

Exploring the Mediating Role of Tourist Experience in the Relationship Between Accommodation, Transportation, and Tourist Satisfaction: A Case Study of 5A Scenic Spots in Guilin

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Citation: Yanjie et al. (2024), Exploring the Mediating Role of Tourist Experience in the Relationship Between Accommodation, Transportation, and Tourist Satisfaction: A Case Study of 5A Scenic Spots in Guilin, *Educational Administration: Theory and Practice*, 30 (11) 1941-1953

Doi: 10.53555/kuey.v30i11.8835

ARTICLE INFO ABSTRACT

The purpose of this study is to investigate the impact of accommodation and transportation on tourist satisfaction in Guilin tourist area of Guangxi Province. Multiple regression analysis and structural equation model analysis were carried out by SPSS and Smart-pls. It is found that accommodation and transportation have significant positive effects on tourist experience and satisfaction, and tourist experience plays an intermediary role. According to the research results, the paper puts forward some suggestions to improve the tourists' satisfaction in Guilin.

KEYWORDS: Tourist Experience, Accommodation, Transportation, Tourist Satisfaction, 5A Scenic Spots, Tourism.

1.Introduction

With the rapid development of tourism, tourists' expectations and requirements for tourist destinations are constantly improving. As a famous scenic spot in China, Guilin, Guangxi, with its unique karst landform, rich natural landscape and profound cultural heritage, has attracted the attention of countless tourists at home and abroad. However, in the context of increasingly fierce competition in tourism, how to improve tourist satisfaction has become the key to the sustainable development of Guilin tourism. Tourist experience, as an important criterion to evaluate the quality of tourism, covers all the feelings and experiences of tourists in the process of tourism. Among them, accommodation and transportation, as the basic elements of tourism, have a crucial impact on the tourist experience. High-quality accommodation environment can provide tourists with comfortable and quiet rest space, help tourists to recover their physical strength and better enjoy the travel process; The convenient transportation ensures that visitors can easily reach the various attractions, reducing the inconvenience and fatigue of the journey.

However, in Guilin tourist areas, there are still some shortcomings in terms of accommodation and transportation. Focusing on Guilin tourist area in Guangxi, this study aims to explore how accommodation and transportation have a profound impact on tourist satisfaction through tourist experience as a mediating variable. As a comprehensive concept, tourist experience covers multiple dimensions from aesthetic enjoyment, cultural experience to emotional resonance, and is a key index to evaluate the quality of tourism. By revealing the intrinsic links between accommodation, transport and visitor experience, research can better understand how they work together to contribute to visitor satisfaction.

2.Objectives

This study focuses on how the accommodation and transportation conditions around 5A scenic spots in Guilin affect tourists' satisfaction, with special attention to the role of tourists' sense of experience as a mediating variable. The objects of study include 5A-level scenic spots such as Guilin Lijiang River Scenic Spot, Guilin World Geopark, Guilin Museum, Guilin Ronghu Park and Guilin Zoo, as well as accommodation and transportation facilities around these scenic spots. The main objectives of the study include: (1) To analyze the

specific impact of accommodation and transportation conditions on tourist experience in Guilin, including the quality of accommodation facilities, service level and price. (2) Assess the direct impact of accommodation and transportation conditions in Guilin on tourists' satisfaction. (3) To explore how tourists' sense of experience, as an intermediary variable, affects tourists' overall satisfaction with Guilin tourism. (4) Study the mediating role of tourist experience among accommodation, transportation and tourist satisfaction, and how these factors together shape tourist experience.

3. Scope

The core objective of this study is to explore in depth how accommodation and transportation conditions affect visitor satisfaction in five national 5A-level tourist attractions in Guilin, Guangxi - Guilin Lijiang Scenic Area, Guilin World Geopark, Guilin Museum, Guilin Ronghu Park and Guilin Zoo. The study was broad and included all visitors to these sites, regardless of their basic demographics or travel motivations.

The broad scope of the research is not limited to assessing the quality of available services, but also provides an in-depth analysis of the factors that influence the sense of visitor experience. By using statistical methods such as structural equation models, this study aims to verify how accommodation and transportation experience affect tourists' overall satisfaction with 5A scenic spots in Guilin, and explore the internal logic and path of this influencing mechanism.

The time span of the study covers three key phases of data collection, analysis and report writing. The data collection work was mainly carried out in October during the Chinese National Day holiday in 2024 to ensure the diversity and representativeness of the sample. The subsequent data analysis phase is expected to take one to two months to complete data processing and model building. The conclusion writing and reporting phase takes an additional month to organize the findings and write the research report.

4. Literature Review

4.1 Definition and Dimension

Accommodation

Accommodation is the provision of residential facilities and services for travellers, tourists or other temporary occupants that allow individuals or groups to reside for a specified period of time, usually for leisure, business or other non-permanent purposes. Accommodation can include various types of facilities such as hotels, guesthouses, hostels, homestays, apartments, youth hostels, resorts, campsites, etc., which offer different levels of comfort, convenience and service (Bottone, 2023). The accommodation dimensions of this study mainly include health, comfort, safety, convenient transportation, infrastructure and so on.

Transport

Transportation is a multi-scale, cross-scale system. Tourists can travel internationally, regionally, domestically, or (relatively speaking) locally, so they may use a variety of travel methods (Hölscher et al., 2022). The transportation dimension of this study mainly includes transportation convenience, punctuality, safety and comfort, and whether tour guide service is provided.

Tourist Experience

Customer experience is an important part of marketing. Customer experience refers to the various characteristics that shape consumer behavior that are related to the multisensory aspects of product use. Experience is based on a series of dynamic interactions between an individual and a product or service provided by a company (Becker & Jaakkola, 2020). Tourism experience is composed of multiple dimensions, including sensory experience, emotional experience, thinking experience and action experience. These dimensions together form the tourists' overall sense of experience.

Tourism Satisfaction

Tourist satisfaction is a comprehensive evaluation index, which covers many aspects of tourists involved in the process of tourism. Tourist satisfaction in this study mainly includes service satisfaction, facility satisfaction, environment satisfaction, safety satisfaction, value satisfaction and overall satisfaction (Nian et al., 2023).

4.2 Relationship Among Variables

Accommodation and Tourist Experience

Accommodation has a significant impact on the overall visitor experience, including several key aspects such as hygiene, comfort, safety, accessibility and infrastructure. A clean, odor-free accommodation can provide peace of mind and comfort to visitors, thereby increasing their travel satisfaction (Losada et al., 2017). Comfortable accommodation is directly related to the rest quality of tourists, helping them to have full rest and relaxation during the journey (Wojciechowska-Solis et al., 2021), and safe and reliable accommodation is the basic demand of tourists. Make sure they feel at ease during the journey (Mawby et al., 2016). The accessibility of a place of accommodation is crucial to the efficiency and experience of tourists, facilitating their access to attractions, shopping and dining, while well-developed infrastructure such as air conditioning, water heaters,

Internet, etc., directly affects the living experience and convenience (Vasiliev & Guryeva, 2020). In addition, high-quality accommodation services can further enhance tourists' overall travel experience (Golja & Pauli, 2021), and tourists' accommodation experience is closely related to their identification with local culture, which will affect their willingness to recommend and revisit (Maunier & Camelis, 2013). Moliner et al. (2019) attempted to establish a link between customer perceptions of environmental practices in tourist accommodation and customer experience and satisfaction.

Transport and Tourist Experience

Transportation convenience is a key factor for tourists to choose a tourist destination, which affects the convenience of tourists' arrival and departure, as well as the mobility within the destination, thus improving tourism efficiency and satisfaction (Hergesell & Dickinger, 2013). Punctuality of traffic is crucial to tourists' travel plans, and inaccurate traffic may lead to confusion of travel plans and affect travel experience. Safety is the primary consideration for tourists when choosing tourist destinations and means of transportation, and a safe tourism environment helps tourists enjoy travel with peace of mind and improve their satisfaction (Eman et al. 2018). Comfort is an important indicator to evaluate transportation and tourism experience, and comfortable transportation can provide better rest and relaxation and improve travel satisfaction (Ma et al. 2022). Tour guide service is an important means to improve tourist satisfaction by providing professional tourism information and explanation to help tourists better understand the scenic spots and cultural backgrounds (Kapa et al., 2022).

In addition, Zhi Yong et al. (2018) studied the impact of transportation on regional tourism economy and industry. Jackson (2019) studied the relationship between tourist perception and travel experience. Hopkins (2020) emphasized the close connection between transportation and tourism. Hall & Ram (2019) studied the relationship between walkability and measures of tourism success. These findings show that traffic conditions not only affect tourists' travel experience, but are also closely related to the sustainable development and environmental impact of tourist destinations.

Accommodation and Tourist Satisfaction

The hygiene, comfort, safety, accessibility and infrastructure of accommodation have a significant impact on visitor satisfaction. A clean, odor-free accommodation provides peace of mind and comfort to visitors, thereby increasing their satisfaction. On the contrary, hygiene issues may directly cause dissatisfaction among tourists (Ali et al., 2023). Comfortable accommodation, including soft beds, sound insulation and proper room temperature control, allows travelers to rest and enjoy their travels in a better state (Bisui et al., 2022). Research has shown that guests' mood is strongly correlated with their online ratings of accommodation (Zhu & Cheng, 2020), and overall accommodation quality is positively correlated with customer satisfaction (Almeida & Pelissari, 2019). The accessibility of attractions and the quality of amenities have a positive impact on tourist satisfaction (Dzulkifli & Masjhoer, 2020). The attractiveness of accommodation and destination has a significant positive impact on tourist satisfaction (Silaban et al., 2019), while tourist accommodation in Japan also has a positive impact on tourist satisfaction (Cai et al. 2020). These findings highlight the key role of accommodation providers in promoting visitor satisfaction, including ensuring that accommodation is clean, comfortable and safe, as well as providing easy access to transport and good infrastructure. Through these measures, accommodation providers can significantly improve the overall travel experience and satisfaction of visitors.

Transport and Tourist Satisfaction

The convenience, punctuality, safety and comfort of transportation have a significant impact on tourist satisfaction. An efficient and convenient transportation system is crucial for tourists, not only allowing them to easily reach their destination, but also to move quickly during the trip, thus enhancing the travel experience (Virkar & Mallya, 2018). The punctuality of vehicles is equally important, as tourists rely on them to keep to their scheduled itineraries. Traffic delays or unpunctuality may disrupt tourists' travel plans and lead to dissatisfaction with the travel experience. In addition, traffic safety is a key factor in tourists' satisfaction, and any safety hazard or accident may seriously affect tourists' satisfaction. Therefore, strengthening traffic safety management is a necessary measure to improve tourists' satisfaction (Xie et al., 2021). Research shows that transportation is an important factor affecting tourists' satisfaction (Peters et al., 2019), and the quality of transportation has a direct positive impact on passengers' satisfaction (Zhang et al., 2019). The application of smart tourism technology is significantly correlated with the satisfaction of tourism experience, and the happiness of tourists is positively correlated with their willingness to visit again (Pai et al., 2020). In addition, foreign tourists' satisfaction with the choice of upscale accommodation and sanitary conditions is related to the attitude of drivers (Pathak & Paudel, 2019). These findings highlight the key role of transport service providers in improving visitor satisfaction, including ensuring the convenience, punctuality, safety and comfort of transport, as well as providing value-added services such as guided Tours. Through these measures, transportation service providers can significantly improve tourists' overall travel experience and satisfaction.

Tourist Experience and Tourist Satisfaction

In the era of experience economy, the close integration of tourism and experience economy marks the beginning of a new era of experience tourism (Andersson, 2007). The demand of tourists has changed from the traditional passive tourism model to tourism activities seeking higher participation and experience (Moura et al., 2023). The sense of experience is closely related to the satisfaction of tourists, which involves the perception and emotional response of tourists in the process of tourism, including the direct experience of the service quality of scenic spots, tourism activities and cultural exchanges (Shaykh-Baygloo, 2021). Tourism managers can directly affect the satisfaction of tourists by improving their sense of experience. High quality services, diverse activities and in-depth cultural experiences enhance visitors' sense of experience, which in turn increases satisfaction. Conversely, a poor experience, such as poor service quality or a single event content, will lead to decreased satisfaction (Chen & Chen, 2010). Studies have shown that travel experience has a positive impact on satisfaction, which is reflected in tourists' loyalty to travel destinations (Teixeira et al., 2019). The diversity of tourism experience has a significant impact on tourists' satisfaction and willingness to visit again (Lee et al., 2020). Smart travel technologies and memorable travel experiences play an important role in increasing tourist satisfaction and destination loyalty (Azis et al., 2020).

The Mediated Role of Tourist Experience

In the field of tourism, the mediating role of visitor experience between accommodation and visitor satisfaction is a key research focus. Studies have shown that tourism experience not only directly affects tourist satisfaction, but also indirectly affects the relationship between accommodation service quality and tourist satisfaction through several mediating variables. For example, tourist experience value plays a positive mediating role in the impact of information communication service quality and administrative supervision service quality on the realization of sexual happiness (Osman & Sentosa, 2013). Tourism experience quality is a measure of tourists' emotional accumulation, which reflects tourists' feelings and impressions in the process of travel. High-quality travel experience can improve tourists' satisfaction with transportation, as transportation is an integral part of tourism activities (Virkar & Mallya, 2018). Transportation service quality has a significant impact on tourists' happiness, and experience value and experience satisfaction play an intermediary role between service quality and tourists' happiness (Haji et al., 2021). Tourists' value co-creation behavior has a positive impact on tourism satisfaction, and tourism experience value plays an intermediary role in this process (Virkar & Mallya, 2018). The social value of shared travel experience has an impact on tourists' satisfaction. Tourists' sharing behavior when using transportation can enhance their social connection and thus improve their satisfaction (Wong et al., 2024). In addition, Mogaji & Nguyen (2021) found that travel behavior and travel experience of disabled commuters have a significant impact on travel satisfaction, and convenient transportation is the most important factor to improve tourist satisfaction. Peng Yi et al. (2023) constructed a multi-mediating model of tourism public service quality and tourists' happiness from the perspective of tourism experience, and experience satisfaction played a positive mediating role in the impact of information communication service quality and administrative supervision service quality on the realization of sexual happiness and hedonic happiness.

These studies show that tourist experience plays a crucial mediating role in improving tourist satisfaction. By improving all aspects of the travel experience, such as service quality, information dissemination, safety, etc., the overall satisfaction of tourists can be significantly improved.

5. Research Methodology

5.1 Study Sample

In this study, 4 5A scenic spots in Guilin were selected for investigation. The survey targets tourists who have visited 5A-class scenic spots in Guilin, aiming to understand the satisfaction of all tourists with 5A-class scenic spots in Guilin. Under the condition of simple random sampling, the formula for determining sample size is easily found in statistics textbooks: $n = Z^2 \sigma^2 / d^2$. Symbol n indicates the required sample size. The Z statistic for the confidence level, for example, the Z statistic for the 95% confidence level is 1.96. σ : Standard deviation of the population, generally 0.5; d : 1/2 of the confidence interval, which in practice is the allowable error, or survey error. Based on the formula and the study population size, it can be concluded that the survey requires at least 384 samples.

5.2 Instrument and measurement

The scale of accommodation is based on the measurement items used by Chamarro, Cobo-Benita & Herrero Amo (2023). The study measured accommodation in tourist destinations from eight aspects: accommodation environment, service quality, facilities, cost performance, location convenience, catering service, booking and hairdressing processes, customer feedback and complaint handling. The questionnaire is designed according to these 8 aspects.

Traffic was measured using the scale of Wickramasinghe et al. (2022). A total of seven measurement items are measured in four areas: accessibility, efficiency, cost, comfort, safety, access to information, and environmental impact.

The measurement of travel experience is combined with the scale of MA & XIE (2019) and WU et al. (2023), which is mainly measured from six aspects: emotional experience, sensory experience, cognitive experience, behavioral experience, relational experience and retrospective experience.

Tourist satisfaction was measured by Ma (2019) scale, mainly from seven aspects: service quality, price rationality, facility environment, experience quality, emotional satisfaction, problem solving efficiency and willingness to visit again. Service quality is the evaluation of tourists' satisfaction with tourism services, including accommodation, catering, tour guide, transportation and so on.

Table 1: Instrument and measurement

NO	Dimension	Items	Author
1	(AC)	You think the tourist accommodation in Guilin is good	Chamarro, Cobo-Benita & Herrero Amo (2023)
2		You think the service staff of Guilin accommodation are professional and efficient	
3		You think the accommodation facilities in Guilin are well equipped with infrastructure and recreational facilities	
4		You think Guilin tourist accommodation has location convenience	
5		You think the sanitary conditions of the accommodation in Guilin are good.	
6		You think the accommodation in Guilin is very comfortable.	
7		You think the accommodation in Guilin is very safe.	
8	TR	You think the transportation network in Guilin is very convenient.	Wickramasinghe et al., (2022)
9		You think the punctuality and frequency of Guilin's transportation are reasonable.	
10		You think the transportation cost in Guilin is reasonable.	
11		You think the transportation in Guilin is comfortable.	
12		You think the transportation in Guilin is safe.	
13	TE	You think the tourist traffic information in Guilin is easy to obtain.	MA & XIE (2019) ; WU et al. (2023)
14		You think the mode of transportation in Guilin has less impact on the environment.	
15		You feel relaxed, happy and excited during your visit to Guilin.	
16		Your sensory experience during your visit to Guilin City is good.	
17		Your sense of culture and history during your visit to Guilin is good.	
18		You have a good experience of activities, shopping and exploring in Guilin.	
19		The interaction and socializing you have with local residents or other visitors during your visit to Guilin City is good.	
20	TS	After the tour in Guilin city, let you feel endless aftertaste.	Ma (2019)
21		You are satisfied with the tourism services in Guilin, including accommodation, catering, tour guide, transportation and so on.	
22		You think the price of Guilin tourism products and services is reasonable.	
23		You are satisfied with the infrastructure, cleanliness, safety and the quality of the natural and cultural environment in the city of Guilin.	
24		You are satisfied with the overall experience of Guilin tourism activities.	
25		You are emotionally and psychologically satisfied in the process of traveling in Guilin.	
26		You are satisfied with the efficiency and effectiveness of Guilin's tourism service providers in handling tourist complaints and problems.	

5.3 Survey

Questionnaire star was used for questionnaire design and collection. A total of 412 questionnaires were collected in this study. Through data cleaning, a total of 406 questionnaires were used for data analysis.

5.4 Data analysis

After the questionnaires were collected, valid questionnaires were recorded into SPSS 23.0, and exploratory factor analysis was conducted by SPSS. Finally, the structural equation model (SEM) was analyzed using Smart-PLS 4.0 to test the reliability and validity of the model and the relationship between variables.

6.Results

6.1 Assessment of the measurement model

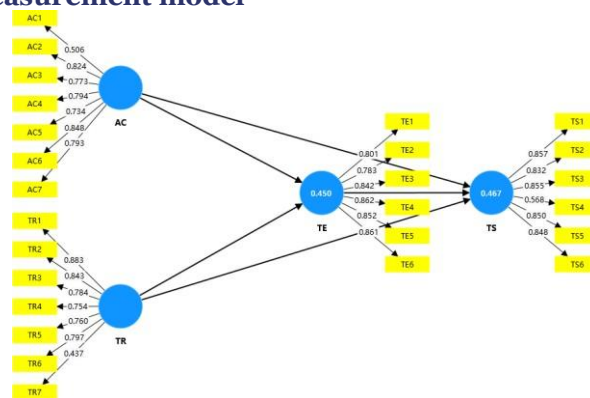


Figure 1: Initial model

According to the figure above, it can be found that the factor load of AC1 is equal to 0.506, which is much less than 0.7, so consider deleting AC1, and the factor load of TR7 is equal to 0.437, which is much less than 0.7, and consider deleting TR7. Similarly, the factor load of TS4 is less than 0.7, which can be considered. After deleting the above items, the final model looks like the following figure.

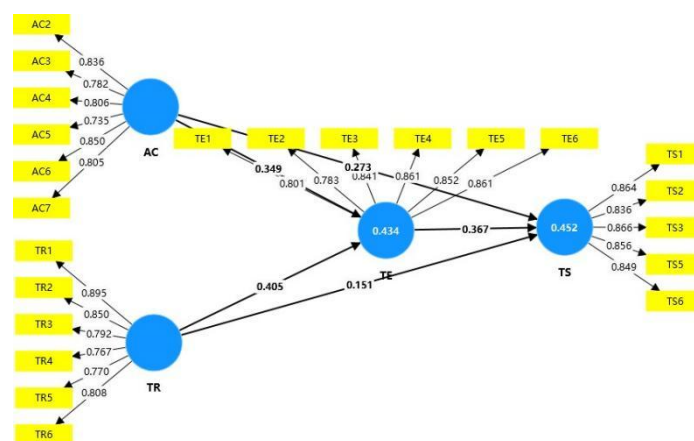


Figure 2: Final Model

6.1.1 Reliability and Convergent Validity

Table 2: Reliability and Convergent Validity Table

	Cronbach's alpha	Composite reliability (rho_a)	Average variance extracted (AVE)	R-square	R-square adjusted
AC	0.890	0.895	0.645		
TE	0.912	0.914	0.695	0.434	0.431
TR	0.898	0.905	0.664		
TS	0.907	0.908	0.730	0.452	0.448

Reliability indicators (Cronbach's Alpha and combined reliability) for all potential variables (AC, TE, TR, and TS) are above 0.70, showing good internal consistency. At the same time, AVE values are all higher than 0.50, indicating that these potential variables have good explanatory power. In addition, the higher R² values of TE and TS indicate that exogenous variables have a strong explanatory power to tourists' experience and satisfaction.

6.1.2 Discriminant Validity

Table 3: HTMT Value

	AC	TE	TR	TS
AC				
TE	0.617			
TR	0.578	0.646		
TS	0.617	0.668	0.558	

All HTMT values were below 0.85, indicating good discriminative validity among potential variables (AC, TE, TR, and TS). This means that these potential variables are statistically distinct from each other, and the concepts measured are different. This discriminative validity validates the validity of the underlying variables in the model, ensuring that each variable represents a unique construct and avoiding multicollinearity problems.

Table 4: Fornell-larcker criterion

	AC	TE	TR	TS
AC	0.803			
TE	0.561	0.834		
TR	0.523	0.587	0.815	
TS	0.558	0.609	0.509	0.854

The AVE square root of AC (0.803) was higher than its correlation with other potential variables (TE: 0.561, TR: 0.523, TS: 0.558), indicating good discriminative validity between AC and other variables. The AVE square root of TE (0.834) was higher than its correlation with other potential variables (AC: 0.561, TR: 0.587, TS: 0.609), indicating good discriminative validity between TE and other variables. The AVE square root of TR

(0.815) was higher than its correlation with other potential variables (AC: 0.523, TE: 0.587, TS: 0.509), indicating good discriminative validity between TR and other variables. The AVE square root of TS (0.854) was higher than its correlation with other potential variables (AC: 0.558, TE: 0.609, TR: 0.509), indicating good discriminative validity between TS and other variables.

According to the Fornell-Larcker criterion, the potential variables (AC, TE, TR, and TS) have good discriminative validity. This means that each potential variable is statistically independent of each other, enabling effective measurement of different concepts and avoiding multicollinearity problems.

6.2 Assessment of the structural model

6.2.1 R² Values

Table 5: R-square confidence intervals bias corrected

	Original sample (O)	Sample mean (M)	Bias	2.5%	97.5%
TE	0.434	0.440	0.006	0.318	0.526
TS	0.452	0.458	0.005	0.362	0.520

For TE and TS, the original sample value is close to the sample mean, and the deviation is small, indicating that the estimate is stable. The confidence interval shows the possible range of R-square values at 95% confidence level, indicating that the model's explanatory power for TE and TS has good consistency and stability in different samples.

6.2.2 Q² Values

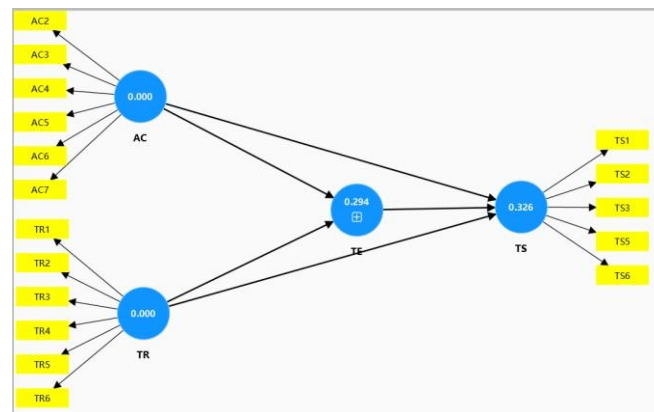


Figure 3: Q² Values

The Q² value of TE (tourist experience) is 0.294, which is greater than 0. The representation model has predictive correlation to tourist experience. The prediction error is relatively small, which indicates that the model can effectively predict TE. The Q² value of TS (tourist satisfaction) is 0.326, which is greater than 0, indicating that the model has predictive relevance to tourist satisfaction. The prediction error is relatively small, which indicates that the model can effectively predict TS.

6.2.3 Effect Sizes (f²)

Table 6: F-square list

	f-square
AC -> TE	0.156
AC -> TS	0.086
TE -> TS	0.139
TR -> TE	0.210
TR -> TS	0.025

As can be seen from the table above, the effect sizes of each path are different. High F-square values, such as AC -> TE and TR -> TE, indicate that these paths have strong explanatory power and influence. Overall, improved accommodation and transportation satisfaction can significantly improve the experience of tourists, which indirectly affects their overall satisfaction.

6.2.4 Model Fit Indices

Table 7: Model fit

	Saturated model	Estimated model
SRMR	0.046	0.046
d_ ULS	0.580	0.580
d_ G	0.203	0.203
Chi-square	473.251	473.251
NFI	0.924	0.924

The normalized mean square residual (SRMR) value is 0.046 (saturated and estimated models), and SRMR values less than 0.08 generally indicate good model fit. The SRMR value of 0.046 indicates that the residual error of the model is small and the model fit is good. The value of d_ ULS (unweighted minimum squares) is equal to 0.580 (saturation model and estimation model), indicating that d_ ULS is used to evaluate model fit. There is no clear threshold criterion, but smaller d_ ULS values generally indicate better model fit. 0.580 indicates that the model has a reasonable degree of fit. The value of d_ G (geometric distance) is equal to 0.203 (saturation model and estimation model), indicating that d_ G is also used to evaluate the fit degree of the model. Lower d_ G values indicate better model fit. The d_ G value of 0.203 indicates that the model has a good fit. The Chi-square value is equal to 473.251 (saturation model and estimation model), and the smaller the Chi-square value, the smaller the difference between the model and the data, the better the model fit. Although the chi-square value is high, the Chi-square test is usually greatly affected by the sample size, so it needs to be comprehensively evaluated in conjunction with other fit indicators. The gauge fit index (NFI) value is 0.924, and the NFI value close to 1 indicates that the model has a good fit. The NFI value of 0.924 indicates a good fit between the model and the data. On the whole, these model fit indexes show that the model has a good fit with the data and can explain the variation in the data better.

6.2.5 Multicollinearity assessment

Table 8: VIF -Inner model list

	VIF
AC -> TE	1.376
AC -> TS	1.592
TE -> TS	1.766
TR -> TE	1.376
TR -> TS	1.666

As can be seen from Table 8, the VIF of all relationships is less than 2.5, ensuring that there is no significant multicollinearity between all relationships.

6.3 Hypothesis testing

6.3.1 Assessing the Direct Effect

Table 9: Path coefficients

Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
AC -> TE	0.349	0.350	0.058	6.072	0.000
AC -> TS	0.273	0.274	0.048	5.651	0.000
TR -> TE	0.405	0.406	0.062	6.501	0.000
TR -> TS	0.151	0.150	0.054	2.810	0.005
TE -> TS	0.367	0.367	0.054	6.772	0.000

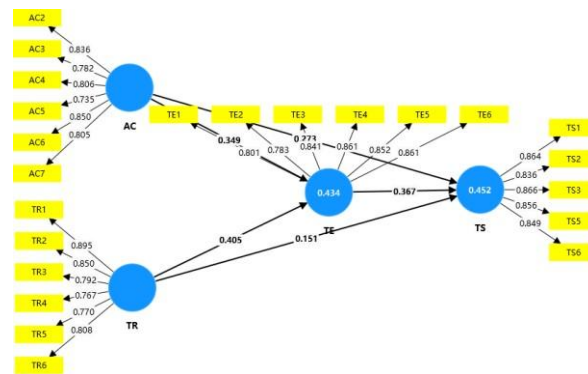


Figure 4: Path coefficients

The path coefficient of AC → TE is 0.349, the t value is 6.072, and the p value is 0.000, indicating that the path is significant and positive. Accommodation satisfaction (AC) has a significant positive impact on tourist experience (TE). The path coefficient of AC → TS is 0.273, the t value is 5.651, and the p value is 0.000, indicating that the path is significant and positive. Accommodation satisfaction (AC) has a significant positive impact on tourist satisfaction (TS). The path coefficient of TR → TE is 0.405, the t value is 6.501, and the p value is 0.000, indicating that the path is significant and positive. Traffic satisfaction (TR) has a significant positive impact on tourist experience (TE). The path coefficient of TR → TS is 0.151, the t value is 2.810, and the p value is 0.005, indicating that the path is significant and positive. Traffic satisfaction (TR) has a significant positive effect on tourist satisfaction (TS), but the effect is relatively small. The path coefficient of TE → TS is 0.367, the t value is 6.772, and the p value is 0.000, indicating that the path is significant and positive. Tourist experience (TE) has a significant positive impact on tourist satisfaction (TS). The R^2 of tourist experience (TE) is equal to 0.434, and the R^2 value indicates that the explanatory power of exogenous variables such as accommodation and transportation to tourist experience is 43.4%. This shows that accommodation and transportation can explain 43.4% of the variance of tourist experience, which has a strong explanatory power. Visitor satisfaction (TS) R^2 equals 0.452, and the R^2 value indicates that the explanatory power of exogenous variables (accommodation, transportation and visitor experience) for visitor satisfaction is 45.2%. This shows that accommodation, transportation and tourist experience can explain 45.2% of the variance of tourist satisfaction, which has a strong explanatory power. Therefore, the P-values for all paths were less than 0.05, indicating that these paths were statistically significant. The path coefficient shows a positive relationship between the variables, indicating that improving accommodation and transportation satisfaction can significantly improve tourists' overall sense of experience and satisfaction. At the same time, the R^2 values of TE and TS indicate that the model has strong explanatory power for these variables.

4.6.2 Assessing the Mediating Effect

By analyzing specific indirect effects, total indirect effects, and total effects, causal relationships and mediating effects among variables can be more fully understood.

Table 10: Specific indirect effects

Hypothesis	Relationship	O	M	STDEV	T statistics (O/STDEV)	P values
H6	AC → TE → TS	0.128	0.129	0.029	4.486	0.000
H7	TR → TE → TS	0.148	0.149	0.031	4.781	0.000

The original sample value (O) of the specific indirect effect AC → TE → TS is equal to 0.128, the sample mean (M) is equal to 0.129, the standard deviation (STDEV) is equal to 0.029, the T-value is equal to 4.486, and the P-value is equal to 0.000. The results show that accommodation (AC) has a significant indirect effect on tourist satisfaction (TS) through tourist experience (TE). T-values and p-values indicate that this path is statistically significant, with an indirect effect of 0.128.

The original sample value (O) of TR → TE → TS is equal to 0.148, the sample mean (M) is equal to 0.149, the standard deviation (STDEV) is equal to 0.031, the T-value is equal to 4.781, and the P-value is equal to 0.000. The results show that transportation (TR) has a significant indirect effect on tourist satisfaction (TS) through tourist experience (TE). T-values and p-values indicate that this path is statistically significant, with an indirect effect of 0.148. Table 11: Total indirect effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
AC -> TS	0.128	0.129	0.029	4.486	0.000
TR -> TS	0.148	0.149	0.031	4.781	0.000

The original sample value (O) of AC -> TS is equal to 0.128, the sample mean (M) is equal to 0.129, the standard deviation (STDEV) is equal to 0.029, the T-value is equal to 4.486, and the P-value is equal to 0.000. The total indirect effect of accommodation (AC) on tourist satisfaction (TS) is 0.128, indicating that AC indirectly influences TS through other variables (TE) and is statistically significant.

TR -> TS Original sample value (O) is equal to 0.148, sample mean (M) is equal to 0.149, standard deviation (STDEV) is equal to 0.031, T-value is equal to 4.781, and P-value is equal to 0.000. The total indirect effect of transportation (TR) on tourist satisfaction (TS) is 0.148, indicating that TR indirectly affects TS through other variables (TE) and is statistically significant.

Table 12: Total effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
AC -> TE	0.349	0.350	0.058	6.072	0.000
AC -> TS	0.401	0.403	0.047	8.563	0.000
TE -> TS	0.367	0.367	0.054	6.772	0.000
TR -> TE	0.405	0.406	0.062	6.501	0.000
TR -> TS	0.299	0.299	0.051	5.834	0.000

Accommodation (AC) and transportation (TR) have significant indirect effects on visitor satisfaction (TS) through the sense of visitor experience (TE). The results of both the total indirect effect and the total effect were statistically significant, indicating a significant causal relationship between these variables. Improving accommodation and transportation not only directly improves visitor satisfaction, but also indirectly affects visitor satisfaction by enhancing the sense of visitor experience.

7. Discussion and implications

In the hypothesis test, the researchers found that the original sample (O) of AC -> TE is equal to 0.349 and the P-value is equal to 0, meaning that for every 1 unit increase in the quality of accommodation (AC), the travel experience (TE) will increase by 0.349 units. The original sample (O) of AC -> TS is equal to 0.273 and the p-value is equal to 0. This means that for every 1 unit increase in accommodation quality (AC), travel satisfaction (TS) will increase by 0.273 units. The original sample (O) of TR -> TE is equal to 0.405 and the P-value is equal to 0, which means that for every 1 unit increase in the quality of transportation (TR), the travel experience (TE) will increase by 0.405 units. The original sample (O) of TR -> TS is equal to 0.151 and the P-value is equal to 0.005, which means that for every 1 unit increase in transport quality (TR), travel satisfaction (TS) will increase by 0.151 units. The original sample (O) of TE -> TS is equal to 0.367, and the p-value is equal to 0. This means that for every 1 unit increase in travel experience (TE), travel satisfaction (TS) will increase by 0.367 units. The original sample (O) of AC -> TE -> TS is equal to 0.128, which means that for every 1 unit increase in accommodation quality (AC), travel satisfaction (TS) will increase by 0.128 units through the mediating role of travel experience (TE). A T value equal to 4.486 and a P value of 0.000 indicate that the mediating effect is statistically significant. The original sample (O) of TR -> TE -> TS is equal to 0.148, which means that for every 1 unit increase in transport quality (TR), travel satisfaction (TS) will increase by 0.148 units through the mediating role of travel experience (TE). The T value equals 4.781 and the P value is 0.000, indicating that the mediating effect is statistically significant. These results show that accommodation and transportation have a significant positive impact on tourist experience, accommodation and transportation have a significant positive impact on tourist satisfaction, and tourism experience plays an important intermediary role in the impact of accommodation and transportation on tourism satisfaction.

8.Limitations and Recommendation for future research

This study uses questionnaire star for data collection. Tourists may selectively participate in the survey due to personal interests, travel preferences and other factors, resulting in that the sample cannot fully represent all tourists who have been to 5A scenic spots in Guilin. The time span of this study may not be sufficient to reflect long-term trends. The study was based on data collected for only a few months in 2024, and the results may not be representative of the long-term impact of accommodation and transportation on visitor satisfaction. This research has not received financial support from the university or the outside world. Therefore, the limitation of funding and resources affects the depth and breadth of the research. In this study, the English questionnaire was used, but the survey was conducted in China, so the translation of the questionnaire may be biased. The unclear question expression, unreasonable choice setting or guiding questions in the questionnaire may lead to the tourists' answers deviating from the real situation. In order to improve the accuracy and reliability of the study, the sample size can be further expanded in future studies to cover more tourists who have been to 5A-level scenic spots in Guilin. In addition to accommodation, transportation and tourist experience, future research can also introduce other variables that may affect tourist satisfaction, such as scenic area environment, service quality, price level, etc. In the future, we can use a combination of various research methods for in-depth analysis. In addition to questionnaire survey, field observation, in-depth interview, case analysis and other methods can be used to collect data and verify research results.

9.Conclusion

Through in-depth analysis of the impact of accommodation and transportation on tourist experience and satisfaction, this study reveals the importance of these two elements of tourism infrastructure in the tourism process. The results show that accommodation and transportation have a significant positive impact on tourist experience, which means that good accommodation conditions and convenient transportation can significantly improve the overall experience of tourists during travel. At the same time, accommodation and transportation also have a significant positive effect on tourist satisfaction, indicating that these two factors largely determine the overall evaluation of tourist destinations. Further research found that travel experience plays an important mediating role in the impact of accommodation and transportation on travel satisfaction. This means that accommodation and transport not only directly affect visitor satisfaction, but also indirectly by affecting the tourist experience. This finding highlights the important role of tourism experience as a bridge between tourism infrastructure elements and visitor satisfaction. This study not only confirms the critical role of accommodation and transportation in the travel process, but also reveals the mediating role of travel experience. This has important practical implications for tourism managers and practitioners, suggesting that they should pay attention to improving the quality of accommodation and transportation services in order to optimize the tourist experience, and thus increase tourist satisfaction and loyalty. Future studies can further explore the impact of other tourism infrastructure elements on tourist experience and satisfaction, as well as the mediating mechanism of tourism experience in different tourism contexts, so as to provide more comprehensive theoretical support and practical guidance for the sustainable development of the tourism industry.

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