Development Model of Public Sports Service System for Urban Community in Yongzhou City

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Abstract

With the State's emphasis on the national fitness policy, sports services have gradually become an important part of urban communities. By improving the quality of public sports services, the health of residents can be enhanced and community cohesion promoted. Aims: This study focuses on the development of urban community public sports service system in Yongzhou City, aiming at exploring its main influencing factors and optimizing the development path, so as to provide a scientific basis for further promoting the high-quality development of public sports services. Methodology:This study uses a combination of quantitative and qualitative research methods by researching urban residents in four regions of Yongzhou in order to construct and validate a model of the public sports service system.

Results: Quantitative data analysis through AMOS-SEM revealed that the standardized path coefficients of the factors on the system were significant ($P<0.001$) for sports service design (0.187), sports facilities and venues (0.244), sports guidance and training (0.225), sports activities and organization (0.155), and service supervision and management (0.151). This indicates that these factors have a significant impact on the development model of community public sports service system in Yongzhou City. In terms of qualitative research, the analyzed results showed the main influencing factors of urban community public sports service system through network relationship diagram and word frequency description. The qualitative data and quantitative results validate each other, further supporting the positive influence of the five key factors of sport service design, facilities, training, activity organization, and supervision and management.

Conclusion: The improvement of the public sports service system in urban communities in Yongzhou City requires improving service design and facility supply, enriching sports activities, strengthening guidance and training, and supervision and management. At the same time, a sound information platform should be established, and big data technology should be utilized to accurately collect residents' fitness needs and improve service quality and efficiency. The synergy of service quality, information platform, facilities and management is the key to promoting the high-quality development of the system.

Keywords: Model; Development; Urban Community Public Sports Service; System; Yongzhou

Introduction

The report of the Twentieth National Congress of the CPC pointed out that "to carry out a wide range of national fitness activities, to strengthen youth sports, to promote the comprehensive development of mass sports and competitive sports, and to accelerate the construction of a strong sports country" places the development of national fitness and the development of mass sports in an even more important position, and puts forward even more clear requirements. The foundation of a strong sports country lies in mass sports, and the foundation of a healthy China lies in national fitness. We have to be more active and more effective in integrating our work into the great process of building a socialist modernized country in a comprehensive manner, find the entry point and breakthrough, better show the unique function and value of national fitness in the construction of a strong country, focus on the needs of residents, the government according to the actual needs of residents, and strengthen the construction of the public sports service system for urban areas is a problem we have to solve urgently.

The following questions can be researched: 1. What are the current situations of investigating the development of urban community public sports service system in Yongzhou city? 2. What are the effects of sports service design and structure, sports facilities and venues, sports guidance and training, sports activities and organization, and service supervision and management on the development mode of urban community public sports service system in Yongzhou city? 3. What is the guiding ideology for the development of public sports service system in Yongzhou urban community?

This study will take Yongzhou city community public sports service system construction development mode as a cutting point, multi-dimensional, depth attempts to Yongzhou city community public sports service system construction now survey research, in-depth investigation and analysis based on the combination of sports administrators, sports management organizations and residents of the survey research, to explore the construction of Yongzhou city urban area public sports service system development mode. And put forward more targeted development suggestions.

Research objectives

1. to investigate the factors influencing the development of a public sports service system in urban communities in Yongzhou city

2. to explore the relationship between sports service design and structure, sports facilities and venues, sports guidance and training, sports activities and organization, and service supervision and management on the development mode of public sports service system for urban communities in Yongzhou.

3. To put forward guidelines for optimizing the development mode of public sports service system in Yongzhou urban community.

Literature review

This paper explores several key theories that have important implications for the construction and development of public sport service systems in urban communities.

1. Sport service design and structure is the process of providing quality sport service experiences for individuals, teams and communities. Optimizing sports service design and structure, including organizational restructuring, process optimization, and service image enhancement, can help improve service efficiency and experience, thus promoting the development of public sports service systems in urban communities (Wang, 2017).

2. Sports facilities and venues are places and equipment used to hold various sports activities, competitions, and training. Studies have shown that these facilities have mass openness and social public welfare, and can meet the needs of mass fitness and competitive sports. Appropriate sports

facilities are not only an important support platform for residents' fitness, but also a key factor in enhancing residents' satisfaction (Chen, 2023).

3. Sports instruction and training, on the other hand, help individuals or teams to improve their athletic skills and physical fitness through professional guidance and systematic training. This process plays an important role in enhancing residents' physical health, promoting national fitness, and improving community cohesion and utilization of public sports facilities. Sports instruction and training also support the implementation of public health policies and promote the development of community sports and culture, and is therefore seen as a key factor influencing the development of the public sports service system in urban communities (Wang, 2017).

4. Sports activities and organizations are activities that are planned and managed at a specific time and place, and are designed to promote healthy lifestyles and social interactions. National fitness activities help the public to understand the health value of exercise and to develop a healthy lifestyle and self–directed health concepts (Wang & Zheng, 2019)

5.Service supervision and management is the process of monitoring, evaluating, and guiding the activities, processes, quality standards, and implementation of sport services. By managing and supervising sports venues and facilities, sports associations, sports information, event activities, and the market for public sports services, service supervision and management plays a key role in ensuring the institutionalization, standardization, transparency, and regulation of the public service system of national fitness (Wang, 2021).

Together, these theories form the basis for the construction of a public sports service system in urban communities and provide strong support for improving the quality and effectiveness of public sports services.

Research framework

According to the research question, there are six variables in this study and Figure 1 shows a schematic representation of the model concepts.

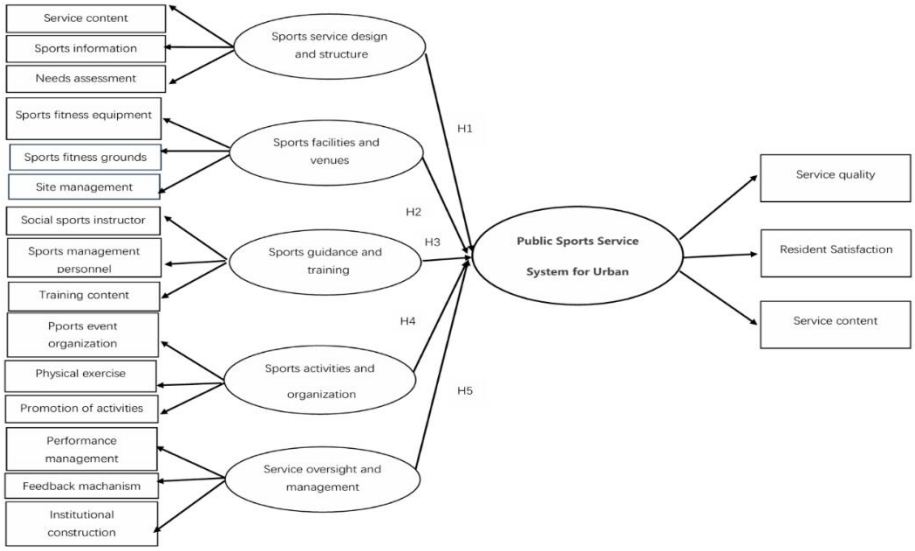

Figure 1 Conceptual Framework (Source: Constructed by the researcher)

This study establishes five hypotheses based on the research theme and the research framework model. H1: Sports service design and structure have a direct impact on the public sports service system in urban communities. H2: Sports facilities and venues have a positive and direct impact on the public sports service system in urban communities. H3: Sports instruction and training have a positive and direct impact on the public sports service system in urban communities. H4: Sports organizations and activities have a positive and direct impact on the public sports service system in urban communities. H5: Service supervision and management have a positive and direct impact on the public sports service system in urban communities. urban community public sports service system has a positive direct impact. H5: Service supervision and management has a positive direct impact on urban community public sports service system.

Research method

This study combines quantitative and qualitative methods to explore in depth the development model of the public sports service system and its influencing factors in the urban community of Yongzhou City. First, the literature review identified the influencing factors and theoretical framework, which provided the basis for the research design. Next, the study designed and implemented a quantitative study, using a questionnaire to collect a large amount of data. The questionnaire covered six variables, including sports service design and structure, sports facilities and venues, sports instruction and training,

sport organization and activities, and service supervision and management, and the relationship between these variables was explored through statistical analysis. Subsequently, the study was analyzed in depth using the focus group method to complement and validate the quantitative findings. The focus group, which consisted of sport administrators, management organizers, and experts, was used to gain deeper insights and formulate strategies for the development of a public sport service system for urban communities in Yongzhou City. The core steps of the study included designing questionnaires, collecting data, and conducting descriptive, correlation, and regression analyses to explore the relationship between service quality, efficiency, and resident satisfaction. The study surveyed 435 randomly sampled community residents and conducted semi–structured in–depth interviews with 18 managers and experts. Through these interviews, the study identified key influences on the public sports service system in urban communities in Yongzhou City and constructed a development model. This procedure ensured the comprehensiveness and accuracy of the data analysis and confidentiality and ultimately proposed targeted strategies aimed at improving the service quality and efficiency of the public sports service system in Yongzhou City. The findings provide a theoretical basis for further research and practice in the future.

Research Scopus

1. Content Scope

Combining theory and empirical evidence, this study focuses on the impact of sports service design and structure, sports facilities and venues, sports guidance and training, sports activities and organization, and service supervision and management on the public sports service system of urban communities in Yongzhou City, as well as sorting out the relationship between each variable.

2. Population Scope

The study survey respondents were urban residents, sports experts, and sports management administrators in 10 communities sampled from Yongzhou City–level County, Hunan Province.

3. Location Scope

In this study, Yongzhou City consists of the following four county–level cities: Chunxiao Community and Siyuan Community in Jianghua Yao Autonomous County; Qilidian Community, Qilidian Street, Xiangjiating Community, Qilidian Street, Risheng Community, and Shenxianling Community in

Zuling District; Sandotting Community, Meiban Community, and Cuizhuyuan Community, and Guanchong Community in Lengshuitan District; and Baota Street Community and Longshan Community in Qiyang City in the municipal county .

4. Scope of the variables

Variables in the Study.

Dependent variable: urban community public sports service system

Independent variables: sport service design and structure, sports facilities and venues, sports guidance and training, sports activities and organization, and service supervision and management.

Research Results

1. Quantitative study

A total of 435 single-item questionnaires were collected in this study, and 400 valid questionnaires were collected after excluding invalid questionnaires, with an effective recovery rate of 91.19%.

1.1 Exploratory factor analysis

1.1.1 Descriptive statistics and normality test

In this paper, SPSS 29.0 was used to analyze the questionnaire data. Based on the collected questionnaires, descriptive statistics were analyzed, including the mean, standard deviation, skewness, kurtosis of each observed variable and the overall mean and standard deviation of the sample. Indicators of sports service design and structure (SSDS) include service content (SC), service information platform (SIP), and service quality (QS). Indicators of Sports Facilities and Venues (SFV) include Sports and Fitness Equipment (SFE), Sports and Fitness Grounds (SFG) and Resident Satisfaction (RS). Indicators for Service Oversight and Management (SOM) include Performance Management (PM), Feedback Mechanism (FM) and Institution Construction (IC). Indicators of Sports Guidance and Training (SGT) include Social Sports Instructors (SSI), Sports Management Personnel (SMP), Sports Event Organization (SEO), and Physical Activity (PE), with a mean of 3.0–3.8 and a kurtosis range of –1–+1, indicating that the questionnaire results of this sample follow a one-way normal distribution and can be used for validation factor analysis.

1.2 Credit validity test of the indicator system

1.2.1 Data reliability test

The researcher used SPSS 29.0 to analyze the reliability of the scale data. A larger coefficient of the reliability indicator Cronbach's α indicates better model reliability, and in general, a coefficient greater than 0.7 indicates a higher degree of data availability (Kline, R. B. (2005). Before analyzing the survey data, the measurement variable questionnaire needs to be checked to ensure that the measurement instrument has good reliability.

Table 1 Standard values for reliability measurements

Factors	Items	Cronbach's α	Total Cronbach's α
SC	4	0.844	0.921
SIP	4	0.876	
NA	3	0.853	
SFE	4	0.880	
SFG	4	0.893	
RM	3	0.852	
SSI	4	0.884	
SMP	4	0.903	
TC	3	0.849	
SEO	4	0.867	
PE	4	0.885	
PA	3	0.835	
PM	4	0.873	
FM	4	0.897	
IC	4	0.862	
QS	6	0.917	
SE	5	0.899	
RS	6	0.926	

Reliability, which refers to the consistency and stability of the results of the questionnaire test, excluding systematic errors. Usually, consistency indicates whether the results are reasonable or not. Although systematic errors do not have a significant impact on reliability, they can affect the precision of the measurements and lead to inconsistent results. Questionnaire test results may reduce reliability. The higher the reliability coefficient, the more consistent, stable and reliable the questionnaire test results are. The commonly used reliability analysis methods are: the retest reliability method, compound reliability method, half reliability method and Cronbach's coefficient. The cloned Bach coefficient, as a commonly used method for visual reliability testing, overcomes the inherent shortcomings of some methods. Therefore, the cloned Bach reliability coefficients are utilized for reliability analysis. In terms of measurement, the larger the coefficient, the more reliable the questionnaire is. By analyzing the reliability of the items, the above table shows that all dimensions and quantities are greater than 0.7, which indicates that the reliability coefficient of the questionnaire data is high, the questionnaire is reliable, the coefficients are centralized, and the fluctuation of the reliability coefficient is small. Therefore, there is no need to remove the index and it can be further analyzed.

This study tested the reliability of the results using the SPSS effect 29.0.As shown in Table 1, the scale's Cronbach" coefficients for each of the measured variables ranged between 0.844 and 0.926, and the overall Cronbach" coefficient was 0.921, which suggests that the scale has good internal The overall Cronbach's coefficient is 0.921, which indicates that the scale has good internal consistency, which to a certain extent reflects the reliability of the scale in this study, and provides a strong guarantee for the validity of the results of the subsequent study.

1.2.2 Data validity

Exploratory Factor Analysis (EFA)

The validity analysis of the questionnaire data was conducted using the EFA method to test the characteristic validity of the questionnaire. Comprehensive can effectively identify the essential structure of multivariate observed variables and can reduce the dimensionality of multivariate observed variables by clustering variables with complex relationships into a number of core factors. Prior to factor analysis, Bartlett's ball test is required for the questionnaire data and KMO (Kaiser Meyer Olkin) values are measured. The KMO value is generally considered to be above 0.7 and the significance level of the spherical test meets the significance requirement of the two-tailed test to indicate that the questionnaire data is suitable for 0.7(Meyer, G. H., & Olkin, I.,1971).

Table 2 KMO and Bartlett's Sphericity Test of PSSS's Scale

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		0.957
Bartlett's Test of Sphericity	Approx. Chi–Square	5243.555
	df	136
	Sig.	<.001

In order to investigate whether the scale developed by the researcher is suitable for factor analysis, the researcher used SPSS29.0 software to conduct KMO test and Bartlett's Sphericity test on 73 questions in 18 dimensions. The results of the test are shown in Table 2, the KMO test result of the scale is 0.957 (greater than 0.8) indicating that it is very suitable for factor analysis. The result of Bartlett's spherical test is: chi–square=5243.555, degree of freedom=136, P<0.001, indicating that the corresponding probability value of concomitant is less than the significance level of the user's center, rejecting the null hypothesis, and that the correlation coefficient matrix is unlikely to be a unit array, i.e., there is a correlation between the original variables, which is suitable for doing principal component analysis.

1.2.3 Correlation analysis between variables

Table 3 Extracted means of variance (AVE)

Variables	Items	AVE
SC	4	0.5878
SIP	4	0.6458
NA	3	0.6608
SFE	4	0.6561
SFG	4	0.6811
RM	3	0.6600
SFE	4	0.6561
SFG	4	0.6811
RM	3	0.6600
SSI	4	0.6584
SMP	4	0.7024
TC	3	0.6520

Variables	Items	AVE
SEO	4	0.6218
PE	4	0.6616
PA	3	0.6362
PM	4	0.6351
FM	4	0.6883
IC	4	0.6111
QS	6	0.6484
SE	5	0.6488
RS	6	0.6796

The results of the validated factor analysis of the measurement model are shown in Table 3, which shows that the standardized factor loadings of the 18 latent variables are greater than 0.4, with a highly significant factor coefficient (p=0.000), indicating that the measurement model has strong explanatory power; the average variance extracted (AVE) of the 18 latent variables is 0.652, indicating that the measurement model has good internal consistency (reliability) and aggregation validity.

1.2.4 Standardized factor loading coefficients

Table 4 Variable Model Fit Indicators (Full Model)

NORM	CMIN/DF	GFI	CFI	AGFI	RMSEA
SD	<3	>0.9	>0.9	>0.9	<0.08
NB	1.309	0.961	0.989	0.944	0.027

In Table 4, the CMIN and DF of the model are associated with the sample size and complexity of the model. There is no good criterion for this metric, it is usually just shown. CMIN / DF is the relative ratio of the chi-square to the degrees of freedom, and <3 indicates a good fit.GFI, CFI, and AGFI > 0.9 indicate a good model fit. GFI, CFI, and AGFI > 0.9 indicate model fit. rMSEA < 0.030 indicates good fit. All of the above indicators met the criteria. After comprehensive consideration, the model is well fitted.

1.2.5 On the combined validity of variables

Table 5 Model AVE and CR Indicators

FACTOR	Mean variance-extracted AVE value	Combined reliability CR
SSDS	0.632	0.861
SFV	0.666	0.877
SGT	0.671	0.879
SAO	0.640	0.865
SOM	0.645	0.878
PASS	0.652	0.915

Table 5 shows the factor explanations for the six second-order latent variables. The AVE values for the convergent validity of the six second-order latent variables SSDS, SFV, SGT, SAO, SOM, and PASS are 0.632, 0.666, 0671, 0.640, 0.645, and 0.652, all of which are greater than the critical value of 0.5, suggesting that the six second-order latent variables have a high degree of convergent validity. The six second-order latent variables SSDS, SFV, SOM, and SGT construct reliability have CR values of SSDS, SFV, SGT, SAO, SOM, and PASS, all of which are greater than the critical value of 0.7, suggesting that all six second-order latent variables have high construct reliability. AVE value = mean (loaded squared as sum), CR value = sum (loaded)^2/[sum (loaded)^2 + sum (e)], the loading value is the standardized loading factor, and e is the standard residual loading factor. In general, when the AVE is greater than 0.5 and the CR value is greater than 0.7., the aggregation validity is high Table 4.6, the AVE values of the six dimensions are greater than 0.5 and the CR values are greater than 0.7, indicating that the aggregation (convergence) validity of the analyzed data is good.

1.2.6 Discriminant validity

Table 6 Discriminant validity among six latent variables

	SOM	SAO	SGT	SFV	SSDS	PSSS
SOM	0.775					
SAO	0.434	0.773				
SGT	0.440	0.432	0.771			
SFV	0.536	0.552	0.607	0.768		

	SOM	SAO	SGT	SFV	SSDS	PSSS
SSDS	0.472	0.479	0.544	0.507	0.751	
PSSS	0.537	0.543	0.609	0.642	0.579	0.820

Note: The bold diagonal numbers are the AVE square root values.

Table 6 The diagonal line shows the AVE square root value, and the rest is the Pearson correlation coefficient. the AVE square root value can indicate the "clustering" of the factor, and the correlation coefficient indicates the correlation. If the factor has a strong "clustering" (significantly stronger than the absolute value) the correlation coefficient with the other factors. If the AVE square root value of the factor is greater than the absolute value of the correlation coefficient between the factor and another factor. This conclusion was reached for all factors, indicating good discriminant validity. In Table 6, the AVE square root value of 0.775 for Service Supervision and Management is greater than the maximum value of the absolute inter-factor correlation coefficient, indicating optimal discriminant validity. The AVE square root value of 0.773 for sports activities and organization is greater than the maximum value of the correlation coefficient of 0.434, indicating optimal discriminant validity. The AVE square root value for Sports Instruction and Training is 0.771, which is greater than the maximum correlation coefficient of 0.440, indicating optimal discriminant validity. The AVE square root value of 0.768 for sports facilities and venues is greater than the maximum value of 0.536 for the number of absolute cross-correlations, indicating optimal discriminant validity. The AVE square root value of sports service design and structure was 0.751, which was greater than the maximum value of the correlation coefficient of 0.472, indicating optimal discriminant validity. The square root value of the AVE for public sports services in urban communities is 0.820, which is greater than the maximum value of the correlation coefficient of 0.537, indicating optimal discriminant validity.

1.2.7 Building a Structural Equation Model

With the support of theoretical foundations, researchers constructed structural equation models based on the analysis of various first-order and second-order models, as shown in Figure 2. The fitness of the structural equation model is shown in Table 58, with chi square/degree of freedom=1.309, GFI=0.961, AGFI=0.944, CFI=0.989, SRMR=0.030, RMSE=0.027, All data indicate that the structural equation model has a good fitness.

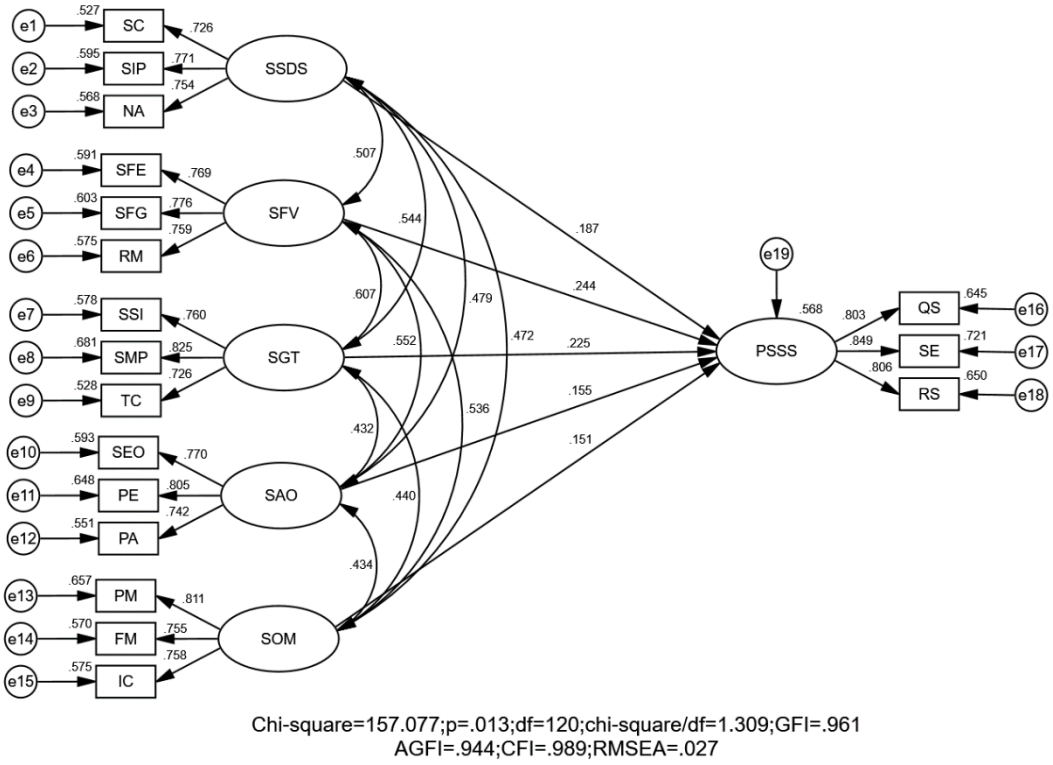

Figure 2 Structural Equation Model Diagram (Source: Constructed by the researcher)

1.2.8 Hypothesis validation

Table 7 Hypothesis test results for direct effects

Path	Relationship	Path coefficient	S.E.	t-value	Result
H1: SSDS → PSSS	+	0.182	0.062	2.946	Support
H2: SFV → PSSS	+	0.232	0.069	3.342	Support
H3: SGT → PSSS	+	0.226	0.066	3.418	Support
H4: SAO → PSSS	+	0.147	0.057	2.605	Support
H5: SOM → PSSS	+	0.149	0.057	2.589	Support

As shown in Table 7, the path coefficient relationships between the various second-order latent variables are displayed. Hypothesis 1 (SSDS → PSSS) has a path coefficient point estimate of 0.182 with a standard error of 0.062 and a t-value of 2.946 (greater than 1.96) under nonstandard conditions, so Hypothesis 1 holds. Under nonstandard conditions, Hypothesis 2 (SFV → PSSS) has a path coefficient point estimate of 0. 232, a standard error of 0.069, and a t-value of 3.342 (greater

than 1.96), so Hypothesis 2 holds. Under the nonstandard condition, the point estimate of the path coefficient for Hypothesis 3 (SGT → PSSS) is 0.226 with a standard error of 0.066 and a t-value of 3.418 (greater than 1.96), so Hypothesis 3 holds. Under the nonstandard condition, the point estimate of the path coefficient for Hypothesis 4 (SAO → PSSS) is 0.147 with a standard error of 0.057 and a t-value of 2.605 (greater than 1.96), so Hypothesis 4 holds. Under the nonstandard condition, the point estimate of the path coefficient for Hypothesis 5 (SOM → PSSS) is 0.149 with a standard error of 0.057 and a t-value of 2.589 (greater than 1.96), so Hypothesis 5 holds.

2. Qualitative research

Focus group experts fully affirmed the research model and concluded that the relationship between the variables and the hypotheses was positively correlated and had a positive impact on the public sports service system in urban communities. A sports administrator believed that by organizing diversified sports activities on a regular basis, community residents can participate more actively in physical exercise, which helps to improve overall health and enhance physical fitness. One of the relevant experts said that the significance of sports service design in the community public sports service system is multi-layered. It not only helps residents improve their physical health and enhance community cohesion, but also promotes social equity, optimal use of resources and sustainable community development. It has also been stated by experts that it promotes the overall development of the community and the well-being of the residents by promoting innovation and improving the efficiency of resource utilization. Through the validation of the equation model, each variable plays a very important role in the model. Participating experts further suggested higher requirements for the model and hoped that the current system of intelligence and development would be studied in future research.

Discussion

1. Assuming that H1 is valid, the standardized path coefficient of sports service design and structure on the public sports service system in urban communities is 0.187 ($P<0.001$), indicating its significant positive effect on the improvement of public sports service quality. Sports service design not only improves residents' health and community cohesion, but also promotes social equity and resource optimization, which is the key to building a community public sports service system.

2. Assuming that H2 holds, the standardized path coefficient of sports facilities and venues on the public sports service system in urban communities is 0.244 (P<0.001), showing its significant positive effect. Improving the quality of public sports facilities helps to increase residents' participation in sports activities and the convenience and supply quality of public sports services, and institutional planning, innovation and performance evaluation are the keys to ensure the effective allocation of resources.

3. Assuming that H3 holds, the standardized path coefficient of sports instruction and training on the public sports service system in urban communities is 0.225 (P<0.001), indicating that it has a positive effect on the service system and is a core factor in improving the quality of public sports services. Service awareness and managers' professional competence are crucial to the quality and efficiency of public sports services.

4. Assuming that H4 is valid, the standardized path coefficient of sports activities and organizations on the public sports service system in urban communities is 0.155 (P<0.001), showing its significant positive effect. Promoting social equity, inclusiveness and community cohesion by organizing sports activities for different groups of people, especially the elderly, youth, and people with disabilities, helps to reduce social inequality, improves the quality of public sports services, and promotes sustainable and healthy development of communities and cities.

5. Hypothesis H5 holds, the standardized path coefficient of service supervision and management on urban community public sports service system is 0.151 (P<0.001), indicating that it has a significant positive effect on the system. Service supervision and management plays a key role in ensuring service quality and fairness, promoting innovation, and improving the efficiency of resource utilization, which contributes to the overall development of the community and the well–being of the residents, and its strengthening is essential for improving the public sports service system in urban communities.

Conclusion

This dissertation aims to explore the theoretical model of urban community public sports service system and analyze the relationship between variables. The research objectives are 1) to explore the study of influencing factors on the development of public sports service system in Yongzhou urban community; 2) to analyze the relationship between sports service design and structure, sports facilities

and venues, sports guidance and training, sports activities and organization, service supervision and management and the public sports service system of Yongzhou urban community in the development model of Yongzhou urban community public sports service system; and 3) to put forward the optimization of Yongzhou urban community public sports service system development model guidance. The researchers used a mixed research procedure to explain the research design. This study surveyed urban residents living permanently in 10 communities in Yongzhou city-level counties in Hunan Province, conducted descriptive statistics, exploratory and validation factor analysis, and correlation analysis on 400 valid questionnaires, and used quantitative research methods to conduct the survey and data collection. And Excel, SPSS, AMOS and other software were used to construct structural equations and analyze the collected data. From in the quantitative research, it was found that: sports service design and structure, sports facilities and venues, service supervision and management, sports instruction and training all play a positive influence on the model of public sports service system in urban communities. In the qualitative phase, the researcher used a purposive sampling method with three sample criteria: respondents' background, variable score level, outliers and willingness to participate in the discussion. There are several recommendations for the above study: the model of the public sports service system in urban communities should promote the concept of health for all by optimizing the design of public sports services in urban communities, coordinating the supply of public sports venues and facilities, strengthening the supervision and management of services, and enriching the organization of sports instruction and activities. At the same time, the sports management department should improve the level of service, establish smooth information channels, use artificial intelligence means to obtain residents' fitness needs, adhere to the concept of great health, and change from focusing on "treating the disease before it occurs" to focusing on "preventing the disease before it occurs". Encourage more people to spontaneously participate in physical exercise to achieve the goal of national fitness. In future research, we can try to introduce more influencing factors, optimize the theoretical model of the urban community public sports service system, and overcome the shortcomings of the model by combining with practice, so as to build a more suitable theoretical model and lay the foundation for the development of national fitness public sports service.

Suggestions

Optimizing the design and structure of public sports services in urban communities should ensure that the diversified fitness needs of the public are met. The quality of services can be improved by strengthening community participation in co-construction, promoting the popularization of intelligent fitness, and establishing an information platform for public sports services. At the same time, the layout of sports facilities should be scientifically planned, resource sharing and green development should be promoted, and intelligent management systems should be established to ensure the sustainable use of facilities. Enhancing the quality of sports instruction and training personnel requires the establishment of a systematic training mechanism, a professional qualification system and a supervision and evaluation system. Enrichment of community sports activities should be diversified and designed to utilize community resources and provide professional guidance. Service supervision and management should be strengthened by establishing an integrated management platform, optimizing resource allocation and a digital management system in order to improve service quality and management.

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