Measurement of Tourist Experience Satisfaction of Sports Tourism Based on Psychological Capacity Analysis

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Abstract

Psychological capacity testing can successfully reconcile the conflict between the growth of sports tourism and the desire for visitor satisfaction. Existing research on psychological capacity analysis has not provided a comprehensive theoretical framework or considered the relationship between psychological capacity analysis and tourist satisfaction evaluation. This research conducts a psychological capacity analysis of tourist experience satisfaction in sports tourism to address these issues. To begin, a psychological capacity analysis was driven from the standpoint of sports tourism tourist experience, the processes of fuzzy comprehensive evaluation (FCE) were provided, and suitable psychological capacity measuring indices were chosen to create an evaluation index system (EIS). Following that, a grey relational analysis (GRA) was used to quantify and evaluate the tourist experience satisfaction associated with sports tourism, followed by a gap analysis of the tourist experience satisfaction associated with sports tourism. The psychological capacity of tourists was explored by age group and gender in experiments and the relationship between tourist experience satisfaction and tourist volume. The experimental results illustrate the efficacy of our technique for analyzing psychological capability and quantifying satisfaction. We achieved the pertinent measured data on tourist satisfaction with sports tourism.

Keywords: psychological capacity, sports tourism, tourist experience, satisfaction

1. Introduction

Sporting tourism is defined as traveling to observe, appreciate, and participate in a variety of sports activities (Anoyrkati et al., 2020; Candia et al., 2020; Hardjosoekarto & Lawang, 2021; Liberato et al., 2020; Miyake et al., 2018; Perić et al., 2022; Promjittiphong et al., 2018). It is a new type of service industry that combines sports and tourism. In China, the revenue generated by sports tourism has been expanding at a sustainable rate of 30-40 percent on an annual average basis (Ai et al., 2021; Huang, 2020; Yuan & Liu, 2019; Zhang, 2019; Zheng et al., 2021). The latest "sports for all" campaign expands the potential for sports tourism growth (Chen, 2017; Cui & Tan, 2017; Feng et al., 2017; Guo & Zhang, 2017; Jun et al., 2018; Zhi, 2017). While sports tourism generates significant economic benefits, it also has several negative consequences. For instance, the overcrowded, beautiful sports tourist places cannot deliver a pleasant experience to tourists (Huang, 2020; Medeiros et al., 2020; Shao et al., 2021; Zhai & Chen, 2020; Zhou et al., 2021). According to some experts, tourist psychological capacity refers to the number and attributes a destination may employ to maintain visitor satisfaction over a certain threshold, given the destination's management objectives. If this threshold is breached, tourist satisfaction will plummet to an intolerable level.

Psychological capacity testing can successfully reconcile the conflict between the growth of sports tourism and the desire for visitor satisfaction. However, additional research is necessary to appropriately apply sophisticated psychological capability analysis and visitor satisfaction evaluation to specific scenic locations of sports tourism.

Tourist satisfaction serves as a barometer of tourism growth. Su et al. (2018) collected big online data on tourist satisfaction, applied a hidden Markov model to the study of text semantic positioning, and derived the full-text semantic orientation by assessing the context of emotional phrases. Thus, data on tourist satisfaction could be more effectively applied to tourism development. Liao et al. (2015) collected sample data on tourist satisfaction via a questionnaire survey and processed and analyzed the data using SPSS 16.0. The findings indicate that influencing factors have a range of effects on many measures of tourist satisfaction. Silva et al. (2020) sought to design and evaluate a survey model of the characteristics of older tourists that influence travel motivations and satisfaction and identify statistically significant differences between older tourists in the same class. They solve the shortcomings of standard recommendation algorithms for scenic area suggestions by increasing mining efficiency and algorithm expandability. These shortcomings include a long reaction time, low recommendation efficiency, and limited adaptation to huge data mining. Gu et al. (2019) conducted a thorough analysis of existing collaborative filtering recommendation algorithms and used MapReduce programming to parallelize the Slope-One

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algorithm and project-based recommendation algorithm on the Hadoop cloud platform. The parallelized approach was demonstrated to be effective using rating data from Tripadvisor for real picturesque sites. To elucidate how cultural attraction affects tourist satisfaction, Liu and Yang (2021) developed a theoretical model for cultural interest, tourist perceived value, and tourist satisfaction and conducted a bootstrapping study. The findings indicate that cultural attraction has a strong beneficial effect on visitor satisfaction and indirectly affects tourist perceived value.

With the ongoing improvement of living conditions and the refinement of sports service facilities, many niche tourism projects are becoming available to the public. People are increasingly opting to participate in sports tourism ventures such as skydiving, rock climbing, and shooting. In 2017, 130-170 million Chinese participated in at least one outdoor sport, and 60-70 million did so often. Niche sports and outdoor activities are gaining popularity. However, present research on the psychological capability of sports tourists has not produced a cohesive and comprehensive theoretical framework or developed a flawless quantitative technique.

Several authors have proposed quantitative models of the tourism environment's capability. However, these models are not universally applicable, as they lack a system for applying them to scenic locations. Worse, the quantification process is controlled by subjective variables and is deficient in convincing data sources. Additionally, while most scholars focus on tourist satisfaction and tourism volume, they rarely explore the relationship between psychological capacity analysis and tourist satisfaction rating. As a result, satisfaction with the visitor experience is rarely accurately quantified. This research conducts a psychological capacity analysis of tourist experience satisfaction in sports tourism to address these issues. The following are the primary contents: Section 2 completes the psychological capacity analysis from the standpoint of the sports tourism tourist experience, explains the methods of fuzzy comprehensive evaluation (FCE), and selects suitable psychological capacity measurement indices to create an evaluation index system (EIS). Section 3 uses grey relational analysis (GRA) to quantify and analyse the tourist experience satisfaction associated with sports tourism before calculating the gap in tourist experience satisfaction associated with sports tourism. Finally, studies were conducted to ascertain the efficacy of our approaches to psychological capability analysis and satisfaction measurement and evaluation. The necessary measures and assessments were made.

2. Psychological Capacity Analysis

2.1 FCE

The development of sports tourism depends on a series of intercorrelated factors. Referring to the previous results, the relevant factors influencing sports tourism development were sorted out, and the relationship was plotted in Figure 1. It can be observed that tourist experience satisfaction is the leading impactor of sports tourism development. The stronger the psychological capacity, the more satisfied the tourists are with their experience. This paper firstly analyzes the psychological capacity of the tourist experience in sports tourism (PCTEST).

Let $V=\{v_1,v_2,\ldots,v_n\}$ be the n indices of tourist experience psychological capacity in sports tourism, where n depends on the specific EIS; $U=\{u_1,u_2,\ldots,u_m\}$ be the m evaluation levels, i.e., the overall evaluation of all evaluators, where m falls between 3 and 5; $X=(x_1,x_2,\ldots,x_n)$ be the fuzzy weight vector reflecting the importance of each index, where x_i is the weight of index i ($0<<x_i$, $\Sigma x_i=1$).

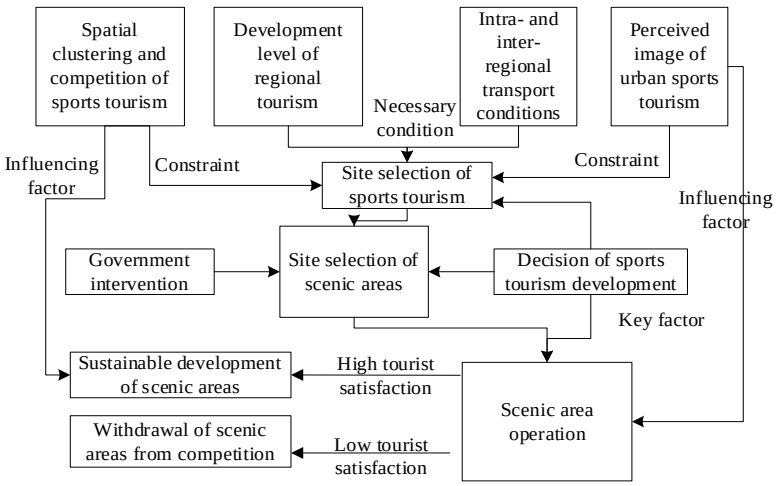

Figure 1. Relationship between factors affecting sports tourism development

After setting up the hierarchical fuzzy subsets, it is important to determine the membership of PCTEST to the fuzzy subsets on each evaluation level from the perspective of a single index. Let s_{ij} be the membership u_i of PCTEST to the fuzzy subsets from the standpoint of index v_i. Then, the following fuzzy relationship matrix can be obtained:

$$S = \begin{pmatrix} s_{11} & s_{12} & \cdots & s_{1m} \\ s_{21} & s_{22} & \cdots & s_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ s_{n1} & s_{n2} & \cdots & s_{nm} \end{pmatrix} \quad (1)$$

In terms of index v_i, the performance of PCTEST can be described by a fuzzy vector s_i, i.e., a single-index evaluation matrix. This matrix represents the fuzzy relationship between a set of evaluation indices V and the set of evaluation levels U, revealing the good relationship between PCTEST and its influencing factors. The matrix $s_i=(s_{i1},s_{i2},...,s_{im})$, satisfies $\Sigma s_{ij}=1$.

Let y_j be the overall membership of element u_j in a fuzzy subset; $*$ be the operator. Then, the vector Y of the FCE results on PCTEST can be obtained by synthesizing X and S with fuzzy synthesis operators:

$$Y = X * S = (x_1, x_2, \ldots, x_n) * \begin{pmatrix} s_{11} & s_{12} & \cdots & s_{1m} \\ s_{21} & s_{22} & \cdots & s_{2m} \\ s_{31} & s_{32} & \cdots & s_{3m} \\ \vdots & \vdots & \ddots & \vdots \\ s_{n1} & s_{n2} & \cdots & s_{nm} \end{pmatrix} = (y_1, y_2, \ldots, y_m) \quad (2)$$

The four common fuzzy synthesis operators are:

(1) $N(\wedge,\vee)$, $y_j=\vee^n_{i=1}(x_i \wedge s_{ij})=max_{1\le i\le n}\{min(x_i,s_{ij})\}$, $j=1,2,...,m$

(2) $N(\cdot,\vee)$, $y_j=\vee^n_{i=1}(x_i,s_{ij})=max_{1\le i\le n}\{min(x_i,s_{ij})\}$, $j=1,2,...,m$

(3) $N(\wedge,\oplus)$, $y_j=min\{1,\Sigma^n_{i=1}min(x_i,s_{ij})\}$, $j=1,2,...,m$

(4) $N(\cdot,\oplus)$, $y_j=min\{1,\Sigma^n_{i=1}(x_i,s_{ij})\}$, $j=1,2,...,m$

Table 1

Features of fuzzy synthesis operators

Feature		Significance of weight reflection	Utilization of S information	Type	Synthetic degree
Operator	$N(\wedge,\vee)$	Significant	Relatively full utilization	Highlighting principal components	Weak
	$N(\cdot,\vee)$	Insignificant	Full utilization	Weighted average	Weak
	$N(\wedge,\oplus)$	Significant	Relatively full utilization	Weighted average	Strong
	$N(\cdot,\oplus)$	Significant	Poor utilization	Highlighting principal components	Strong

Table 1 displays the features of fuzzy synthesis operators. The FCE on the vector $Y=(y_1,y_2,y_m)$ of the FCE results can be carried out by full membership and weighted average. Following the maximum membership principle, if $\exists y_s=max_{1\le j\le m}\{y_j\}$ in Y, then PCTEST belongs to level s. Following the weighted average principle, the evaluation levels must be continuous: I, II, III, …, n. Based on the elements of the vector Y, the weights on each level are summed up. Let l be the uncertainty coefficient. Then, the relative position of PCTEST can be obtained as:

$$X = \frac{\sum_{j=1}^{m} y_j^l \cdot j}{\sum_{j=1}^{m} y_j^l} \quad (3)$$

2.2 EIS construction

Figure 2 illustrates the evaluation model for tourist experience satisfaction. The model involves six structural variables: perceived experience, expected experience, psychological capacity evaluation, tourist satisfaction, dissatisfactory tourist experience, and satisfactory tourist experience. Among them, tourist satisfaction is the most important output variable. Perceived experience, expected experience, and psychological capacity evaluation influence the tourist experience satisfaction with sports tourism. Dissatisfactory tourist experience and satisfactory tourist experience are the results of the psychological capacity evaluation.

Normally, one structural variable contains one or more observational variables. Based on the above six structural variables, the measuring indices of psychological capacity were selected to evaluate the tourist experience satisfaction with sports tourism, forming a well-established EIS.

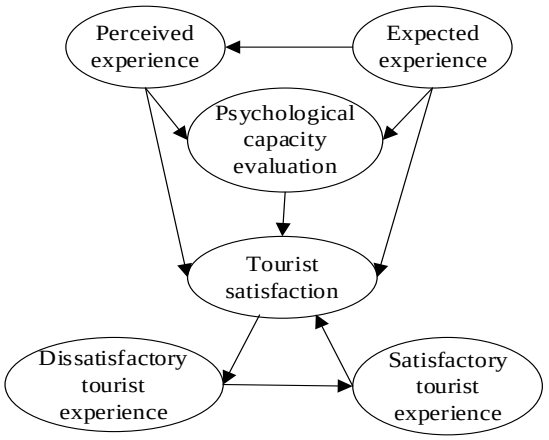

Figure 2. Evaluation model for tourist experience satisfaction

The set of primary indices is denoted as $STS=\{STS_1, STS_2, STS_3, STS_4, STS_5, STS_6, STS_7, STS_8, STS_9, STS_{10}, STS_{11}\}$, where STS is the set of evaluation indices for PCTEST, STS_1 is accessibility. STS_2 is the safety of the scenic area. STS_3 is the convenience of the experience. STS_4 is the greenness of

the scenic area. STS_5 is the service level. STS_6 is the comfort of facilities. STS_7 is the beauty of the landscape. STS_8 is the reasonability of scenic spot layout. STS_9 demonstrates tourism culture. STS_{10} is the vibrance of sports activities, and STS_{11} is the diversity of souvenirs.

The set of secondary indices is denoted as STS_1={STS_{11}, STS_{12}, STS_{13}}, where STS_{11} is the number of travel routes, STS_{12} is the ability of travel routes linking up scenic spots, and STS_{13} is the length of a route. Each secondary index can be further divided into several tertiary indices:

STS_2={STS_{21}, STS_{22}, STS_{23}, STS_{24}}, where STS_{21} is the security situation of the scenic area, STS_{22} is the anti-slip situation of steps and the ground, STS_{23} is the availability of mountaineering armrests, and STS_{24} is the effectiveness of night lighting.

STS_3={STS_{31}, STS_{32}, STS_{33}, STS_{34}}, where STS_{31} is the traffic situation of the scenic area, STS_{32} is the order situation of the scenic area, STS_{33} is the availability of rest facilities, and STS_{34} is the availability of toilets.

STS_4={STS_{41}, STS_{42}, STS_{43}}, where STS_{41} is the hygiene situation of the scenic area, STS_{42} is the water quality of the scenic area, and STS_{43} is the noise pollution.

STS_5={STS_{51}, STS_{52}, STS_{53}}, where STS_{51} is the level of guide service, STS_{52} is the level of catering service, and STS_{53} is the overall service level.

STS_6={STS_{61}, STS_{62}}, where STS_{61} is the appropriateness of step height, and STS_{62} is the comfort of rest facilities.

STS_7={STS_{71}, STS_{72}, STS_{73}}, where STS_{71} is the appreciativeness of the landscape. STS_{72} is the richness of the landscape, and STS_{73} is the uniqueness of the landscape.

STS_8={STS_{81}, STS_{82}}, where STS_{81} is the evenness of route distribution, and STS_{82} is the reasonability of scenic spot distribution.

STS_9={STS_{91}, STS_{92}}, where STS_{91} is the cultural profundity of the scenic area, and STS_{92} is the cultural history of the scenic spot.

STS_{10}={STS_{101}, STS_{102}}, where STS_{101} is the participation ability of tourism activities, and STS_{102} is the tourism atmosphere.

STS_{11}={STS_{111}, STS_{112}}, where STS_{111} is the type of souvenirs, and STS_{112} is the price of souvenirs.

3. Evaluation and Measurement

3.1 Modeling and index weighting

This paper measures and evaluates tourist experience satisfaction with sports tourism through the GRA. The highest score of each index obtained in the preceding section are grouped into a reference series for the highest satisfaction. Then, the scores of each psychological capacity index rated by sports tourists are compiled into a comparative series, and the calculation is performed based on the GRA.

Due to the varying importance of different indices, sports tourists have different feelings about the same tourism experience. This paper firstly computes the importance of weight θ_i of each index, and the weight H_i of the coefficient of variation (COV). Then, the two results are comprehensively weighed to obtain the gap in tourist experience satisfaction of sports tourism. The larger the gap, the greater the distance from the highest tourist satisfaction of sports tourism. If the gap is wide, the sports tourism area and the relevant industries must make many urgent improvements. Figure 3 presents our measurement and evaluation model structure for tourist experience satisfaction of sports tourism.

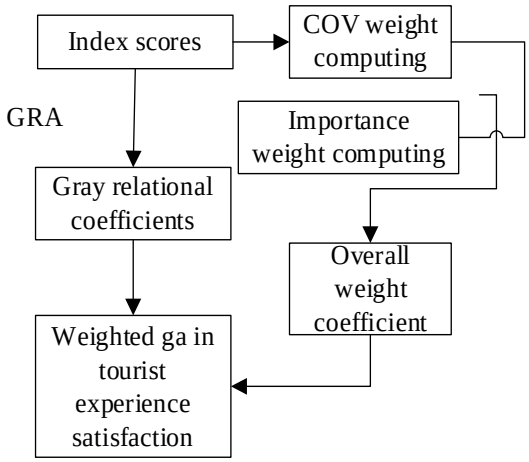

Figure 3. Model structure

This paper relies on θ_i and H_i to improve the weights of gray relational coefficients. If sports tourists perceive an index as highly important, i.e., the θ_i value is large, then the index is crucial to sports tourists. The θ_i value can be obtained by averaging and normalizing the importance scores of every index rated by all sports tourists:

$$\theta_i = \bar{\theta}_i / \sum_{i=1}^{n} \bar{\theta}_i, (i = 1,2,\ldots,n) \quad (4)$$

H_i measures the degree of satisfaction of sports tourists for each index in the EIS. It can be derived from the scores of each index. A high H_i indicates that sports tourists hold very different views on the corresponding index. Let h_i be the COV coefficient of the scores of index *i*. H_i can be calculated by:

$$H_i = h_i / \sum_{i=1}^{n} h_i, (i = 1,2,\ldots,n) \quad (5)$$

Let o^*_i and ξ_i be the mean and variance of index *i*, respectively. Then, h_i, ξ_i and o^*_i can be calculated by:

$$\begin{cases} h_i = \sqrt[2]{\xi_i}/o_i^* \\ \xi_i = \frac{1}{m-1}\sum_{j=1}^{m}\left[O_{ij} - o_i^*\right]^2, (i = 1,2,\ldots,n; j = 1,2,\ldots,m) \\ o_i^* = \frac{1}{m}\sum_{j=1}^{m} o_{ij} \end{cases} \quad (6)$$

the final weight ω_i can be obtained by solving the average of H_i and θ_i, to weigh the indices for tourist experience

satisfaction of sports tourism more scientifically,

$$\omega_d = (H_d + \theta_d)/2, (i = 1,2,\ldots,n) \quad (7)$$

3.2 Gap calculation

The premise of the GRA is to establish the reference series A_0 and the comparative series A_i for tourist experience satisfaction in sports tourism. As mentioned before, the reference series A_0={$a_0(i)$, i=1,2,....,n} comprises of the highest score of each index; the comparative series A_j={$a_j(i)$,j=1,2,....,n} consist of the score of index i rated by sports tourist j.

Let T_{max} and T_{min} be the maximum and minimum differences between the two levels, respectively; T_{ij} is the absolute difference between elements of A_0 and A_i. Then, T_{ij} must be solved before computing T_{max} and T_{min}. The maximum and minimum of T_{ij} are T_{max} and T_{min}, respectively. Let SQ_{ij} be the score of index i rated by sports tourist j. Then, T_{ij} can be calculated by:

$$T_{ij} = |a_0 - SQ_{ij}|, (i = 1,2,\ldots,n; j = 1,2,\ldots,m) \quad (8)$$

T_{max} and T_{min} can be respectively calculated by:

$$T_{\max} = \max_i \max_j T_{ij} \quad (9)$$

$$T_{\min} = \min_i \min_j T_{ij} \quad (10)$$

The grey relational coefficient σ_{ij} reflects the correlation between the comparative sample a_{ij} and the optimal sample $a_0(i)$. Let $\varphi \in [0,1]$ be the resolution ratio. Then, σ_{ij} can be calculated by:

$$\sigma_{ij} = \frac{T_{\min} + \phi T_{\max}}{T_{ij} + \phi T_{\max}}, (i = 1,2,\ldots,n; j = 1,2,\ldots,m) \quad (11)$$

The grey relational coefficient σ_{ij} is reversely proportional to T_{ij}. The weighted gap in tourist experience satisfaction of sports tourism $SGV(i)$ can be deduced from the previously obtained ω_i and σ_{ij}. Then, the weighted gap SGV_{ij} in experience satisfaction of sports tourist j for index i, and the weighted gap $SGV(i)$ in experience satisfaction for index i in the whole EIS can be respectively calculated by:

$$SGV(i) = \sum_{j=1}^{m} SGV_{ij}, (j = 1,2,\ldots,m) \quad (12)$$

$$SGV_{ij} = \omega_i \times \{1 - \sigma_{ij}\}, (i = 1,2,\ldots,n; j = 1,2,\ldots,m) \quad (13)$$

4. Experiments and Results Analysis

The tourists of a sports tourism project ascending Mount Tai were invited to rate the psychological capacity indices. Then, the indices were ranked by their importance (Figure 4). It can be seen that the importance proportions of the primary indices were: STS_1(9.74%), STS_2(12.34%), STS_3(12.27%), STS_4(8.54%), STS_5(14.21%), STS_6(7.41%), STS_7(9.01%), STS_8(7.84%), STS_9(6.54%), STS_{10}(5.61%), and STS_{11}(4.84%). The seven most important indices were: STS_5, STS_2, STS_3, STS_1, STS_7, STS_4, and STS_8.

Table 2 lists the scores of the sports tourism project ascending Mount Tai rated by different tourists. The psychological capacity was evaluated from four dimensions: lodging, catering, service, and entertainment. It can be seen that tourists 1, 3, 7, and 8 had a relatively high psychological capacity, while tourists 5 had the lowest satisfaction. Most tourists did not vary significantly in terms of psychological capacity. The tourist scores above provide a preliminary impression of tourists psychological ability of the sports tourism project. However, further analysis is needed to identify the aspects with high or low psychological capacity.

Figure 5 presents the psychological capacity curves of tourists in different age groups. The adolescent tourists (<18) and young and middle-aged tourists (18-50) differed slightly in psychological capacity. Adolescent tourists exhibited the largest psychological capacity for the sports tourism project of ascending Mount Tai among all age groups. The old tourists (>50) had the smallest psychological capacity, and were the most sensitive ones to the increment of tourist number.

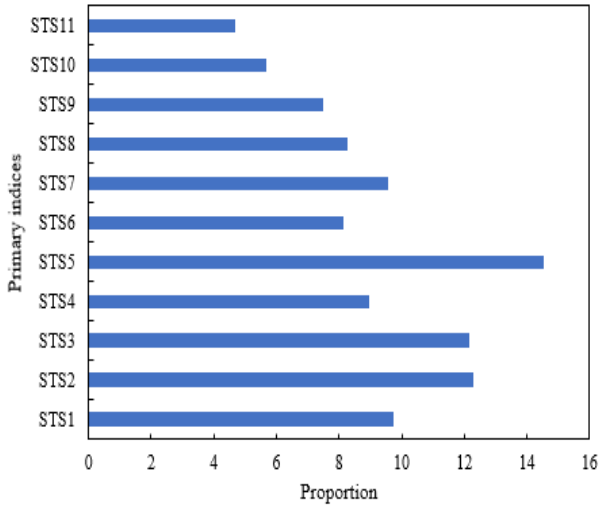

Figure 4. Importance proportions of primary indices for tourist psychological capacity

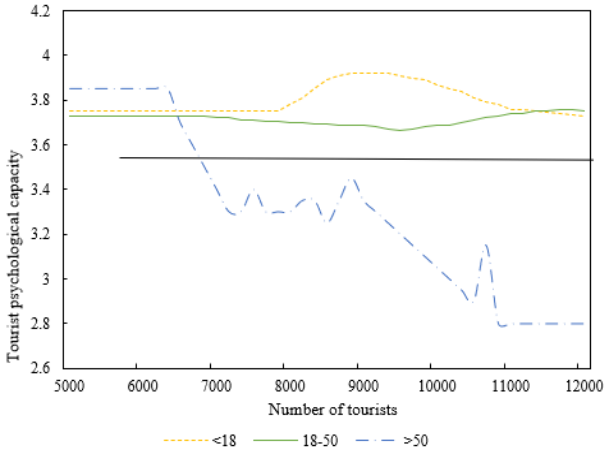

Figure 5. Psychological capacity curves of tourists in different age groups

Table 2

Scores of the sports tourism project

Tourist number	1	2	3	4	5	6	7	8	9	10	Mean score
Psychological capacity score	4.5	4.1	4.8	4.3	4.1	4.3	4.5	4.7	4.3	4.2	4.62
Lodging	4.7	4.9	4.8	4.6	4.8	4.5	4.8	4.6	4.9	4.3	4.58
Catering	4.6	4.5	4.8	4.5	4.7	4.4	4.5	4.7	4.5	4.8	4.36
Service	4.8	4.7	4.6	4.8	4.5	4.6	4.7	4.5	4.3	4.6	4.64
Entertainment	4.5	4.8	4.6	4.4	4.7	4.7	4.5	4.2	4.5	4.3	4.38

Table 3

Comparison of psychological capacity between male and female tourists

	Tourist number	9625	3784	4518	5016	5261	4958	10958
Survey data from Labor Day Golden Week	Male	4.01	3.89	3.85	3.81	3.92	3.82	4.15
	Female	3.75	3.92	3.84	3.72	3.95	3.68	3.77
	Tourist number	16285	13629	14748	13625	15247	11284	19628
Survey data from National Day Golden Week	Male	4.02	4.06	4.01	4.05	4.03	4.08	4.02
	Female	3.85	3.62	3.75	3.82	3.64	3.95	3.77

Table 4

Relationship between tourist experience satisfaction and tourist number

Project		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Mean
National Day Golden Week, 2016	Tourist number	31258	310269	28958	22163	18625	13263	5586	21485
	Satisfaction	3.62	3.74	3.85	3.62	3.72	3.85	3.92	3.75
National Day Golden Week, 2017	Tourist number	35268	36017	37158	34625	28462	22162	15485	30124
	Satisfaction	3.62	3.48	3.62	3.75	3.16	3.85	3.62	3.49
National Day Golden Week, 2018	Tourist number	5628	6528	6049	6385	5748	11625	15293	8152
	Satisfaction	3.01	/	/	/	/	3.11	3.05	3.95
National Day Golden Week, 2019	Tourist number	9685	3615	4581	5104	5326	4781	10326	6529
	Satisfaction	3.58	3.96	3.75	3.81	3.58	3.95	3.86	3.92
National Day Golden Week, 2020	Tourist number	16595	12625	13720	14162	14803	11048	18495	15062
	Satisfaction	3.15	3.86	3.92	3.84	3.68	3.97	3.15	3.88

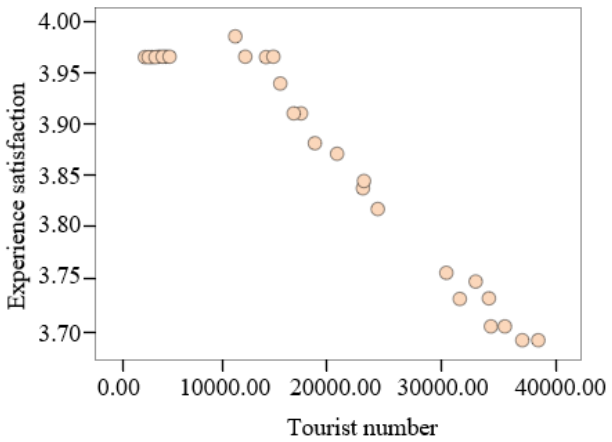

Figure 6. Relationship between tourist experience satisfaction and tourist number

The psychological capability of male and female travelers is compared in Table 3. Male and female travelers demonstrated substantial psychological capacity differences: female tourists possessed a lower psychological capacity, were more susceptible to increases in tourist numbers and exhibited higher elasticity than male tourists. The literature extracts quantitative data from online review information through statistical analysis and data mining. Meanwhile, cruise trip happiness has been researched using qualitative methods such as in-depth analysis, analogy, and summary.

This article aims to conduct a questionnaire survey to ascertain tourist satisfaction with the sports tourism project of ascending Mount Tai during National Day Golden Weeks from 2016 to 2020. Table 4 illustrates the association between tourist satisfaction and the number of tourists throughout various intervals of each golden week. The link between tourist experience satisfaction and visitor volume is depicted in Figure 6 using the data in Table 4. Then, the linear or nonlinear relationship between numerous independent factors and one dependent variable

must be investigated. As a result, multiple regression analyses were conducted based on the association between tourist experience satisfaction and visitor volume. The resulting mean satisfaction with the tourist experience for each golden week was averaged and fitted into quadratic curves that optimally portray the relationship between tourist experience satisfaction, marginal satisfaction, and tourist volume (Figure 7).

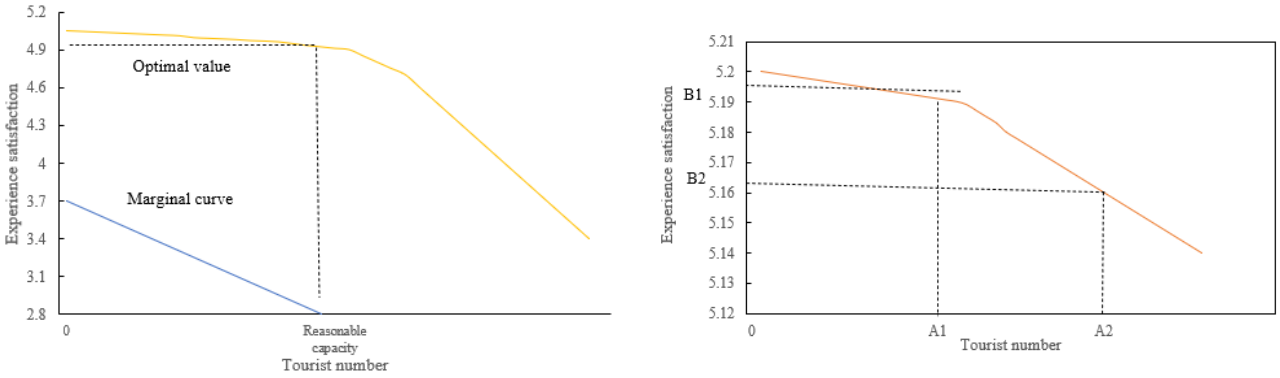

Figure 7. Relationship between tourist experience satisfaction, marginal satisfaction, and tourist number

Field studies and trials indicate that the following elements contribute to the difference in tourist experiences associated with sports tourism projects: To begin, sports cultural resources are deficient in terms of experience-based media; Second, the variety of experiences available through sports projects is limited; Thirdly, sports cultural materials are not effectively shown or safeguarded; Fourthly, sports tourism initiatives are excessively homogeneous. Sports project developers must be aware of these issues. Otherwise, visitors will have a negative experience.

5. Conclusions

The tourist psychological capacity of a picturesque region is defined in this paper as the maximum number of tourists that can be accommodated without compromising tourism quality or experience. The authors evaluated the tourist experience satisfaction associated with sports tourism using behavioral psychology principles and psychological capacity analysis. After conducting a psychological capacity study of visitor experiences in sports tourism, the authors described the FCE processes, selected suitable psychological capacity indexes, and developed a sound EIS. Following that, the GRA was used to quantify and evaluate the tourist experience satisfaction associated with sports tourism and quantify the gap in tourist experience satisfaction associated with sports tourism. Following that, the psychological capacity of visitors confronted with a sports tourism project was preliminarily examined using statistical analysis of the importance assigned to each psychological capacity indicator by tourists and the project's scores.

Additionally, the psychological capability of tourists was evaluated by age group and gender, and multiple regression analyses were conducted to determine the association between tourist experience satisfaction and the number of tourists. Thus, the authors generated quadratic curves that best represent the link between tourist experience satisfaction, marginal satisfaction, and tourist volume. The research findings establish a scientific foundation for the long-term development of sports tourism.

Despite identifying the factors that contribute to sports tourists' experience satisfaction, the research has some drawbacks. For instance, the study data are online reviews devoid of any reviewer's identifying information. Additionally, the happiness of sports tourists with their experiences has not been completely and deeply addressed. The next research will conduct a more thorough and reasonable analysis of sports visitors' experiences, integrating traditional questionnaire surveys and internet questionnaire surveys.

6. Implications

6.1 Theoretical Implications

This work fills a theoretical need in the literature that no previous study addressed. In this light, this study emphasizes the critical impact of tourist quality in tourism promotion. However, this study provides a rigorous examination of the relationship between tourist behavior and tourism quality. Additionally, this study will benefit policymakers responsible for developing various policies to ensure the credibility and worth of tourism quality to promote tourism and positively influence tourist behavior.

6.2 Practical Implications

Additionally, this study discusses the practical consequences necessary for the growth of tourism quality and positive visitor behavior. This study emphasizes the

importance of stakeholders developing strategies to efficiently maintain quality to ensure that tourists are supplied with the relevant information regarding tourism activities. Additionally, this study indicates that the government should focus on the tourism sector, and legislation should be enacted to ensure that tourists have equal possibilities for a great vacation. Notably, this study provides a comprehensive picture of tourist activities and visitor behavior to the quality of tourism, which is crucial for tourism promotion.

7. Future Directions

The scope of this study is confined to elucidating the role of tourism behavior and psychological elements in explaining tourism satisfaction. However, future research should consider additional aspects such as social factors such as respondents' prejudices, tourist stereotypes, and tourist policies to understand visitor satisfaction better. This would be the most beneficial contribution to the literature.

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