SPORT TK-EuroAmerican Journal of Sport Sciences

https://revistas.um.es/sportk Online ISSN: 2340-8812

Received: **05/03/2024.** Accepted: **13/05/2024.** Published: **30/06/2024**

Analysis of the supporting attitude of Changsha-Zhuzhou-Xiangtan residents toward the interactive development of sports events and urban tourism

Lizhi Li[1]*, Jiang Liang[1]

[1] International College, Krirk University, Bangkok, Thailand.

* Correspondence: Lizhi Li; 306928157@qq.com

ABSTRACT

This study investigated the supportive attitudes of residents in Changsha-Zhuzhou-Xiangtan toward the interactive development of sports events and urban tourism. The study employed a survey-based quantitative method, with a total of 115 residents participating. The survey assessed the impact through three key dimensions: economic impact, tourism image impact, and spatial impact, comprising 12 factors. The results indicated strong support among residents for the idea that sports events can generate economic benefits, enhance the urban tourism image, and stimulate spatial development. Sports events impact the tourism economy, improve the city's image, and create a cultural ambiance, fostering mutual growth between sports and tourism in the region. Pearson correlation analysis revealed a significant positive relationship ($p<0.05$) between sports events and tourism-related income, including transportation, dining, and accommodation. Residents' cognitive attitudes are explained by 35.5% of these factors, while 83.8% of their willingness to support the events is attributed to the same factors. Local governments should support distinctive sports events, optimize tourism resources, and enhance infrastructure to stimulate rapid economic growth.

KEYWORDS

Sports Events; Urban Tourism; Interactive Development; Changsha-Zhuzhou-Xiangtan

1. INTRODUCTION

With the improvement of people's living standards and the enhancement of health consciousness, sports events and urban tourism have become new focal points of consumption (Lin & Lin, 2016). Concurrently, sports events and urban tourism, as integral components of the modern

service industry, exhibit a high degree of industrial interdependence and integration (Li et al., 2019). Therefore, sports events, ranging from local competitions to global extravaganzas, serve as powerful catalysts for the development of the tourism industry (Liu, 2019). The allure of these events draws sports enthusiasts from around the world, propelling the growth of the tourism industry (Liu, 2008). Additionally, tourism provides essential infrastructure, hospitality, and audience engagement crucial for the success of sports events, thereby establishing a mutually beneficial relationship between the two sectors (Du, 2011). This symbiotic relationship not only fosters economic growth in thriving urban centers and community participation but also extends to rural areas, promoting sustainable and inclusive development of both sports events and the tourism industry (Wang, 2019).

The Changsha-Zhuzhou-Xiangtan region, as the economic, cultural, and sports center of Hunan province, possesses abundant sports and tourism resources, establishing a solid foundation for the development of sports events and urban tourism (Zheng, 2021). Embracing the strategic opportunities in sports industry development, Changsha-Zhuzhou-Xiangtan emphasizes "tourism + sports" as the cornerstone of the sports industry, catering to diverse preferences in sports tourism (Ya, 2022). Against the backdrop of the national implementation of the universal fitness strategy and the promotion of high-quality development in the sports industry, researching the interactive development between sports events and urban tourism in Changsha-Zhuzhou-Xiangtan holds significant practical implications for enhancing regional brand image, promoting industrial transformation and upgrading, and meeting the diverse sports and tourism needs of the population (Zhang et al., 2021).

Located in the central part of Hunan province, the Changsha-Zhuzhou-Xiangtan region is an area endowed with abundant natural and cultural resources. The favorable climate and picturesque scenery create advantageous conditions for the development of sports events and urban tourism (Ma, 2020). With the development of universal fitness and the sports industry, sports events have become a crucial component of urban tourism. The prosperity of urban tourism, in turn, provides a broader market and resources for sports events (Hu et al., 2021). However, the development of sports events and urban tourism in Changsha-Zhuzhou-Xiangtan also encounters certain challenges. On one hand, there is insufficient integration between sports events and urban tourism, lacking effective resource consolidation and coordinated development mechanisms; On the other hand, the phenomenon of homogeneity is pronounced in sports events and tourism products in the Changsha-Zhuzhou-Xiangtan region, lacking distinctive features and innovation. Hence, investigating the catalytic effect of sports events on urban tourism in Changsha-Zhuzhou-Xiangtan is of significant practical

importance. This study explores the perceptions of Changsha-Zhuzhou-Xiangtan residents on the interaction between sports events and urban tourism. It examines the impact of sports events on the tourism economy, image, and spatial aspects, as well as residents' attitudes and support for this interaction.

2. METHODS

2.1. Study Design and Participants

This study employed a survey-based quantitative method, including the design of a questionnaire, testing its reliability and validity, data collection, and analysis. A total of 115 residents of Changsha-Zhuzhou-Xiangtan participated in this study.

2.2 Analysis of the Reliability and Validity of the Measurement Questionnaire

2.2.1. Validity Analysis of the Measurement Scale for the Impact of Sports Events on Urban Tourism

In the validity test of the measurement scale for the impact of sports events on urban tourism, three dimensions of the impact were considered: the economic impact, the impact on the urban tourism image, and the impact on the urban tourism space. These three dimensions consist of a total of 12 items. Exploratory factor analysis was conducted on the structure of these 12 items across the three dimensions. The results of the exploratory factor analysis indicate a validity coefficient of 0.741, signifying good validity. Additionally, the Bartlett's sphericity test results for these three dimensions show $P < 0.001$, indicating significant differences. Therefore, the questionnaire for this scale demonstrates good validity (Table 1).

Table 1. Validity analysis of the influence of sports events on urban tourism

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.741
Bartlett's Test of Sphericity	Approx. Chi-Square	488.437
	df	66
	Sig.	.000

In this study, the questionnaire scale explaining the impact of sports events on urban tourism has a total variance of 61.69%. The rotated component matrix coefficients reveal three common factors as the main components (Table 2).

Table 2. Rotated Component Matrix[a]

Question item		Component 1	2	3
A. Economic Impact of Sports Events on Urban Tourism Industry	A1 Economic Impact of Sports Events on Urban Tourism Industry			.680
	A2 Substantial influx of visitors during the event			.658
	A3 Promotion of local tourism expenditure during the event			.797
	A4 Increase in revenue from transportation, dining, and accommodation during the event			.669
B. Impact of Sports Events on Urban Tourism Image	B1 Impact of Sports Events on Urban Tourism Image		.711	
	B2 Event promotion enhances the city's tourism image perception		.690	
	B3 Mutual promotion improves the urban tourism environment		.744	
	B4 Sports events contribute to the formation of the urban cultural ambiance		.836	
C. Impact of Sports Events on Urban Tourism Space	C1 Impact of Sports Events on Urban Tourism Space	.929		
	C2 Event venues become tourist destinations	.873		
	C3 Events stimulate the tourism industry around the event location	.744		
	C4 Encourage visitors to gain in-depth knowledge of tourist attractions	.717		

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 4 iterations

2.2.2. Reliability Analysis of the Measurement Scale for the Impact of Sports Events on Urban Tourism

In the reliability analysis of the measurement scale for the impact of sports events on urban tourism, comprising 12 items across 3 dimensions, the Cronbach's Alpha coefficient is found to be 0.69. This result indicates that the measurement questionnaire constructed in this study for assessing the impact of sports events on urban tourism possesses good reliability and measurement consistency (see Table 3).

Table 3. Reliability analysis of the scale measuring impact of sports events on urban tourism

Variable	Cronbach's Alpha	N of Items
Influence of Sports Events on Urban Tourism	.690	12

In this study, during the reliability analysis, a more in-depth examination of each dimension's items was conducted using two indicators: The Corrected Item-Total Correlation (CITC) values and the Cronbach's Alpha coefficient with items deleted. The summarized results of the reliability analysis are presented in Table 4. In each dimension's analysis, the items' Cronbach's Alpha

coefficients, with items deleted, range between 0.633 and 0.703. The absolute differences in coefficients are all less than 0.1, indicating that removing any single item would not result in a significant change or improvement in the reliability coefficient. Therefore, there was no need to delete any items from the questionnaire for the measurement scale assessing the impact of sports events on urban tourism. Based on this analysis, the overall reliability coefficient for the 12 items across the 3 dimensions of the questionnaire is 0.69, indicating good overall reliability for the questionnaire items (Table 4).

Table 4. Reliability Analysis Summary

Variable	Corrected Item-Total Correlation (CITC)	Cronbach's Alpha if Item Deleted	Overall coefficient
A1	.247	.683	0.69
A2	.318	.673	
A3	.291	.677	
A4	.585	.633	
B1	.409	.658	
B2	.252	.682	
B3	.519	.643	
B4	.421	.658	
C1	.312	.673	
C2	.265	.680	
C3	.241	.683	
C4	.121	.703	

2.2.3. Validity Analysis of the Measurement Scale for Residents' Cognitive Attitudes and Support Willingness

In the validity test of the measurement scale for residents' cognitive attitudes and support willingness toward sports events, consisting of 8 items across 2 dimensions, namely, local residents' cognitive attitudes and support willingness towards sports events, exploratory factor analysis yields a validity coefficient of 0.763. This coefficient signifies good validity. Additionally, the Bartlett's sphericity test results for these two dimensions show $P < 0.001$, indicating significant differences. Therefore, the questionnaire for this scale demonstrates good validity (see Table 5).

Table 5. Analysis of residents' attitude and support willingness to sports events

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.763
Bartlett's Test of Sphericity	Approx. Chi-Square	341.687
	df	28
	Sig.	.000

In this study, the questionnaire scale measuring residents' attitudes toward sports events and their willingness to support sports events has a total variance explained of 65.615%. The rotated component matrix coefficients indicate the presence of two common factors as the main components (Table 6).

Table 6. Rotated Component Matrixa

Question item		Component 1	3
Y1.Residents' Cognitive Attitudes Towards the Hosting of Sports Events in the City	Y1.1 Feels delighted and proud about hosting sports events		.852
	Y1.2 Believes that hosting sports events is a positive occurrence		.841
	Y1.3 Views the benefits of hosting sports events as outweighing the drawbacks		.832
	Y1.4 Considers hosting sports events to be a correct decision		.605
Y2. Residents' Willingness to Support the Hosting of Sports Events in the City	Y2.1 Is willing to attend sports events in person	.725	
	Y2.2 Is willing to volunteer for sports events	.804	
	Y2.3 Is willing to financially contribute to sports events	.786	
	Y2.4 Expresses a commitment to continue supporting future sports events	.790	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iteration

2.2.4 Reliability analysis of the interactive development of sports events and urban tourism

The reliability analysis of the measurement scale for residents' cognitive attitudes and support willingness towards the interactive development of sports events and urban tourism indicates a Cronbach's Alpha coefficient of 0.790 (Table 7).

Table 7. Reliability Statistics

Variable name	**Cronbach's Alpha**	**N of Items**
Residents' cognitive attitude and support willingness to the interactive development of sports events and urban tourism (Y1, Y2)	.790	8

2.3. Statistical Analysis

The study employed several statistical tests, including Exploratory Factor Analysis (EFA) to assess the structure and validity of the measurement scale, Bartlett's Test of Sphericity to evaluate the significance of item correlations, and the Kaiser-Meyer-Olkin (KMO) Measure to determine sample adequacy. Additionally, Cronbach's Alpha was used to measure the internal consistency and reliability of the scale, while Corrected Item-Total Correlation (CITC) analyzed item correlations with total scores. Principal Component Analysis (PCA) was utilized to extract common factors, Pearson Correlation Coefficient assessed the strength and direction of relationships between

variables, collectively validating the measurement scales and analyzing the data's reliability, and Multiple Linear Regression Analysis examined relationships between dependent and independent variables.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistics Results

In evaluating the impact of sports events on urban tourism, scores from 1 to 5 represent "strongly disagree" to "strongly agree." For measuring residents' cognitive attitudes and willingness to support the interactive development of sports events and urban tourism, scores from 1 to 5 indicate "very dissatisfied" to "very satisfied." The descriptive statistical results in Table 8 show that local residents strongly support the significant impact of sports events on the urban tourism economy, image, and space. Additionally, local residents display a high level of support for hosting sports events in the tourist city (see Table 8).

Table 8. Descriptive statistics of residents' perceptions on sports events and urban tourism

Variable	Mean	Std. Deviation	N
A1 Economic Impact of Sports Events on Urban Tourism Industry	3.3913	.80236	115
A2 Substantial influx of visitors during the event	3.1565	.91375	115
A3 Promotion of local tourism expenditure during the event	3.0522	.82551	115
A4 Increase in revenue from transportation, dining, and accommodation during the event	2.7043	.71296	115
B1 Impact of Sports Events on Urban Tourism Image	3.0087	.75505	115
B2 Event promotion enhances the city's tourism image perception	2.9391	.76419	115
B3 Mutual promotion improves the urban tourism environment	3.0870	.70792	115
B4 Sports events contribute to the formation of the urban cultural ambiance	3.1130	.69793	115
C1 Impact of Sports Events on Urban Tourism Space	3.0696	.70985	115
C2 Event venues become tourist destinations	2.9913	.75505	115
C3 Events stimulate the tourism industry around the event location	3.0522	.71135	115
C4 Encourage visitors to gain in-depth knowledge of tourist attractions	3.2957	.80540	115
Y1.1 Feels delighted and proud about hosting sports events	3.5826	.82699	115
Y1.2 Believes that hosting sports events is a positive occurrence	3.2609	.93740	115

Y1.3 Views the benefits of hosting sports events as outweighing the drawbacks	3.6957	.73953	115
Y1.4 Considers hosting sports events to be a correct decision	3.3652	.85153	115
Y2.1 Is willing to attend sports events in person	2.8348	.72463	115
Y2.2 Is willing to volunteer for sports events	3.0261	.75464	115
Y2.3 Is willing to financially contribute to sports events	3.0348	.78282	115
Y2.4 Expresses a commitment to continue supporting future sports events	2.7391	.73850	115

3.2. Correlation Analysis Results

The Pearson correlation coefficient analysis results reveal a significant positive correlation ($p<0.05$) between sports events and their economic impact on urban tourism. During these events, income from transportation, dining, and accommodation increases. The symbiotic relationship between sports and tourism promotes the creation of a cultural ambiance in the urban environment. Additionally, the city's tourism image improves, attracting a substantial influx of visitors. Notably, the events stimulate local tourism spending and foster mutual enhancement between sports and tourism, improving the overall urban tourism environment. All seven aspects of this interactive development show a significant positive correlation with residents' cognitive attitudes and supportive inclinations (see Table 9).

Table 9. Correlation analysis of factors influencing residents' perceptions and support for sports events

Variable	Y1.1	Y1.2	Y1.3	Y1.4	Y2.1	Y2.2	Y2.3	Y2.4
A1	.235*	.260**	.188*	.546**	.218*	.316**	.327**	.263**
A2	-.029	.146	-.033	.275**	.397**	.795**	.434**	.529**
A3	.019	.186*	.084	.335**	.410**	.462**	.920**	.425**
A4	.057	.326**	.077	.396**	.431**	.536**	.537**	.885**
B1	.245**	.431**	.240**	.295**	.307**	.323**	.281**	.382**
B2	.237*	.377**	.277**	.250**	.061	.185*	.121	.422**
B3	.137	.203*	.152	.121	.165	.226*	.279**	.430**
B4	.204*	.370**	.237*	.181	.107	.211*	.153	.398**
C1	-.040	-.107	-.126	-.129	-.063	-.102	-.099	-.032
C2	-.076	-.096	-.099	-.118	-.163	-.184*	-.133	-.020
C3	.008	-.086	-.036	-.090	-.051	-.003	-.035	.060
C4	-.090	-.196*	-.186*	-.197*	-.156	-.157	-.169	-.017

*Note: Sig. (2-tailed), *P <0.05; **P <0.01; N=115*

3.3 Multiple Linear Regression Analysis Results

3.3.1. Residents' Cognitive Attitudes toward the Interactive Development of Sports Events and Urban Tourism

Table 10 shows the model summary, with an adjusted R-square of 0.355, indicating that sports events have a notable impact on the urban tourism economy. The influence of sports events also extends to the city's tourism image and spatial perception. Across these three dimensions, 12 factors collectively explain 35.5% of the variation in local residents' cognitive attitudes towards the interactive development of sports events and urban tourism. This suggests that 35.5% of residents' perceptions are accounted for by these 12 factors, representing a solid model fit. Additionally, the Durbin-Watson (D-W) statistic yields a value of 2.138, which is close to 2, indicating the absence of autocorrelation (see Table 10).

Table 10. Model summary of factors influencing residents' cognitive attitudes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.595[a]	.355	.279	.57222	2.138

Note: a. Predictors: (Constant), D4, B3, A1, A2, D3, B2, A3, B1, D2, B4, A4, D1; b. Dependent Variable: Residents' Cognitive Attitudes towards the Interactive Development of Sports Events and Urban Tourism

3.3.2. Residents' Willingness to Support the Interactive Development of Sports Events and Urban Tourism

Table 11 presents the model summary, showing an adjusted R-square of 0.838. This indicates that the impact of sports events on the urban tourism economy, the city's tourism image, and the urban tourism space—across three dimensions and twelve factors—explains 83.8% of the variance in local residents' willingness to support sports events hosted in the city. In other words, 83.8% of residents' support for hosting sports events in the tourist city is attributed to these twelve factors, reflecting a strong model fit. Additionally, the Durbin-Watson (D-W) value of 1.963, close to 2, suggests no autocorrelation (see Table 11).

Table 11. Model summary of factors influencing residents' willingness to support sports events

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate	Durbin-Watson
1	.916[a]	.838	.819	.25118	1.963

Note: a. Predictors: (Constant), D4, B3, A1, A2, D3, B2, A3, B1, D2, B4, A4, D1; b. Dependent Variable: Residents' Willingness to Support the Interactive Development of Sports Events and Urban Tourism

4. CONCLUSIONS

This study posits that the Chang-Zhu-Tan region holds significant developmental potential and market prospects in both sports events and urban tourism. Primarily, hosting sports events in tourist cities can promote urban economic growth, enhance the city's tourism image, and boost income from transportation, dining, and accommodation. At the same time, these events attract a substantial influx of visitors, stimulating local tourism expenditure and fostering the development of a regional cultural ambiance. Furthermore, with growing awareness of health and increasingly diverse tourism demands, the Chang-Zhu-Tan region is poised for significant growth in both sports events and urban tourism. In the future, the interaction between the two will become more interconnected, forming a more comprehensive industrial chain. However, caution must be exercised regarding potential risks, such as excessive commercialization and environmental degradation. Therefore, effective warning and response strategies must be implemented to ensure the healthy and sustainable development of the industry.

5. REFERENCES

1. Du, L. (2011). Interactive research on sports events and urban development. *Zhejiang Sports Science, 3*, 35-38.
2. Hu, S., Jiao, S., & Zhang, X. (2021). Spatio-temporal evolution and influencing factors of China's tourism development: Based on the non-static spatial Markov chain model. *Journal of Natural Resources*, *36*(4), 854-865.
3. Li, G., Zhang, T., & Sun, Q. (2019). Empirical study on the impact of China's sports industry on national economic development. *Journal of Shenyang Sport University, 2*, 36-42.
4. Lin, Y., & Lin, Z. (2016). Research on synergistic innovation of sports industry and tourism industry based on industrial integration. *Journal of Shenyang Sport University, 1,* 25-28.
5. Liu, L. (2019). Economic effects analysis and optimization strategies of large-scale sports events—Taking the 13th National Games as an example. *Journal of Shenyang Sport University*, *3*, 83-88.
6. Liu, Y. (2008). The promoting role of large-scale sports events in urban economic and social development. *Journal of Nanjing Sport Institute (Social Science Edition), 3*, 49-52.
7. Ma, M. (2020). *Research on the spatial and temporal evolution and linkage mode of star-rated leisure farms in Chang-Zhu-Tan Urban Cluster.* Hunan Normal University.
8. Wang, Z. (2019). Coupling evolution characteristics and mechanism analysis of urban cluster

tourism industry agglomeration and economic growth—A case study of Chang-Zhu-Tan Urban Cluster. *Enterprise Economy, 38*(12), 5-13.

9. Ya, X. (2022). *Research on the path of high-quality development of mass sports tourism industry in Chang-Zhu-Tan Urban Cluster.* China Society of Sports Science: 12th National Sports Science Conference.
10. Zhang, J., Hu, X., Zhu, M., Wang, M., & Peng, L. (2021). Spatial distribution characteristics and influencing factors of 3A and above tourist attractions in Chang-Zhu-Tan Urban Cluster. *Journal of Southwest University (Natural Science Edition),* 43(9), 162-172.
11. Zheng, X. (2021). *Series of large-scale sports events released in Chang-Zhu-Tan Urban Cluster—More than 20 sports events activities bring "Integrated City" closer.* Hunan Daily.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

FUNDING

This research received no external funding.

COPYRIGHT