https://doi.org/10.15302/J-LAF-0-020036 Received Date | 2024-05-08 Accepted Date | 2024-12-23

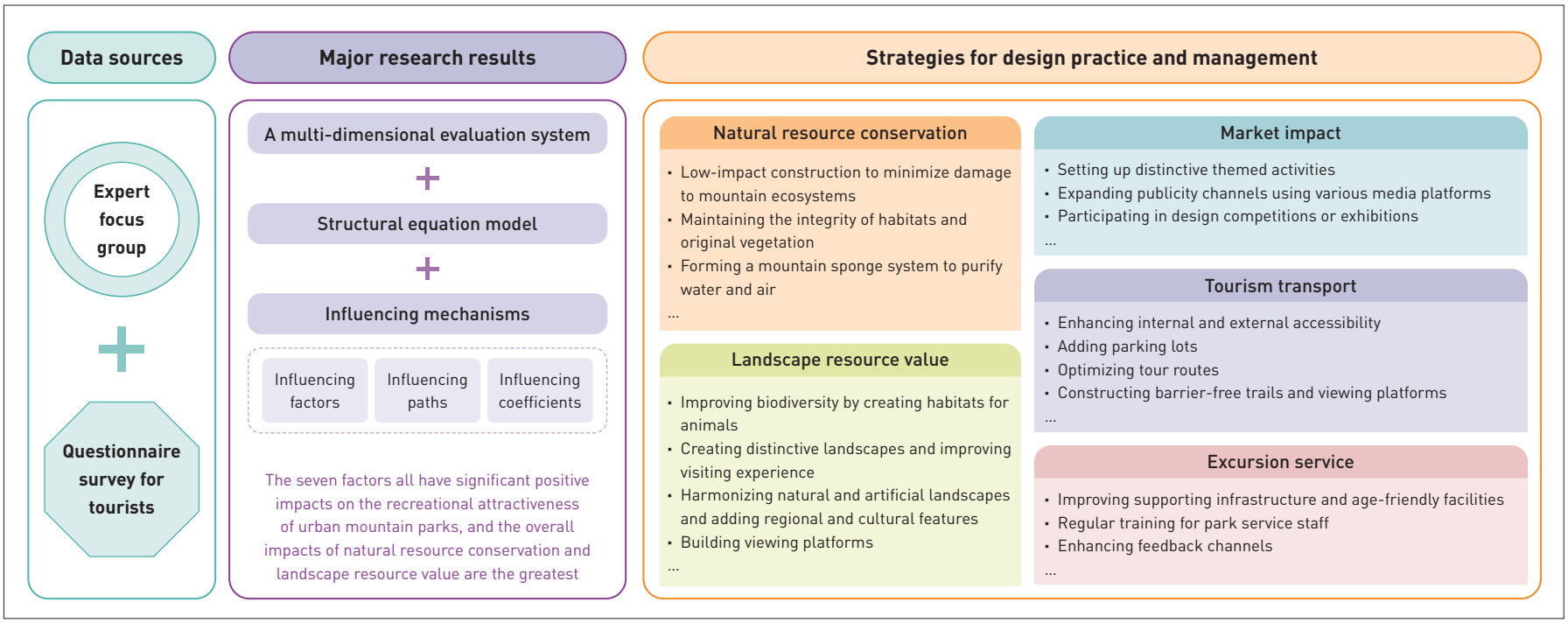
Influencing Mechanisms of Recreational Attractiveness of Urban Mountain Parks Based on Structural Equation Model

Shuangjiao CAI[1,2], Lifeng LI[3,*], Xuyu LI[4], Xianjun ZENG[5]

1 School of Design and Creativity, Fujian Jiangxia University, Fuzhou 350000, China
2 Wales Institute of Science and Art, University of Wales Trinity Saint David, Swansea SA, Wales, UK
3 School of Design and Creativity, Guilin University of Electronic Technology, Guilin 541000, China
4 Fuzhou Planning & Design Research Institute Group Co., Ltd., Fuzhou 350000, China
5 School of Architecture and Urban Rural Planning, Fujian University of Technology, Fuzhou 350000, China

*CORRESPONDING AUTHOR
Address: No. 9 Nanzhu Avenue, Yinhai District, Beihai 536000, Guangxi Zhuang Autonomous Region, China
Email: llf1007@guet.edu.cn

GRAPHICAL ABSTRACT



ABSTRACT

Urban mountain parks (UMPs) are vital green spaces for public leisure and recreation, but their recreational value is often underdeveloped, with few studies examining the influencing mechanisms of UMP recreational attractiveness. To address this issue, this study conducted an empirical investigation in Fuzhou, China. Guided by *China's Standard of Rating for Quality of Tourist Attractions*, a structural equation model (SEM) of UMP recreational attractiveness was established and tested based on an expert group and a questionnaire survey of 609 tourists. The findings reveal that seven factors—tourism transport, excursion services, tourism safety, integrated management, natural resource conservation, landscape resource value, and market impact—

contribute positively to enhancing UMP recreational attractiveness. Among them, natural resource conservation has the highest influence, followed by landscape resource value, indicating that they both play the greatest role in affecting UMP recreational attractiveness. These seven factors are interrelated, with natural resource conservation strongly positively influencing market impact and landscape resource value. This study explored the influencing mechanism of these seven factors on UMP recreational attractiveness, which can provide practical recommendations for enhancing UMP recreational value worldwide.

KEYWORDS

Urban Mountain Parks; Recreational Attractiveness; Structural Equation Model; Natural Resource Conservation; Landscape Resource Value; Tourism; Fudao Park

HIGHLIGHTS

- Develops a multi-dimensional evaluation system and a structural equation model for UMP recreational attractiveness
- Natural resource conservation and landscape resource value are the greatest factors for UMP recreational attractiveness
- Explores influencing mechanisms of UMP recreational attractiveness and provides design and management strategies

RESEARCH FUNDS

- Project of "Research on the Configuration of Urban Public Service Facilities in the Age of Information Technology: Taking Guangzhou and Fuzhou as Examples," Young Scientists Fund of the National Natural Science Foundation of China (NO. 41801160)
- Project of "Research on Recreational Attractiveness of Urban Parks Based on China's National A-class Scenic Spot Assessment Standards," Youth and Middle-aged Science and Technology Project of Fujian Provincial Department of Education (NO. JAT210358)

EDITED BY Tina TIAN, Xidong MA

1 Introduction

With the continuous progress of urbanization, people's demand and concern for ecological and recreational functions of urban parks are growing[1]. In many mountainous cities, urban mountain parks (UMPs) are increasingly important green recreational spaces[2] and an essential part of urban park system[3]. Compared with ordinary urban parks, UMPs has unique advantages, including topographic features, diverse spatial patterns, distinctive ecological resources, and microclimatic variations[4], which can provide considerable ecosystem services. Further, UMPs offer residents with opportunities to experience nature and enhance their life quality in the city[3]. Despite these benefits, many UMPs still face challenges, including inadequate construction guidelines, insufficient leisure services, underutilized landscape resources, and poor spatial design, all of which limit their recreational value[2]. It can be seen that a scientific, comprehensive evaluation of UMP recreational value can support landscape optimization, management improvement, and sustainable development[1][2].

Recreational attractiveness is a quantitative indicator of a recreational destination's capacity to attract visitors, and also an intangible factor that can influence tourists' choice of recreational areas and activities based on the abundance of available resources[5][6]. UMP recreational attractiveness is collectively influenced by factors such as the distinctiveness, cleanliness, and aesthetic value of landscape resource, transportation accessibility, and safety[5]. As part of recreational tourist sites, UMPs are also critical in offering cultural ecosystem services, thus improving its recreational attractiveness would benefit human mental well-being[7][8].

At present, existing studies worldwide about recreational attractiveness primarily focus on the adopted models for influencing factor selection and evaluation studies, among which most current research has used the "push-pull-resistance" model[9]~[14], especially in Asia (China[9][10], Malaysia[11], and Japan[13]) and Africa[12][14]. For instance, with this model, scholars examined the factors influencing tourists' destination choice[10] and used online review data to identify the motivations of tourists visiting religious sites in Kyoto[13]. Despite the abundance of research, such a model is unable to explore the relationships between factors, which can be addressed by structural equation model (SEM)—SEM can also control measurement error, manage multiple variables, and construct complex multivariate models[15]~[17]; furthermore, it plays a crucial role in identifying and examining influencing mechanisms[18]. However, currently SEM is mainly applied in social

sciences, management, and economics[19], with limited application in landscape planning and design. In terms of research objects, rural areas[20]~[23], forested landscapes[24]~[29], waterfront landscapes[30]~[33], and urban parks[1][34]~[38] are the dominant assessment subjects of recreational attractiveness studies, which primarily evaluated tourists' willingness to revisit and the performance of recreational services in tourist attractions. Relatively, UMP has not yet been widely studied and the findings of research on common urban parks cannot be well applicable to UMPs. In terms of influencing factor selection, current studies are mainly based on previous literature[28][39], specific theories[6][40], or tourists' perceptions[5], with few studies involved standardized policy documents. However, the scholarly exploration of UMP recreational attractiveness is still limited, especially the use of SEM to probe into associated influencing mechanisms based on national policy documents.

China's *Standard of Rating for Quality of Tourist Attractions* (the Standard hereafter), compiled by the Ministry of Culture and Tourism[41], is a criterion used to evaluate the tourism quality of scenic spots based on service quality, landscape quality, and visitor experience. The Standard is a well-developed and widely used assessment system and a multi-dimensional evaluation framework, covering ten dimensions including natural resource conservation, landscape resource value, etc.[41]

This study initiated a preliminary exploration on the influencing mechanisms of the UMP recreational attractiveness by taking Fudao Mountain Park in Fuzhou, a national A-class tourist attraction in China, as an example. An evaluation questionnaire was created by an expert focus group under the guidance of the Standard, and then the SEM for the evaluation of UMP recreational attractiveness was constructed and tested, ultimately revealing influencing factors and corresponding mechanisms of UMP recreational attractiveness. This study aims to answer the following questions: 1) What are the factors affecting UMP recreational attractiveness? 2) What are the influencing mechanisms of these factors on UMP recreational attractiveness, including influencing paths and coefficients? 3) What are the interactions between these factors? This study hopes to provide both methodological insights and practical recommendations for planning and design optimization, enhance UMP services, and promote the sustainable development of UMP recreational tourism globally.

2 Study Area and Research Methods

2.1 Study Area

Fuzhou is a typical mountainous city in southeast China, where mountains and hills account for 72.68% of the city's total area. Enjoying the unique advantages endowed by nature, the municipality has planned and constructed a series of UMPs for meeting citizens' activity demands[3].

Fudao Park located in the main urban area of Fuzhou City was selected as the study site. Consisting of three zones, namely, Jinniu Mountain Sports Park, Jinniu Mountain Park, and Meifeng Mountain Park, Fudao Park is one of the most popular and well-known UMPs in Fuzhou, with topographical advantages, unique ecological resources, diverse spatial forms, and rich landscapes. It particularly features the Fudao (Blessed Trail), the first suspended steel-framed urban forest trestle in China, with an overall length of approximately 19 km[42] (Fig. 1). It provides citizens with a variety of ecosystem services such as forest recreation, scenic views, and fitness. Therefore, Fudao Park is a representative for UMP recreational attractiveness research.

2.2 Research Methods

For quantitative data, this study used the SEM to identify and examine the influencing factors of recreational attractiveness and their interrelations. In this article, 13 hypotheses were proposed as well as a hypothetical model of recreational attractiveness was constructed, and then the SEM method was used to for testify and

© Shuangjiao Cai, Lifeng Li, Xuyu Li, Xianjun Zeng

1. Aerial photographs of Fudao Park.

analyze the hypothetical model. SEM is a multivariate statistical tool for analyzing relationships between variables and testing the consistency of theoretical models with research data. It also can determine the weights of indicators and analyze the relationship between them.

For textual data, this study employed word frequency analysis on tourists' comments collected from the questionnaire, which measured tourists' perception and statistically analyzed the word frequency to determine keywords and themes.

2.2.1 Questionnaire Design

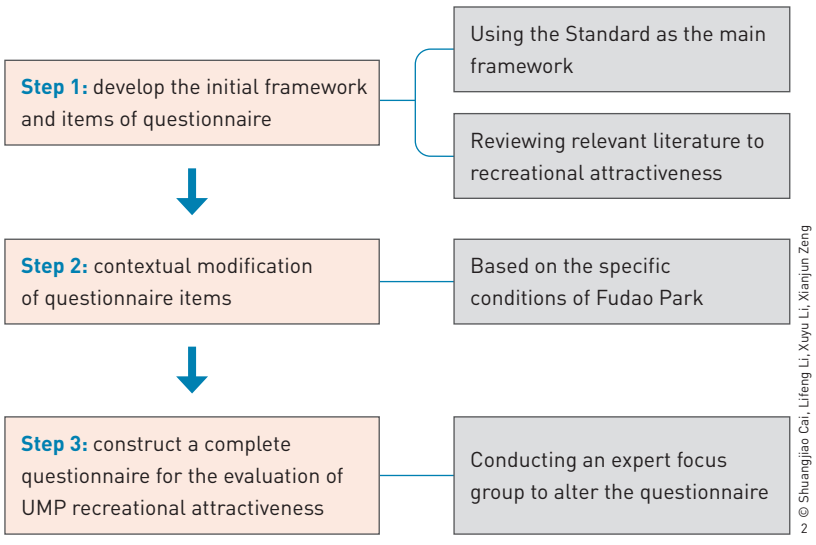
This questionnaire was developed based on the Standard and relevant literature[1][43]~[59]. It was a seven-point Likert scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire was designed and constructed by three steps, as shown in Fig. 2. First, the Standard was used as the initial framework, which comprises dimensions measuring service and environment quality (including tourism transport, excursion service, tourism safety, cleanliness, postal service, tourism shopping, integrated management, and natural resource conservation) and landscape quality (including landscape resource value and market impact). After reviewing relevant literature[1][43][48]~[59], the dimension of postal service was removed for its lower correlation with recreational attractiveness, and the dimensions of cleanliness and tourism shopping were integrated into the dimension of excursion service. Upon these final seven dimensions, 35 question items related to recreational attractiveness were developed. Second, the question items were contextually altered according to the actual conditions of Fudao Park. Third, in order to ensure that the question items were professional and scientific, six experts in Tourism and Landscape Architecture were invited to form an expert focus group under existing moderation guidance[60]. All experts hold a doctoral degree and were at least at the level of associate professor. Through two rounds of 60-minute face-to-face multidisciplinary discussions, the experts reviewed the research objectives and the initial questionnaire framework to examine the relevance, accuracy, and logical coherence of the questions, and then 31 items remained (Table 1). On this basis, a multi-dimensional evaluation questionnaire was formed for UMP recreational attractiveness.

The final questionnaire was divided into two parts. The first part included questions about participants' demographic characteristics and the number of visits to Fudao Park. The second part included structured and semi-structured questions, where the structured questions covered seven dimensions sourced from the Standard as latent variables, while recreational attractiveness as the observed variable. Referring to relevant literature[43]~[47] and experts' feedback, attractiveness, willingness to revisit (loyalty), and satisfaction were used to collectively reflect the recreational attractiveness to tourists. In addition, a semi-structured question—"what recommendations do you have to improve visitors' experiences at Fudao Park?"—was designed to collect individual opinions and suggestions from participants, who were encouraged to freely express their recommendations and feelings about the future enhancement of Fudao Park.

2.2.2 Data Collection

The investigation team consisted of the four authors, and the participants were the visitors of Fudao Park. The questionnaire survey was conducted from 20 March to 15 April, 2022, during which the weather in Fuzhou City was comfortable, avoiding the impact of thermal comfort factors on the results. Finally, a total of 609 questionnaires were distributed. After screening, 55 invalid questionnaires were excluded, leaving 554 valid questionnaires.

2. Development process of the questionnaire.



3 Research Hypotheses

According to the Standard, this study proposed seven factors affecting recreational attractiveness, i.e., tourism transport, excursion services, tourism safety, integrated management, natural resource conservation, landscape resource value, and market impact (Table 1). Recreational attractiveness in this study was measured with these factors by proposing corresponding hypotheses. With reference to previous research[61], hypotheses that were not supported by the literature were eliminated, resulting in

Table 1: Questionnaire setting for investigating UMP recreational attractiveness

Latent variable	Observed variable	Question
Tourism transport	External transport accessibility	The access to Fudao Park is convenient.
	Entrance signs	I can easily find the entrance to Fudao Park.
	Parking facilities	Fudao Park is equipped with easy parking lots.
	Tourist route setting	The tour route in Fudao Park is set up well and smooth.
Excursion service	Visitor Center	The Visitor Center can provide the tourist services I need.
	Tourist guide system	I am satisfied with the guide system in Fudao Park.
	Tour guide service	I am satisfied with the tour guide and interpretation service in Fudao Park.
	Environmental cleanliness	The overall environment of Fudao Park is clean and tidy.
	Toilet facilities	I am satisfied with the toilets in Fudao Park (number, facilities, hygiene, cleanliness, etc.).
	Tourism shopping	I am satisfied with the convenient service points (tea, commodities, food and beverage, etc.) set up in Fudao Park.
Tourism safety	Security staff	I feel protected by the security staff in Fudao Park.
	Security facilities	I think the tourist facilities (treetop walkways, platforms, etc.) in Fudao Park are safe.
	Safety tips	The safety reminders in Fudao Park are well set up.
Integrated management	Management services	The staff of Fudao Park has good service attitude and well management skills.
	Complaint convenience	Visitors can easily find the complaint channels of Fudao Park.
	Publicity effect	I can usually see reports or news about Fudao Park.
Natural resource conservation	Air quality	I feel the air in Fudao Park is fresh and refreshing.
	Noise control	Little noise is heard in Fudao Park.
	Water quality of aquascapes	Aquascapes in Fudao Park are clean and the water surfaces are free of debris.
	Harmony of buildings and facilities	The buildings and facilities in Fudao Park are in harmony with the surrounding mountainous landscape.
	Vegetation landscape	I am satisfied with the overall greening landscape of Fudao Park.
Landscape resource value	Ornamental and aesthetic value	I think Fudao Park has high ornamental and aesthetic values.
	Uniqueness	The landscape of Fudao Park is special and distinctive from other scenic spots.
	Scale and abundance	There are abundant tourism resources in Fudao Park, with well-balanced distribution of attractions.
	Completeness	The ecological and tourism resources of Fudao Park are well-maintained and relatively complete.
Market impact	Visibility	I think Fudao Park is of high visibility, at least nationally well-known.
	Distinctiveness	Excursions in Fudao Park are themed and unique.
	Reputation	I am well impressed with Fudao Park, and it is praised by people around me.
Recreational attractiveness	Attractiveness	Fudao Park is attractive to me.
	Willingness to revisit	I would like to visit Fudao Park again in the future.
	Satisfaction	I feel satisfied with this visit to Fudao Park.

the retention of 13 hypotheses, as outlined below.

Improved transport conditions affect tourists' environmental perceptions and satisfaction with destinations[48]. Qianqian Gong et al. have noted that traffic accessibility is an important factor affecting recreational attractiveness of mountain tourist attractions[49]. Consequently, Hypothesis One (H1) was proposed as *tourism transport has a significant positive effect on recreational attractiveness*.

Excursion service refers to the services, activities, and facilities provided by scenic spot managers to create a convenient tourism experience and meet the needs of tourists[53]. In this study, it included tour guide services, tourism activities, tour guide systems, and tourism shopping. Improving excursion service is essential to every tourism destination[62]. Market impact mainly includes the popularity, reputation, marketability, and thematic specificity of a tourist destination. Empirical research by Neffi Sulkaisi et al. has revealed that the quality of services in tourist destinations has a direct effect on tourists' satisfaction and loyalty[50]. Mukhles Al-Ababneh has also pointed out that services, facilities, and accessibility are essential considerations in choosing a destination[52]. Therefore, Hypothesis Two (H2) and Hypothesis Three (H3) were formulated as *excursion service has a significant positive effect on market impact* and *excursion service has a significant positive effect on recreational attractiveness*, respectively.

Travel safety is a basic requirement for tourists and a primary factor influencing their travel decisions. Mohammad Soliman et al. revealed that safety factors in tourist destinations have a positive impact on tourist satisfaction and loyalty[63]. Guijin Ding et al. also found that tourists' safety sense can affect their impression of the destination[51]. Based on these findings, this study proposed Hypothesis Four (H4) and Hypothesis Five (H5) as *tourism safety has a significant positive effect on market impact* and *tourism safety has a significant positive effect on recreational attractiveness*, respectively.

Integrated management includes management system, staffing, service attitude, and implementation effect, which reflect the overall management level of scenic spots. Jie Cheng noted that a well-established tourism management mechanism is conducive to providing tourists with high-quality tourism products, a healthy tourism environment, and recreational services[53]. Ranea Mohammed Qaddhat et al. revealed the positive impact of tourism management on tourism experience and tourists' satisfaction[64]. As a result, Hypothesis Six (H6) and Hypothesis Seven (H7) were presented as *integrated management has a significant positive effect on excursion service* and *integrated management has a significant positive effect on recreational attractiveness*, respectively.

Natural resource conservation includes water quality of aquascapes, air quality, noise control, vegetation landscape coverage, and the harmony of buildings and facilities, focusing on specific protection measures and effects. Zhixia Mao et al. suggested that the quality of landscape resources and recreational facilities in urban parks directly influence their recreational attractiveness[1]. Jianying Ma et al. also noted that natural landscapes such as geological landforms, animal resources, forest environments, and aquascapes are usually considered in tourism resource evaluations[65]. Accordingly, the following hypotheses were proposed: Hypothesis Eight (H8) as *natural resource conservation has a significant positive effect on landscape resource value*, Hypothesis Nine (H9) as *natural resource conservation has a significant positive effect on market impact*, and Hypothesis Ten (H10) as *natural resource conservation significantly enhances recreational attractiveness*.

Landscape resource value includes ornamental and aesthetic value, historical and cultural value, scientific value, uniqueness, scale, and integrity. A survey in Spanish mountains discovered that landscape is a crucial resource for tourists to experience and perceive tourist destinations[66]. Viktorija Grigaliunaite et al. stated that the aesthetic and ornamental values can significantly affect tourist satisfaction[54]. Hypothesis Eleven (H11) and Hypothesis Twelve (H12) were therefore developed as *landscape resource value has a significant positive effect on market impact* and *landscape resource value has a significant positive effect on recreational attractiveness*, respectively.

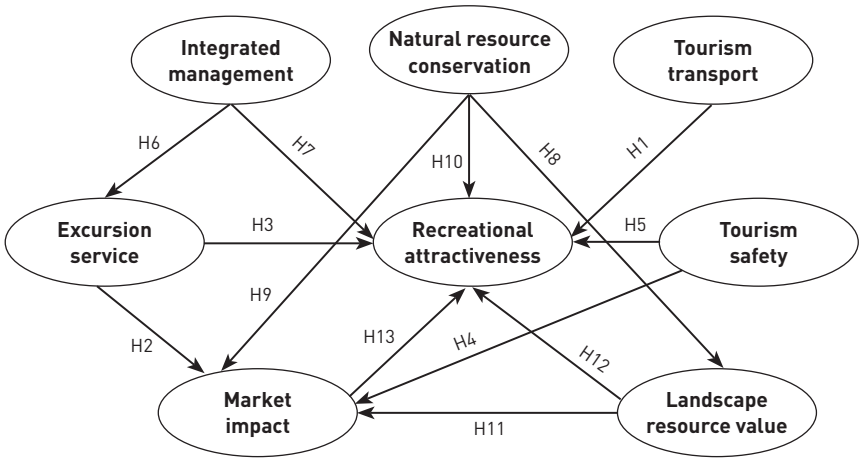
According to the research by Yumi Park et al. on the impact of tourism on Jeju Island, destination image influences tourist satisfaction and future behavior[67]. Another research, by establishing a theoretical model of destination image and tourist loyalty, found that tourists' perceived destination image affects their satisfaction and willingness to revisit[43]. Consequently, Hypothesis Thirteen (H13) was suggested as *market impact has a significant positive impact on recreational attractiveness*.

Finally, this study proposed a hypothetical model for the UMP recreational attractiveness (Fig. 3).

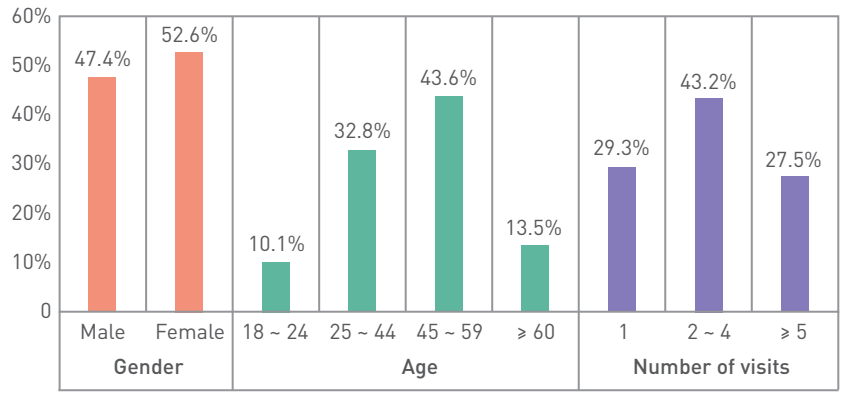
4 Data Analyses

4.1 Quantitative Data Analysis

The questionnaire results (Fig. 4) showed that 47.4% of the participants were males and 52.6% were females; all participants were over 18 years old, with the majority of participants aged 45 ~ 59 years (43.6%), followed by those aged 25 ~ 44 years (32.8 %); the visit frequency statistics demonstrated that over 70% of the



3 © Shuangjiao Cai, Lifeng Li, Xuyu Li, Xianjun Zeng



4 © Shuangjiao Cai, Lifeng Li, Xuyu Li, Xianjun Zeng

3. Hypothetical model for UMP recreational attractiveness.
4. Statistics of the participants (*N* = 554).

participants had visited Fudao Park at least twice and were familiar with the park. Moreover, most participants had an education level above high school, ensuring they were able to understand the questionnaire content and provide valid evaluations.

The SEM test involved measurement model and structural model analyses.

1) Measurement model analysis. First, CFA was used to assess the consistency and reliability of questionnaire responses[68]. Second, the accuracy of questionnaire was assessed using validity test[69]. Third, the structural validity test, i.e., goodness-of-fit test, was used to evaluate the fitness of the measurement model. The results indicate that the measurement model was verified to have good reliability and validity.

2) Structural model analysis. Referring to the existing studies[70][71], this research used AMOS software to fit the structural model, which is well established and popular for SEM data analysis[71]. It estimates the parameters and goodness-of-fit indexes of the structural model by maximum likelihood estimation, which in turn determines whether the hypothesized model is valid. The reliability, validity, and fit of the structural model were all well, indicating that these seven factors had significant positive effects on UMP recreational attractiveness.

4.2 Qualitative Data Analysis

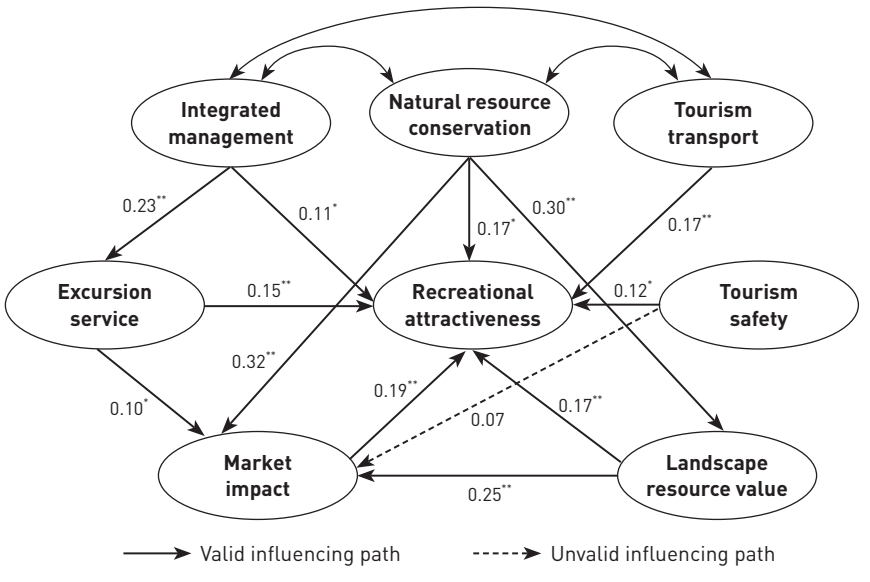
In this study, textual analysis was employed to explore and interpret the responses to the semi-structured question of the questionnaire. Word frequency analysis is an essential part of textual analysis, which involves measuring and statistically analyzing the frequency of each word to identify common words, keywords, and themes in the data. First, through data cleaning to filter out irrelevant information, 548 pieces of comments remained. Second, Jieba software[72] combined with manual verification was used for text cleaning and segmentation. Third, the word frequency analysis was visualized using word clouds generated through Micro-Word Cloud software, where the font size indicates the frequency of word occurrence, highlighting the factors for UMP recreational attractiveness to the public[73].

5 Results

5.1 Influencing Paths and Coefficients Between Latent Variables in the SEM

The final SEM of UMP recreational attractiveness is shown in Fig. 5, and the influencing paths and coefficients between the potential variables are presented in Table2. These results revealed that all hypothesis except H4 were valid.

5. Final SEM of UMP recreational attractiveness (** denotes a significant correlation at the 0.001 level, and * denotes a significant correlation at the 0.05 level).



5 © Shuangjiao Cai, Lifeng Li, Xuyu Li, Xianjun Zeng

Table 2: Influencing paths and coefficients between latent variables

Hypothesis	Influencing paths and coefficients between latent variables			Influencing coefficient	Valid/ Invalid
H1	Tourism transport	→	Recreational attractiveness	0.17**	Valid
H2	Excursion service	→	Market impact	0.10*	Valid
H3	Excursion service	→	Recreational attractiveness	0.15**	Valid
H4	Tourism safety	→	Market impact	0.07	Invalid
H5	Tourism safety	→	Recreational attractiveness	0.12*	Valid
H6	Integrated management	→	Excursion services	0.23**	Valid
H7	Integrated management	→	Recreational attractiveness	0.11*	Valid
H8	Natural resource conservation	→	Landscape resource value	0.30**	Valid
H9	Natural resource conservation	→	Market impact	0.32**	Valid
H10	Natural resource conservation	→	Recreational attractiveness	0.17*	Valid
H11	Landscape resource value	→	Market impact	0.25**	Valid
H12	Landscape resource value	→	Recreational attractiveness	0.17**	Valid
H13	Market impact	→	Recreational attractiveness	0.19**	Valid

NOTE

** denotes a significant correlation at the 0.001 level, and * denotes a significant correlation at the 0.05 level.

5.2 Overall Influencing Coefficients of the Factors on Recreational Attractiveness

Table 3 lists the factors influencing the UMP recreational attractiveness in descending order of impact strength. Natural resource conservation had the highest influencing coefficient on recreational attractiveness (0.28), followed by landscape resource value (0.22) and market impact (0.19), while tourism safety had the lowest influence (0.12).

Table 3: Overall influencing coefficients of the factors on recreational attractiveness

Impact factor	Direct impact	Indirect impact	Overall influencing coefficient
Natural resource conservation	0.17	0.11	0.28
Landscape resource value	0.17	0.05	0.22
Market impact	0.19	0	0.19
Tourism transport	0.17	0	0.17
Excursion service	0.15	0.02	0.17
Integrated management	0.11	0.04	0.15
Tourism safety	0.12	0	0.12

5.3 Textual Analysis of the Semi-Structured Question

The top 15 high-frequency words are listed in Table 4 and the word cloud for high-frequency words is shown in Fig. 6. The results indicated that “parking,” “facility/setting,” “service,” and “landscape,” were the most frequently mentioned words. The top 15 high-frequency words were further organized, summarized, classified, and coded into several dimensions. The four dimensions with the highest word frequency were tourism transport, excursion service, landscape resource value, and market impact. These were the factors that tourists were most concerned about and that influenced their recreational experiences the most.

6 Discussion

6.1 Findings From the SEM of UMP Recreational Attractiveness

6.1.1 Invalid Hypotheses in the SEM

Among the hypotheses proposed in this study, only H4 was not confirmed, whereas previous studies[51][64] found that tourism safety effected tourists’ overall impression of the destination. The main reason for this discrepancy may be that Fudao Park is located in the city center, which is well policed, and the steel walkway in the park appears to be very sturdy and safe, leading tourists to be less concerned about safety.

Table 4: Top 15 high-frequency words from public recommendations

Dimension	Term	Frequency	Total frequency
Tourism transport	Parking	26	109
	Tourism route/road/trail	20	
	Transport/traffic	19	
	Exit	18	
	Entrance	13	
	Car/bus	13	
Excursion service	Facility/setting	25	73
	Service	24	
	Toilet/bathroom	14	
	Shade place	10	
Landscape resource value	Landscape	23	59
	Aquascape	14	
	Vegetation/plant	12	
	Cultural landscape	10	
Market impact	Promotional activities	18	18

6. Word cloud of the public's recommendations for Fudao Park.

6.1.2 Influencing Factors of UMP Recreational Attractiveness

The test results of the seven factors affecting UMP recreational attractiveness (i.e., tourism transport, excursion service, tourism safety, integrated management, natural resource conservation, landscape resource value, and market impact) verify that the Standard can effectively guide the enhancement of recreational attractiveness. In addition, previous related studies have paid limited attention to UMP and its influencing factors such as market impact and tourism safety[1][74]. These findings can provide a theoretical and comprehensive framework for evaluating UMP recreational attractiveness.

In terms of overall influence, the coefficient of natural resource conservation was the highest, followed by landscape resource value. It indicates that natural resource conservation and landscape resource value of the UMPs are the two most attractive factors for visitors. These provide insights for enhancing recreational attractiveness of UMPs.

6.1.3 Influencing Mechanisms Between Latent Variables

The results of the study indicated that there are interactions between the latent variables. Among them, natural resource conservation had high coefficients on market impact and landscape resource value (0.32 and 0.30, respectively). This suggests that natural resource conservation measures, such as improving water and air quality, maintaining vegetation integrity, and constructing low-impact architecture, can enhance the landscape value and market impact of UMPs. The influencing coefficient of landscape resource value on market impact was 0.25, showing that ornamental and aesthetic values and landscape features are directly correlated with market impact, such as popularity and reputation.

6.2 Public Concerns About UMP Recreational Attractiveness

According to the textual analysis results, tourism transport was the primary concern of the public. Participants suggested increasing the number of entrances and parking lots, optimizing guiding system, and enhancing accessibility would improve Fudao Park's recreational attractiveness. Upgrading park service facilities was the second priority. Participants recommended park managers to provide service facilities such as direct drinking water, vending machines, and leisure pavilions. Improving cultural and natural landscape resources was also an emphasized concern. Participants noted that Fudao Park lacks a distinctive cultural landscape, thus enriching the landscape with regional and cultural characteristics were expected. Lastly, participants also recommended increasing promotional activities to further outline the image of the park. These

opinions indicate that the factors tourists are most concerned about are tourism transport, excursion service, landscape resource value, and market impact, which is consistent with the SEM findings.

6.3 Application Implications

Based on the above analysis results, this study proposes design strategies and management suggestions to strengthen UMP recreational attractiveness.

1) Natural resource conservation and landscape resource value are the two most significant factors influencing UMP recreational attractiveness. Design strategies for natural resource conservation include minimizing damage to the mountains and pristine ecosystems during park planning and construction; preserving existing trees to maintain vegetation integrity and avoid exposing the mountain; and utilizing sponge technology to purify and improve aquascape quality through the combination of mountains, aquascape resources, and vegetation to form a mountain sponge system. Besides, constructing park architecture in a low-impact way, such as adapting to the topography, using environmentally friendly materials, and rebuilding the harmony between buildings and surrounding environment.

Strategies to enhance landscape resource value include improving biodiversity by creating habitats for birds and other animals; introducing characteristic landscapes and experiential landscapes to enhance ornamental and recreational values through detailed design in vegetation composition, micro-topography, circulations, buildings, water features, etc.; adding regional symbols and cultural elements to improve thematic features to ensure the harmony and unity of natural and artificial landscapes; and developing overlooked resources by, for example, analyzing view corridors and establishing cityscape viewing platforms.

2) Market impact is the third essential factor influencing tourists' recreational experiences in the UMP. To strengthen market impact, park managers should take the following measures: set up distinctive themed activities based on theme, culture, and seasonality, such as outdoor sports, recreational activities, botanical research, and night tours; expand publicity channels using social media and new media to enhance visibility; and participate in design competitions, exhibitions, and other opportunities for broader networks to expand the influence of the park.

3) The findings demonstrate that tourism transport plays a role as significant as excursion service in affecting UMP recreational attractiveness. For improving tourism transport, both internal and external accessibility should be enhanced: to upgrade external accessibility, park guides and entrance signs should be clear and synchronized with navigation or interpretation systems; the area and number of parking lots must be increased, and parking towers can be introduced when limited spaces are available; tour routes can be arranged by shuttle buses as far as possible to ensure a smooth travel experience; and steel-framed walkways and viewing platforms can be constructed, besides Fudao Park, with successful examples like Marina Park in Singapore and Hongqiao Park in Shenzhen, China.

To increase excursion service, strategies for park design and management include improving supporting facilities (e.g., tourist service centers, medical aid stations, navigation systems) and age-friendly facilities for senior visitors (e.g., barrier-free access, anti-slip and moderate slope, handrails). Park service staff should receive regular training to improve service quality, and feedback channels whereby management staff can collect tourists' opinions and address deficiencies should be enhanced.

6.4 Limitations and Prospects

There are some limitations in this study. First, the general applicability of the SEM constructed has yet to be tested, although Fudao Park, as a typical and representative UMP, has topographical advantages and provides rich ecosystem services. Further research can utilize this theoretical model to assess the recreational attractiveness of other UMPs or different urban park types. Second, regarding the age distribution of participants, the user group aged 18 ~ 24 years accounted for the smallest proportion. It may be due to the fact that this group is mainly composed of university students or those in the early stages of their careers, who have less leisure time, prefer fragmented recreational activities or more stimulating pursuits, and may find UMPs less appealing[75]. The user group aged 45 ~ 59 years has the largest share of the population, as senior adults tend to have a greater interest in mountain recreation and fitness. Future research, design, and management for UMPs should pay more attention to the needs and preferences of such user group. Furthermore, the current model was built based on survey data, and cross-validation using multiple data sources can improve the reliability of the results. For example, social media data can be used for cross-validation based on thematic analysis in future studies.

7 Conclusions

UMPs are essential green recreational spaces for the public due to their topographical advantages and unique ecological resources

that provide a wealth of recreational services. This study conducted an empirical research on Fudao Park in Fuzhou by establishing a SEM for evaluating UMP recreational attractiveness based on a questionnaire survey. The research results provide evaluation and practical recommendations for improving UMP design and management.

In terms of theoretical contribution, integrating the impact of mountain environment on public recreational experience and using the Standard as the initial framework, a multi-dimensional evaluation system was developed. Based on the use of SEM, influencing mechanisms of UMP recreational attractiveness were explored, including influence factors, paths, and coefficients. The findings confirmed that the seven factors—tourism transport, excursion service, tourism safety, integrated management, natural resource conservation, landscape resource value, and market impact—all play a positive role in enhancing UMP recreational attractiveness. Among them, natural resource conservation and landscape resource value affect the most. The framework constructed in this study can provide insights into and an effective approach for the research combining policies and empirical studies worldwide.

In terms of practical contribution, this study proposes design strategies and management recommendations for UMPs, particularly focusing on natural resource conservation, landscape resource value, tourism transport, market impact, and excursion service. These recommendations aim to enhance recreational tourism, support sustainable development, and inform landscape planning for UMPs.

Competing interests | The authors declare that they have no competing interests.

REFERENCES

[1] Mao, Z., Wang, W., Ren, Z., Zhang, D., & He, X. (2022). Recreational attractiveness of urban parks and implications for their management: A case study in Changchun, China. *Chinese Geographical Science*, 32(3), 456–466.

[2] Zhang, Y., Xu, S., Han, R., Ma, J., & Li, X. (2020). Evaluation and optimization of the recreation service capability of urban mountain parks based on the mountain characteristics—A case of Chengde City. *Chinese Landscape Architecture*, 36(12), 19–23.

[3] Chen, J., van den Bosch, C. C. K., Lin, C., Liu, F., Huang, Y., Huang, Q., Wang, M., Zhou, Q., & Dong, J. (2021). Effects of personality, health and mood on satisfaction and quality perception of urban mountain parks. *Urban Forestry & Urban Greening*, (63), 127210.

[4] Cheng, B., Gou, Z., Zhang, F., Feng, Q., & Huang, Z. (2019). Thermal comfort in urban mountain parks in the hot summer and cold winter climate. *Sustainable Cities and Society*, (51), 101756.

[5] Mao, Z. (2017). *Recreational attraction analysis of urban park—A case study in Changchun* [Doctoral dissertation]. University of Chinese Academy of Sciences.

[6] Wu, X., Guo, W., Lin, K., & Chen, Q. (2024). The formation mechanism of recreational attraction in Wuyishan national park. *Issues of Forestry Economics*, 44(4), 438–448.

[7] Xu, M., Chen, Z., Zeng, M., & Ke, Y. (2024). Research on landscape preference of urban mountain park based on visitors' perception—Taking Xishan Park in Mianyang City as an example. *Open Journal of Social Sciences*, 12(1), 469–485.

[8] Lin, B., & Chang, H. (2022). Detecting the spatial matching relationship between supply-side and demand-side of recreation ecosystem services (RES) from the perspectives of resource, management, and beneficiary: A case study in Yangmingshan National Park. *Forests*, 13(11), 1849.

[9] Li, J., & Cao, B. (2022). Study on tourism consumer behavior and countermeasures based on big data. *Computational Intelligence and Neuroscience*, (2022), 6120511.

[10] Yun, X. (2021). Factors influencing consumers' choice of cruise tourism—Based on push-pull relationships. *Scientific Journal of Economics and Management Research*, 3(11), 324–334.

[11] Yousefi, M., & Marzuki, A. (2015). An analysis of push and pull motivational factors of international tourists to Penang, Malaysia. *International Journal of Hospitality & Tourism Administration*, 16(1), 40–56.

[12] Ayoub, D., & Mohamed, D. N. H. S. (2024). The impact of push-pull motives on internal tourists' visit and revisit intentions to Egyptian domestic destinations: The mediating role of country image. *Humanities & Social Sciences Communications*, (11), 358.

[13] Leung, R., & Handler, I. (2024). Unveiling tourist typology: Using online reviews and LDA to understand motivations for visiting Kyoto's prominent temples. *International Journal of Tourism Cities*.

[14] Bindah, E., & Ragoobar, R. (2024). Synergies between domestic and international tourism: A pathway to sustainable development in Mauritius. *UoM WCP-Working Paper*.

[15] Wang, Y., Wen, Z., & Fu, Y. (2020). Equivalence testing: A new perspective

on structural equation model evaluation and measurement invariance analysis. *Advances in Psychological Science*, 28(11), 1961–1969.

[16] Cheng, C. (2022). *Research on tourist satisfaction of ice and snow tourism in Heilongjiang Province based on structural equation model* [Master's thesis]. Harbin University of Commerce.

[17] Owolabi, H. O., Ayandele, J. K., & Olaoye, D. D. (2020). A systematic review of structural equation model (SEM). *Open Journals of Educational Development*, 1(2), 27–39.

[18] Li, Y., Li, W., & Liu, Y. (2025). Remedies from nature: Exploring the moderating mechanisms of natural landscape features on emotions and perceived restoration in urban parks. *Frontiers in Psychology*, (15), 1502240.

[19] Hidayat, R., & Wulandari, P. (2022). Structural equation modelling (SEM) in research: Narrative literature review. *Open Access Indonesia Journal of Social Sciences*, 5(6), 852–858.

[20] Elshof, H., Haartsen, T., van Wissen, L. J., & Mulder, C. H. (2017). The influence of village attractiveness on flows of movers in a declining rural region. *Journal of Rural Studies*, (56), 39–52.

[21] Melece, L., Kogut, P., & Shena, I. (2020). Attractiveness of rural areas: Development of initial definition. *Proceedings of the 19th International Scientific Conference Engineering for Rural Development*, 1877–1882.

[22] Roman, M., Abrham, J., Niedziółka, A., Szczucka, E., Smutka, L., & Prus, P. (2022). Tourist attractiveness of rural areas as a determinant of the implementation of social tourism of disadvantaged groups: Evidence from Poland and the Czech Republic. *Agriculture*, 12(5), 731.

[23] Ziernicka-Wojtaszek, A., & Malec, M. (2021). Evaluating local attractiveness for tourism and recreation—A case study of the communes in Brzeski County, Poland. *Land*, 11(1), 39.

[24] Paletto, A., Fagarazzi, C., Grilli, G., Lorenzini, L., & De Meo, I. (2022). Demand analysis on forest-based recreational activities. *Journal of Environmental Accounting and Management*, 10(3), 219–236.

[25] Mezenina, O. B., Mikhailova, A., Kuzmina, M. V., & Kokovin, P. A. (2020). Assessment of the recreational potential of the forest territory of the Sverdlovsk region. *E3S Web of Conferences*, (157), 1–12.

[26] Khamitov, R. S., Zarubina, L. V., Platonova, J. A., Zaytseva, V. A., Osokina, A. V., & Fomicheva, M. V. (2021). Recreational potential of the pine forests in the Vologda region drawing on the example of Kradikhino forest. *IOP Conference Series: Earth and Environmental Science*, 875(1), 012087.

[27] De Meo, I., Paletto, A., & Cantiani, M. G. (2015). The attractiveness of forests: Preferences and perceptions in a mountain community in Italy. *Annals of Forest Research*, 58(1), 145–156.

[28] Lee, C. F., Huang, H., & Yeh, H. R. (2010). Developing an evaluation model for destination attractiveness: Sustainable forest recreation tourism in Taiwan. *Journal of Sustainable Tourism*, 18(6), 811–828.

[29] Braun Kohlova, M., Nepožitková, P., & Melichar, J. (2021). How do observable characteristics of post-mining forests affect their attractiveness for recreation? *Land*, 10(9), 910.

[30] Ozgeldinova, Z., Bektemirova, A., Mukayev, Z., Tursynova, T., & Yerzhanova, Z. (2022).Natural and recreational potential of landscapes of the Tobol river basin within the Kostanay region. *GeoJournal of Tourism and Geosites*, 43(3), 907–911.

[31] Mukayev, Z. T., Ozgeldinova, Z. O., Janaleyeva, K. M., Ramazanova, N. Y., & Zhanguzhina, A. A. (2020). Assessment of the tourist recreation capacity of Lake Alakol basin. *GeoJournal of Tourism and Geosites*, 30(2), 875–879.

[32] Dudzińska, M., Dawidowicz, A., & Gross, M. (2023). How does blue infrastructure affect the attractiveness rating of residential areas? Case study of Olsztyn City, Poland. *Sustainability*, 15(24), 16843.

[33] Rzetala, M. (2016). The new evaluation proposal of tourist-recreational attractiveness of water reservoirs. *Proceedings of the 3rd International Multidisciplinary Scientific Conferences on Social Sciences & Arts SGEM*, 773–780.

[34] Li, F., Yao, N., Liu, D., Liu, W., Sun, Y., Cheng, W., Li, X., Wang, X., & Zhao, Y. (2021). Explore the recreational service of large urban parks and its influential factors in city clusters—Experiments from 11 cities in the Beijing-Tianjin-Hebei region. *Journal of Cleaner Production*, (314), 128261.

[35] Zhang, S., & Zhou, W. (2018). Recreational visits to urban parks and factors affecting park visits: Evidence from geotagged social media data. *Landscape and Urban Planning*, (180), 27–35.

[36] Yang, Y., Wang, Z., & Lin, G. (2021). Performance assessment indicators for comparing recreational services of urban parks. *International Journal of Environmental Research and Public Health*, 18(7), 3337.

[37] Voigt, A., Kabisch, N., Wurster, D., Haase, D., & Breuste, J. (2014). Structural diversity: A multi-dimensional approach to assess recreational services in urban parks. *AMBIO*, (43), 480–491.

[38] Biernacka, M., Kronenberg, J., & Łaszkiewicz, E. (2020). An integrated system of monitoring the availability, accessibility and attractiveness of urban parks and green squares. *Applied Geography*, (116), 102152.

[39] Yu, S., & Su, T. (2022). Research on recreational attraction of scenic area village based on multi-source data: Taking the villages of Changdang Lake tourist resort in Changzhou as an example. *Landscape Architecture Academic Journal*, (6), 18–25.

[40] Wu, J. (2017). *An application of the two-factor theory of recreation satisfaction at open apace: The case of Nanning, Guangxi* [Master's thesis]. Guangxi University.

[41] Ministry of Culture and Tourism of the People's Republic of China. (2005). *Standard of rating for quality of tourist attractions (GB/T17775-2003)*.

[42] Lin, Y., Li, J., Li, L., Fu, W., & Dong, J. (2022). Landscape quality evaluation of urban treetop walk based on image semantic segmentation—Taking Fu Forest Trail in Fuzhou as example. *Safety and Environmental Engineering*, 29(3), 218–224, 243.

[43] Rajesh, R. (2013). Impact of tourist perceptions, destination image and tourist satisfaction on destination loyalty: A conceptual model. *PASOS Revista de Turismo y Patrimonio Cultural*, 11(3), 67–78.

[44] Yang, Y. (2019). *Study on recreational benefit evaluation in urban park under the evidence-based design methodology* [Doctoral dissertation]. South China University of Technology.

[45] Su, Y., Yang, J., & Zhang, L. (2014). Relationship among scenic attraction, recreation experience, satisfaction and loyalty—An empirical study based on the leisure agriculture resorts in Minhou. *Tourism Forum*, 7(6) 18–22.

[46] Jung, J., Ha, J., & Shin, J. (2022). The relationship between attractiveness,

convenience, experiential quality, tourism satisfaction, and revisit intention in a local tourism destination: After the easing of the COVID-19 quarantine guideline. *International Journal of Tourism and Hospitality Research*, 36(10), 37–52.

[47] Chien, M. C. (2017). An empirical study on the effect of attractiveness of ecotourism destination on experiential value and revisit intention. *Applied Ecology and Environmental Research*, 15(2), 43–53.

[48] Kanwal, S., Rasheed, M. I., Pitafi, A. H., Pitafi, A., & Ren, M. (2020). Road and transport infrastructure development and community support for tourism: The role of perceived benefits, and community satisfaction. *Tourism Management*, (77), 104014.

[49] Gong, Q., Li, J., Wu, L., Zhu, M., Luo, M., Sun, J., Fu, W., Ma, R., & Liang, X. (2023). Exploring accessibility and its impact in the mountain city: A typical case study of Nyingchi City, Tibet Autonomous Region, China. *Land*, 12(2), 361.

[50] Sulkaisi, N., Idris., Siska, F., & Irwan. (2021). The effect of services quality on tourist satisfaction and tourist loyalty. *Proceedings of the 5th Asia-Pacific Conference on Economic Research and Management Innovation (ERMI 2021)*, (167), 1–7.

[51] Ding, G., & Wu, J. (2022). Influence of tourism safety perception on destination image: A case study of Xinjiang, China. *Sustainability*, 14(3), 1663.

[52] Al-Ababneh, M. M. (2013). Service quality and its impact on tourist satisfaction. *Institute of Interdisciplinary Business Research*, 4(12), 164–177.

[53] Cheng, J. (2021). Tourism management optimisation suggestions and service quality improvement strategies. *Western Tourism*, (1), 59–61.

[54] Grigaliunaite, V., & Pileliene, L. (2019). Local tourist satisfaction with their holiday in Lithuania. *Proceedings of the 20th International Scientific Conference Economic Science for Rural Development*, (51), 284–290.

[55] Paudel, K. P., Caffey, R. H., & Devkota, N. (2011). An evaluation of factors affecting the choice of coastal recreational activities. *Journal of Agricultural and Applied Economics*, 43(2), 167–179.

[56] Kaya, A., & Demirel, M. (2021). A study on the push-pull factors related to recreational travel. *Journal of Tourism & Management Research*, 6(1), 797–817.

[57] Dunets, A. N., Krupochkin, E. P., Kurepina, N. Y., Baryshnikova, O. N., & Yurochkina, N. A. (2022). Landscape diversity as an attraction basis in the design of tourist and recreational areas (the case of Bolshaya Belokurikha). *Acta Biologica Sibirica*, (8), 918–928.

[58] Kubas, A., Altas, D., & Yilmaz, F. (2010). Analysis of the factors affecting the preference for recreation areas by multidimensional scaling method. *Journal of Environmental Protection and Ecology*, 11(4), 1551–1558.

[59] Das, D., Sharma, S. K., Mohapatra, P. K., & Sarkar, A. (2007). Factors influencing the attractiveness of a tourist destination: A case study. *Journal of Services Research*, 7(1), 103–134.

[60] Krueger, R. A. (1998). *Moderating Focus Groups*. SAGE Publications.

[61] Liu, Q., Wu, Y., Xiao, Y., Huang, Q., & Lan, S. (2019). The inherent psychological mechanism of perceived restoration of urban parks—A perspective from environmental preference and place attachment theory. *Chinese Landscape Architecture*, 35(6), 39–44.

[62] Ruziev, S. S., Tadjibayev, M. B., & Fayziyeva, S. K. (2022). Importance of excursion service in tourism industry. *Spanish Journal of Innovation and Integrity*, (6), 170–176.

[63] Soliman, M., Gulvady, S., Elbaz, A. M., Mosbah, M., & Wahba, M. S. (2023). Robot-delivered tourism and hospitality services: How to evaluate the impact of health and safety considerations on visitors' satisfaction and loyalty? *Tourism and Hospitality Research*, 1–17.

[64] Qaddhat, R. M., Fayed, H. A., & Wafik, G. M. (2021). Evaluation of visitor management and its impact on visitor experience and satisfaction at archaeological sites in Jordan (Case study: Jerash). *Academic Journal of Interdisciplinary Studies*, 10(1), 248–265.

[65] Ma, J., Sun, X., & Jia, R. (2002). Research on design and application of AHP models of synthetic assessment on forest tourism resources. *Arid Land Geography*, 25(4), 372–376.

[66] Cebrián, F., & Sánchez, I. (2016). The landscape as a tourist resource and its impact in mountain areas in the south of Castilla-la Mancha (Spain). *International Journal of Sustainable Development and Planning*, 11(3), 345–354.

[67] Park, Y., & Njite, D. (2010). Relationship between destination image and tourists' future behavior: Observations from Jeju Island, Korea. *Asia Pacific Journal of Tourism Research*, 15(1), 1–20.

[68] Liao, M. (2016). The reliability and validity of questionnaires and the application of SPSS software. *Technological Prospect*, (16), 290.

[69] Ouimet, J. A., Bunnage, J. C., Carini, R. M., Kuh, G. D., & Kennedy, J. (2004). Using focus groups, expert advice, and cognitive interviews to establish the validity of a college student survey. *Research in Higher Education*, 45(3), 233–250.

[70] Massara, A., Hakim, A., Wicaksono, A., & Basri, L. (2018). Structural equation modeling on the calculation of motorcycle ownership index using AMOS software. *IOSR Journal of Business and Management (IOSR-JBM),* 20(4), 35–43.

[71] Teo, T., Tsai, L. T., & Yang, C. (2013). Applying Structural Equation Modeling (SEM) in Educational Research: An Introduction. In: M. S. Khine (Ed.), *Application of Structural Equation Modeling in Educational Research and Practice* (pp. 3–21). Sense Publishers.

[72] Ding, Y., Teng, F., Zhang, P., Huo, X., Sun, Q., & Qi, Y. (2021). Research on text information mining technology of substation inspection based on improved Jieba. *2021 International Conference on Wireless Communications and Smart Grid (ICWCSG)* (pp. 561–564). IEEE.

[73] Bao, C., & Wang, Y. (2021). A survey of word cloud visualization. *Journal of Computer-Aided Design & Computer Graphics*, 33(4), 532–544.

[74] Bieloborodova, M. (2023). Approaches to assessing the tourist and recreational attractiveness of a territory on the example of the Dnipropetrovsk area. *Economics and Region*, 3(90), 6–14.

[75] Chen, C., Luo, W., Li, H., Zhang, D., Kang, N., Yang, X., & Xia, Y. (2020). Impact of perception of green space for health promotion on willingness to use parks and actual use among young urban residents. *International Journal of Environmental Research and Public Health*, 17(15), 5560.

https://doi.org/10.15302/J-LAF-0-020036 收稿日期 | 2024-05-08 录用日期 | 2024-12-23 中图分类号 | TU985 文献标识码 | A

基于结构方程模型的城市山地公园游憩吸引力影响机制研究

蔡双娇[1,2]，李丽凤[3,*]，李许钰[4]，曾献君[5]

1 福建江夏学院设计与创意学院，福州 350000
2 英国威尔士三一圣大卫大学科学与艺术学院，斯旺西 SA
3 桂林电子科技大学设计与创意学院，桂林 541000
4 福州规划设计研究院集团有限公司，福州 350000
5 福建理工大学建筑与城乡规划学院，福州 350000

***通讯作者**
地址：广西壮族自治区北海市银海区南珠大道9号
邮编：536000
邮箱：llf1007@guet.edu.cn

摘要

城市山地公园是公众休闲与游憩的重要空间，但其游憩价值尚未得到充分开发，且很少有研究探讨城市山地公园游憩吸引力的影响机制。为解决这一问题，本研究在中国福州市福道公园开展实证调查，以《旅游景区质量等级的划分与评定》国家标准文件为指引，在专家焦点小组和609名游客问卷调查的基础上，建立并检验了城市山地公园游憩吸引力的结构方程模型。研究结果表明：旅游交通、游览服务、旅游安全、综合管理、自然资源保护、景观资源价值和市场影响力这七个影响因子对提高城市山地公园游憩吸引力均具有显著积极影响。在总体影响效应上，自然资源保护的影响系数最高，景观资源价值次之，表明两者是影响城市山地公园游憩吸引力的最重要因素。此外，这七个影响因子间存在相互影响，自然资源保护对市场影响力和景观资源价值具有显著积极影响。本文所探索的城市山地公园游憩吸引力的影响机制将为全球城市山地公园游憩价值的提升提供理论与实践指引。

关键词

城市山地公园；游憩吸引力；结构方程模型；自然资源保护；景观资源价值；旅游；福道公园

文章亮点

- 构建城市山地公园游憩吸引力的多维评价体系和结构方程模型
- 自然资源保护和景观资源价值是影响城市山地公园游憩吸引力的最重要因素
- 探讨城市山地公园游憩吸引力的影响机制并提供设计和管理策略

基金项目

- 国家自然科学基金青年项目“信息化时代城市公共服务设施配置重组研究——以广州、福州为例”（编号：41801160）
- 福建省教育厅中青年科技类项目“基于SEM的A级景区评定标准下城市公园游憩吸引力提升研究”（编号：JAT210358）

编辑 田乐，马锡栋