged terrain, site leveling is more difficult and may limit the construction of sports facilities. This may lead to an unbalanced distribution of sports facilities as it is relatively easy to build sports facilities in flat areas while it may be more difficult in hilly areas.

(2) Climatic factors: Zhaoqing's climate is characterized by high temperatures and high humidity, which may affect people's willingness to participate in outdoor sports activities, as well as increase the risk of participants being injured or falling ill during sports. In addition, Zhaoqing City as a whole has a more pronounced rainy season, which not only hinders people's participation in outdoor sports, but may also lead to frequent damage to sports facilities in certain areas, making it difficult to maintain and develop them. This also contributes to the relative limitation of sports development, especially in outdoor sports, in areas with hot seasons or hot and humid climates.

3.2.5. Demographic factors:

(1) Age distribution: The proportion of different age groups in the demographic structure may influence the demand for and type of physical activity. For example, younger people may be more inclined to participate in athletic competitions and team sports, while older people may prefer light physical activity such as walking or Tai Chi. If the demographics of an area are skewed towards a certain age group, this may result in certain types of physical activity being more popular in the area, while other types are relatively underdeveloped.

(2) Mobile population: If the population is more mobile, i.e., people are prone to move to other areas, it may lead to an uneven development of sports facilities and activity levels in different areas. Areas with a more mobile population may be more likely to attract foreigners, resulting in a relative concentration of sports resources.

3.2.6. Technology and information factors:

(1) Digitalized sports facilities: Advanced technologies may influence the construction and management of sports facilities. It may be easier for certain regions to introduce advanced digital technologies, such as smart sports equipment and virtual reality (VR) experiences, to enhance the quality and attractiveness of sports facilities. If certain regions lack technical support in this area, it may lead to an imbalance in the level of sports facilities.

(2) Information dissemination: Imbalance in technology may lead to uneven dissemination of information. If certain regions lack digital information platforms, social media channels, etc., it may lead to poor dissemination of information on sports activities in these regions, affecting people's participation. On the other hand, information asymmetry may lead to a relative lack of exposure for sports development in some regions, leaving sports resources in these regions underutilized.

3.3. Analysis of the path of balanced sports development in Zhaoqing City

(1) Sports facility planning: Formulating scientific and reasonable sports facility planning is the key to realizing balanced development. Layout and construction plans for sports facilities need to be formulated according to factors such as population density, land use, and topography in different areas. It is necessary to ensure that there are appropriate sports facilities in different geographic conditions, such as urban and rural areas, mountainous areas and plains, so as to meet the needs of people of different levels, ages and interests.

(2) Diversification of sports programs: Promote the development of different types of sports programs, including traditional sports programs, emerging sports programs, and leisure sports programs. By diversifying sports programs, more people can be attracted to participate and meet the needs of different groups, so as to avoid the over-concentration of a certain type of sports activities in a certain region, which may lead to the lagging development of other regions.

(3) Cultivation of sports talents: Strengthen the cultivation and introduction of sports talents, including coaches, referees and athletes. Establish a perfect training mechanism in each region to improve the overall level of sports talents, and at the same time encourage outstanding talents in the region to stay in the local development.

(4) Social sports organization and promotion: Strengthen social sports organizations and promote the widespread development of sports activities. Through the organization of communities, schools, enterprises and other units, the full coverage of sports activities is promoted so that more people can participate in physical exercise. In addition, sports events and publicity activities are actively carried out to improve the social influence of sports and stimulate people's enthusiasm for sports.

(5) Application of digital technology: Use digital technology to promote the development of sports informatization and intelligence. Build a sports information platform to provide citywide information on sports activities, venue bookings, fitness guidance and other services, and promote the circulation and sharing of information. At the same time, promote the application of digital technology in sports training and sports monitoring to improve sports training and management.

(6) Policy support and financial input: Formulate policies conducive to the balanced development of sports and provide financial and funding support. Encourage local governments to increase their investment in sports and support the construction of sports facilities, talent training, sports events and other aspects of development. Ensure that all regions can enjoy corresponding policies and financial support, and promote the balanced distribution of sports resources.

By taking the above factors into account, Zhaoqing can formulate a comprehensive sports development plan, promote the balanced development of various sports activities throughout the city, satisfy the rights of people of different levels and needs to participate in sports activities, and promote the sustainable development of sports for all.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. Conclusion

The factors influencing the unbalanced development of sports in Zhaoqing involve a number of geographical, demographic, social, economic, technological and cultural aspects. Geographic factors, including topography and climate, may lead to an uneven distribution of sports facilities, while factors such as demographics, socio-economic conditions, and technological levels may also affect participation in sports activities and the construction of sports facilities in different regions. A comprehensive analysis reveals that these factors are intertwined, creating an imbalance in the development of sports in Zhaoqing.

4.2. Suggestions

- (1) Formulate scientific and reasonable sports facilities planning: Based on geography, population distribution and other factors, formulate comprehensive sports facilities planning to ensure that there are suitable sports facilities in each area to meet the needs of different groups of people.
- (2) Diversified sports program development: Promote the development of different types of sports programs, including traditional sports programs, emerging sports programs, leisure sports programs, etc., to meet the needs of people of different levels, ages and interests.
- (3) Strengthening the organization and promotion of social sports: Promoting the widespread development of sports activities through the organization of communities, schools, enterprises and other units, so that more people can participate in physical exercise.
- (4) Improving the technical level of sports facilities: using digital technology to promote the development of informationization and intelligence in sports facilities, and improving the quality and attractiveness of facilities.
- (5) Encourage the cultivation and introduction of sports talents: Strengthen the cultivation and introduction of sports talents, improve the overall level of sports talents, and at the same time encourage outstanding talents in the region to stay in the region for development.
- (6) Formulate policies conducive to the balanced development of sports: formulate policies conducive to the balanced development of sports, provide financial and monetary support, ensure that all regions can enjoy corresponding policies and financial support, and promote the balanced distribution of sports resources.

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