

# MANAGEMENT OF SPORTS PUBLIC SERVICES IN GANZI PREFECTURE

**WEIDONG FU**

Sports Management, College of Innovation and Management, Suan Sunandha Rajabhat University, Bangkok, Thailand.

**SUPITR SAMAHITO \***

Sports Management, College of Innovation and Management, Suan Sunandha Rajabhat University, Bangkok, Thailand. \*Corresponding Author E-mail: 178310877@qq.com

## Abstract

**Purpose** – The aim of this study is to analyze the role of Service Quality (SVQ) and Service Demand (SVD) as balancing indicators in the Supply Performance (SPP) generated by Sports Public Supply Subject (SPS). **Design/methodology/approach** – A survey was conducted on 790 volunteers participating in sports public services in Ganzi Prefecture. We constructed a structural equation model using AMOS and analyzed the direct and indirect relationships. **Findings** – The research results found that there is a relationship between SPS and SVD, SPS and SVQ, SPS and SPP, SVD and SPP, SVQ and SPP, and SVD and SVQ. The research results revealed that SVD plays a mediating role between SPS and SPP, SVQ plays a mediating role between SPS and SPP, and SVD and SVQ successively mediate the relationship between SPS and SPP. **Research limitations/implications** – The chain mediated effect provides various theoretical significance for the direct and indirect impact on the supply performance of sports public services. **Practical implications** – From the perspective of improving the performance of sports public services, it has practical significance for the managers of service providers. Meanwhile, this study also contributes to improving relevant policy. **Originality/value** –The innovation of this study lies in proposing Service Quality (SVQ) and Service Demand (SVD) as continuous mediators, which have a direct and indirect impact on Supply Performance (SPP).

**Keywords:** Sports Public Services, Sports Management, Supply Subjects, Service Quality, Service Demand, Supply Performance.

**JEL Classifications:** H

## 1. INTRODUCTION

Currently, the main contradiction in the supply of sports public services in China is the relatively insufficient demand and supply capacity of the growing public for sports. On the one hand, with the development of the economy and society, the disposable income of the public has increased, and the demand for sports has also shown diversified, personalized, and upgraded characteristics.

The requirements for the quality, quantity, and timeliness of sports public products are also increasing, which undoubtedly poses a serious challenge to the government's supply behavior of sports public products. On the other hand, governments at all levels, represented by sports administrative departments, attempt to continuously improve, and improve the quality and efficiency of sports public product supply.

## 2. THEORETICAL FOUNDATION, LITERATURE AND HYPOTHESES

In China, a few scholars have made improvements and optimizations to the popular Western concept model of service quality evaluation centered on customer perception. They have proposed a service quality model mechanism based on customer perception quality and organizational support quality and constructed a service quality model based on the four-factor model (Lv Weixia, 2010).

This theory believes that the inherent service capabilities and levels of service providers are also important quality dimensions, and define it as supporting quality, which can be evaluated from within the organization. This model is modified based on the three factors model proposed by Chen Chaobing (2017, p.74). Ding Jinglong (2019, p.70) believes that the main body of public sports services includes non-profit social organizations such as local governments and industry associations, as well as profit-making sports providers that provide paid services.

Among them, the relevant departments of local governments, based on their functional positioning, utilize their own responsibilities and authorities in public utility management, and implement public sports behavior through multiple forms of sports carriers through various methods and channels.

A type of professional service provided to society is public sports service. Xu Ting (2020, p.31) pointed out that the providers of sports public services are not necessarily the government, but various private enterprises, social organizations, communities, and even individuals commissioned by the government to produce sports public goods. Li Liang et al. (2023, p.75) pointed out that in terms of the supply subject status, developed countries still maintain the dominant position of government supply, but attach importance to the role of third-party supply subjects, while revitalizing the stock of social organizations.

These are the development trends of sports public services for disabled people in developed countries, which objectively confirms that the sports public sector should attach importance to services and advocate for the joint efforts of multiple subjects to complete public service projects, to reflect the value of new public services.

Based on the research of the above scholars, the following hypothesis has been proposed (Show as figure1):

H1: The Supply Subject (SPS) has a positive and direct impact on Supply Performance (SPP).

H2: The impact of Service Demand (SVD) on Supply Subjects (SPS) and Supply Performance (SPP) plays a mediating role.

H3: The impact of Service Quality (SVQ) on Supply Subjects (SPS) and Supply Performance (SPP) plays a mediating role.

H4: The Service Demand (SVD) and Service Quality (SVQ) play a mediating role in the impact of Supply Subjects (SPS) and Supply Performance (SPP).

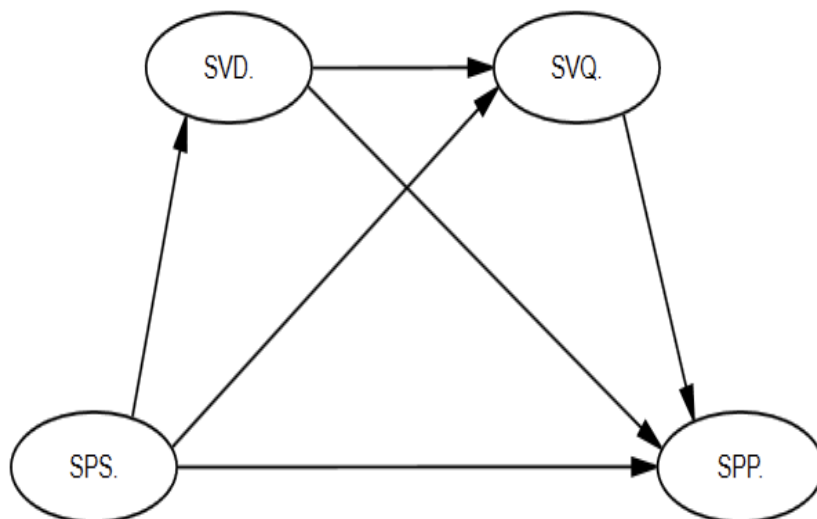


Figure 1: Conceptual Model

### 3. METHOD

#### 3.1 Sample

The main data of 790 sports public service volunteers were collected through a questionnaire survey using the Likert five points scale to examine. In the absence of a sampling framework for sports public service volunteers, use judgmental sampling to collect responses.

Table 1: Basic Information of Sample

Lists	Numbers	Percentage
<b>Gender</b>		
Male	383	48.5
Female	407	51.5
<b>Age</b>		
Less than 18years old	54	6.8
18-35years old	333	42.1
36-50 years old	210	26.6
51-60 years old	138	17.5
More than 61 years old	55	7
<b>Profession</b>		
Farmer	59	7.5
Civil servant	156	19.7
Freelancing	258	32.7
urban white-collar workers	212	26.8
Others	105	13.3

Source(s): All Tables created by Authors

### 3.2 Demographic profile of respondents

Respondents' demographic information related to age, gender and Profession is shown in Table 1.

### 3.3 Measures

We operationalized the study's constructs: SPS, SVD, SVQ and SPP through adapted scales: SPS (14-items), SVD (27-items), SVQ (15-items) and SPP (9-items) from Yuan (2014) We contacted volunteers and asked qualifying questions to avoid bias. Non-response bias was not found by comparing the first and last 100 responses.

## 4. ANALYSIS AND FINDINGS

### 4.1 Descriptive statistics and multicollinearity

As shown in Table 2, the correlation coefficients between the variables range from 0.3 to 0.523, which meets the criteria proposed by Montgomery et al (2021). The Variance inflation factor (VIF) ranges from 1.228 to 1.525, both of which are below the critical value of 5(Montgomery, 1990), indicating the absence of serious collinearity issues.

**Table 2: Means, standard deviations and correlations among study variables (N=790)**

Variable	SPP	SPS	SVQ	SVD	VIF	M	SD
SPP	1				1.228	3.320	0.738
SPS	.305**	1			1.325	3.389	0.736
SVQ	.354**	.425**	1		1.524	3.594	0.713
SVD	.367**	.415**	.523**	1	1.525	3.554	0.759

Note(s): \*\*, correlation is significant at the 0.01 level (2-tailed); SPP: (Supply Performance), SPS: (Supply Subject), SVQ: (Service Quality), SVD: (Service Demand); VIF: variance inflation factor;

Source(s): All Tables created by Authors;

### 4.2 Measurement properties and confirmatory factor analysis (CFA)

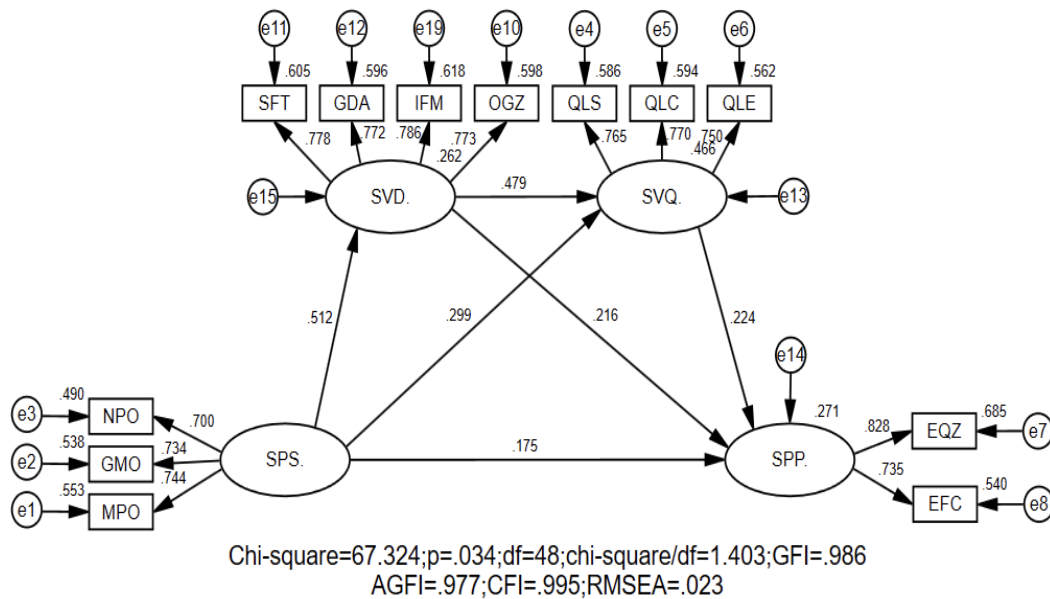
The researchers used SPSS 26.0 and AMOS 23.0 to analyze the scale data. Before conducting the analysis, they first evaluated the measurement model for each dimension. The standardized factor load is shown in table 3 and figure 2(0.700-0.828).

Cronbach alpha (0.909-0.954) is higher than the critical value of 0.6, indicating good reliability (Hair, 2009).  $\chi^2/df=1.403$ , RMSEA=0.023, SRMR=0.022, CFI=0.995, GFI=0.986, TLI=0.993, and NFI=0.982 are in limit showing good model fit.

**Table 3: Measurement Properties: Standardized factor Loading and Cronbach’s alpha**

construct	Standardized loading	Cronbach's alpha
SPP		0.909
EQZ(4-item)	0.828	
EFC(5-item)	0.735	
SPS		0.924
NPO(5-item)	0.700	
GMO(5-item)	0.734	
PMO(4-item)	0.744	
SVD		0.954
SFT(7-item)	0.778	
GDA(6-item)	0.772	
IFM(8-item)	0.786	
OGZ(6-item)	0.773	
SVQ		0.917
QLS(4-item)	0.765	
QLC(4-item)	0.770	
QLE(7-item)	0.750	

Note(s): All factor loadings were standardized and were significant at the 0.001 level Source(s): All Tables created by Authors



**Figure 2: Structural Equation Model Diagram**

**4.3 Convergent validity, discriminant validity and common method bias**

Table4 shows validity issue as AVE (0.527–0.680), CR (0.759–0.859), and the square root of AVE (0.726–0.783) are above cut-off limit (Hair et al, 2009). Herman’s single-factor test explained (41.274%) of the fist factor, which is less than 50%, suggesting that CMV is not an issue (Podsakoff et al. (2003).

**Table 4: Reliability and Validity of the model sample**

Construct	AVE	CR	SPS	SVD	SVQ	SPP
SPS	0.527	0.770	0.726			
SVD	0.604	0.859	0.512	0.777		
SVQ	0.580	0.806	0.545	0.632	0.762	
SPP	0.613	0.759	0.408	0.448	0.456	0.783

Note(s): The square root of the AVE is indicated by the diagonal (discriminant validity). The information in the lower triangle is related to the factors. CR stands for composite reliability. Numbers in the diagonal are AVE: average variance extracted;

Source(s): All Tables created by Authors

#### 4.4 Hypothesis testing

This study used Amos 23.0 software for mediation effect analysis and Bootstrap method for testing. The repeated sampling was set at 5000 times, and a 95% "bias corrected confidence interval" was calculated.

If the 95% confidence interval (95% CI) does not include 0, it indicates that the mediation effect is significant. As shown in Table 5 assuming that the point estimation value of H1 is 0.174, the Z-value is 2.384 (greater than 1.96), the 95% confidence interval of the Bias corrected percentile method is [0.034, 0.325], not excluding 0. The 95% confidence interval of the percentile method is [0.030, 0.322], not excluding 0, and the P-value is significant at the 0.05 level, indicating that the direct effect of the H1 pathway is significant. Assuming that the estimated point value of H2 is 0.110, the Z-value is 2.75 (greater than 1.96), the 95% confidence interval of the Bias corrected percentile method is [0.039, 0.192], not excluding 0, and the P-value is significant at the 0.01 level.

The 95% confidence interval of the percentile method is [0.038, 0.191], not excluding 0, and the P-value is significant at the 0.01 level, indicating that the mediating effect of the H2 pathway is significant; Assuming that the estimated point value of H3 is 0.067, the Z-value is 2.481 (greater than 1.96), the 95% confidence interval of the Bias corrected percentile method is [0.022, 0.130], not excluding 0, the P-value is significant at the 0.01 level, and the 95% confidence interval of the percentile method is [0.018, 0.123], both of which do not include 0.

The P-value is significant at the 0.05 level, indicating that the mediating effect of the H3 pathway is significant; Assuming that the estimated point value of H4 is 0.055, the Z-value is 2.75 (greater than 1.96), the 95% confidence interval of the Bias corrected percentile method is [0.022, 0.130], not excluding 0, and the P-value is significant at the 0.01 level. The 95% confidence interval of the percentile method is [0.016, 0.094], both of which do not include 0, and the P-value is significant at the 0.05 level, indicating that the mediating effect of the H4 pathway is significant.

**Table 5: Test of direct and indirect hypothesis (H1 to H4)**

Path	Estimate point	Boot SE	Z	Bias-corrected percentile method			Percentile method			Percentage of total effect	Percentage of indirect effect
				95% Boot LLC	95% Boot ULCI	P	95% Boot LLC	95% Boot ULCI	P		
Total effect	0.406	0.058	7.000	0.295	0.525	***	0.292	0.522	***	—	
Direct effect(H1)	0.174	0.073	2.384	0.034	0.325	*	0.030	0.322	*	42.86%	
Total indirect effect	0.231	0.044	5.250	0.153	0.329	***	0.150	0.323	***	56.90%	—
Path2:(H2)	0.110	0.040	2.750	0.039	0.192	**	0.038	0.191	**	27.09%	47.62%
Path3:(H3)	0.067	0.027	2.481	0.022	0.130	**	0.018	0.123	*	16.50%	29.00%
Path4:(H4)	0.055	0.020	2.750	0.018	0.097	**	0.016	0.094	*	13.55%	23.81%
(C1)	0.043	0.056	0.786	-0.064	0.156	0.441	-0.062	0.158	0.418		
(C2)	0.055	0.051	1.098	-0.042	0.158	0.259	-0.039	0.161	0.241		
(C3)	0.012	0.020	0.600	-0.020	0.061	0.409	-0.023	0.057	0.514		

Note(s): 5,000 bootstrap samples; C1 means H2-H3, C2 means H2-H4, C3 means H3-H4; \* is significant at the 0.05 level (2-tailed), \*\* is significant at the 0.01 level (2-tailed), \*\*\* is significant at the 0.001 level (2-tailed);

Source(s): All Tables created by Authors

## 5. DISCUSSION

### 5.1 *Theoretical implications*

The feasibility and necessity of introducing quality management theory into the field of public sports services in China have been clarified, and the theoretical system of quality management in public sports services has been enriched and improved.

The existing research and practice only focus on the reform of individual management links in public sports services, neglecting the systematic and orderly quality management, and failing to find a comprehensive solution to improve the quality of sports public services, nor establishing a complete theoretical system guided by health promotion.

A theoretical model of factors affecting the quality of sports public services was constructed and validated, and the structure and mechanism of factors affecting the quality of sports public services were basically clarified. The existing theoretical research on the structure and mechanism of factors affecting the quality of public sports services is not clear, resulting in the practice not fully following the basic path of improving the conditions of influencing factors and thereby improving the quality of public sports services.

This study used relevant tools and constructed a structural equation model to verify the theoretical hypothesis. The results showed that the supply subject can affect supply performance through service quality and service demand. Service demand and service quality can play both a separate mediating role and a chain mediating role between the supply subject and supply performance. The three mediating effects are clearly compared, it is possible to clarify the focus and entry points for improving the performance of sports public services.

### 5.2 *Practical implications*

The researchers aim to explore the effects of (1) SPS, SVD, and SVQ on SPP; (2) The mediating role of SVD between SPS and SPP; (3) The mediating role of SVQ between SPS and SPP; (4) The chain mediated role of SVD and SVQ between SPS and SPP. The validation results of H1 indicate that SPS has a direct and significant predictive effect on SPP, consistent with previous research findings (Zhu Yiran, 2014; Lu Chengxi&LI Chao, 2020; Zhou Junfeng, 2023; Guo Lian, 2018; Lv Wangang, 2020).

Hypothesis 2, the research findings that SVD mediates the relationship between SPS and SPP are supported by evidence, indicating an indirect relationship between the supply performance of sports public service providers and the demand of participants, confirming previous research (Chen Chaobing, 2017; Xu Yuan&Zhang Qun, 2007; Zhang Ruixin, 2014; Li Zhengquan, 2012; Chen Zhenming, 2016).

Assuming 3, the mediating effect of SVQ between SPS and SPP has also been confirmed, indicating that service quality also plays a mediating role between supply subjects and supply performance. H4 plays a chain mediating role between service quality and service demand between the supply subject and supply performance, and the results show that the effect of this chain mediating role is the most significant.



In summary, how to coordinate the supply methods of these three parties well, so that they can achieve dynamic balance of interests and maximize cooperation efficiency, is a key issue related to the long-term development of the entire supply organization.

### **5.3 Limitations**

From the perspective of the continuity of time, this study has certain limitations, as the demand for sports public services by participants will fluctuate over time. Alternatively, there may be differences in the number of groups at different age groups, but there will not be significant fluctuations in the short term. This study measures the service efficiency and fairness of sports public services from two dimensions.

From this perspective, there is a natural wealth gap between rural and urban areas where there is already a considerable economic gap. Therefore, while balancing supply efficiency, it is inevitable to sacrifice a certain degree of fairness. Similarly, while balancing fairness, supply efficiency will also be affected to a certain extent.

The improvement of public sports quality in our country is still in a scattered and exploratory stage in practice, and there are insufficient successful practice models. The research results of using quality management systems are even fewer, and there is a lack of reference experience. In terms of current situation analysis, existing literature research results and annual data from the white paper on public sports services were used, lacking comprehensive field research.

In the process of qualitative research and model verification, the selection of research objects and samples should meet the scientific research requirements as far as possible, but it is not comprehensive in terms of complex reality. Sports public service is a constantly evolving and expanding historical proposition, and the quality of sports public service is a complex theme.

## **6. CONCLUSIONS**

The verification results of the parallel mediation effect model indicate that the performance of sports public services includes supply efficiency and fairness, which are both different and related. The supply subject can have an impact on supply efficiency and fairness through service quality and service demand. Service demand can more directly reflect the specific needs of citizens, which is a prerequisite for further improving service quality, only by identifying the specific needs of citizens can we be fully prepared for the next step of improving service quality.

The verification results of the chain mediation effect model indicate that the sports public services provided by the supply subject need to be further transformed into supply performance through the service demand and service quality of citizens. Supply performance is a further sublimation of service quality and precision service demand, which is a comprehensive and broad manifestation. By examining the four dimensions of service demand: sports information, sports guidance, sports organization, and venue facilities, it can be seen that sports venue facilities are the most important, followed by sports guidance.

## References

- 1) Chen Chaobing. (2017). Public service quality: a concept that urgently needs to be redefined and interpreted. **Journal of the Party School of the Tianjin Municipal Committee of the Communist Party of China**,14(2),74-81.
- 2) Chen Zhenming. (2016). Theoretical and practical progress in improving the quality of public services in China. **Journal of Xiamen University (Philosophy and Social Sciences Edition)**,14(1),58-68.
- 3) Ding Jinglong. (2019) Analysis of the Evaluation Index System for Public Services of National Fitness. **Sports and Science**, (1),70-76.
- 4) Guo Lian. (2018). Research on Building a Modern Community Leisure Sports Public Service System. **Science & technology information**,18,255-256.
- 5) Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2009), *Multivariate Data Analysis*, 7th ed., Pearson Prentice Hall, Upper Saddle River.
- 6) Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2009), *Multivariate Data Analysis*, 7th ed., Pearson Prentice Hall, Upper Saddle River.
- 7) Li Liang et al. (2023). The People's Compliance Standard: The Basic Value Orientation of Contemporary Chinese Government Performance Evaluation. **Journal of Chengdu University of Technology (Social Science Edition)**, (4),75-80.
- 8) Li Zhengquan. (2012). On the Subjectivity and Objectivity of Quality. *Standard Science*. 13(11),52-56.
- 9) Lu Chengxi & LI Chao. (2020). Problems in Public Sports Service and the Realization Path of Equalization. **Social Sports**,19(12),18-22.
- 10) Lv Weixia. (2010) The Current Situation and Countermeasures of the Equalization of Public sports services in urban and rural areas of Anhui Province. **Journal of Shangqiu normal university**,35(6),70-72.
- 11) Montgomery, D.C., Peck, E.A. and Vining, G.G. (2021), *Introduction to Linear Regression Analysis*, John Wiley & Sons, Hoboken, New Jersey. <https://doi.org/10.1201/b10289-6>
- 12) Montgomery, D.C., Runger, G. C., Hubele, N. F.. *Engineering statistics*[J]. *Technical Reports*, 1990, 46(2): 347-348. <https://doi.org/10.1002/9781118445112.stat00165>
- 13) Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
- 14) Xu Ting. (2020). Empirical Study on the Efficiency Evaluation and Influencing Factors of Sports Public Services in China. **Sports Science**, (4),31-16.
- 15) Xu Yuan, Zhang Qun. (2007). Analysis of the Characteristics and Functions of Service Quality. **Journal of Wuhan University of Technology (Information and Management Engineering Edition)**,12(3),131-135.
- 16) Zhang Ruixin. (2014). Public Service Quality: Characteristics and Evaluation Strategies. **Journal of Beijing Institute of Administration**, (6),8-14.
- 17) Zhou Junfeng. (2023). Dilemma and Optimization of Citizens' Participation in Local Government's Purchase of Sports Public Service from Perspective of Whole-Process People's Democracy. **Journal of Wuhan Sports University**,57(1),84-91.
- 18) Zhu Yiran. (2014). Experience and Enlightenment of Government Procurement of Public Sports Services in Developed Country. **Journal of TUS**,29(4),290-295.