

Article

The Impact of the Urban Forest Park Recreation Environment and Perceived Satisfaction on Post-Tour Behavioral Intention—Using Tongzhou Grand Canal Forest Park as an Example

Xuhui Yao ¹, Yan Sun ², Bowen Sun ¹ and Yan Huang ^{1,*}

¹ Academy of Arts & Design, Tsinghua University, Beijing 100084, China; yxh19@tsinghua.org.cn (X.Y.); sbw19@mails.tsinghua.edu.cn (B.S.)

² Faculty of Architecture, Civil and Transportation Engineering, Beijing University of Technology, Beijing 100124, China; sunyan@bjut.edu.cn

* Correspondence: huangy@mail.tsinghua.edu.cn

Abstract: The positive behaviors that urban forest parks encourage in urban residents (such as recommendations, repeat visits, etc.) are important considerations in the planning and construction of such forest parks. Recreators' environmental preferences and perceived satisfaction with urban forest parks are responses to individuals' perceptions and attitudes toward the external environment. Clarifying the interactive relationship between the two is of great significance to improving positive behavioral intentions in urban forest parks. In this paper, the concept of the urban forest park recreational environment is proposed, and in this concept, the three dimensions of the spatial physical environmental preference, regional cultural characteristics, and service experience that the urban forest park recreational environment has on tourists' perception are separated out. A model of the structural relationship between park environment perception, perceived satisfaction, and post-tour behavioral intention was tested using Tongzhou Grand Canal Forest Park as an example. The psychological path of tourists' behavioral intention after visiting the urban forest park can be divided into two categories: the direct influencing path is "urban forest park recreation environment → post-tour behavioral intention"; the indirect influencing path is "urban forest park recreation environment → perceived satisfaction → behavioral intention after the trip". This shows that tourists' preference for the urban forest park recreation environment will promote the generation of perceived satisfaction and then stimulate in-depth comprehensive experience evaluation after visiting. By enhancing tourists' experience of the urban forest park recreational environment through their environmental preference perception and improving tourists' perceived satisfaction with the urban forest park recreational environment, urban forest parks can improve tourists' positive behavioral intentions. Clarifying these complex psychological processes provides a new perspective for understanding people's cognition of urban forest parks, the physiological and psychological benefits produced, and the resulting behavioral tendencies. At the same time, it also provides a new perspective for the planning and design of similar types of urban forest parks. It provides a certain reference value for forest park management.

Keywords: SOR; urban forest park; perceived satisfaction; post-tour behavioral intention; structural equation model with partial least squares method (PLS-SEM)



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1. Introduction

With the rapid development of modern society, people's pace of life continues to accelerate, which has brought about an increase in various pressures. Against this background, urban forest parks have become an important place for recreationists and urban residents to rest [1]. Urban forest parks play an important role in recreation. The benefits for residents and urban residents include alleviating psychological stress [2] and improving the quality of life [3].

As the main participants in urban forest park recreation, recreationists play a vital role in the sustainable development of urban forest parks. Recreators themselves are an important part of the development of urban forest parks. We should fully understand their environmental preferences and behavioral characteristics as well as their perceptions and perceived satisfaction needs [4]; only in this way can we make targeted adjustments to the quality and management of urban forest park recreational services in terms of behavioral characteristics, visitor perceptions, and perceived satisfaction, thereby promoting the high-quality development and efficient services of urban forest parks. The provision of high-quality forest landscape can be understood as an important ecosystem service that positively influences human health and well-being [5]. Therefore, in the context of enhancing urban forest parks to provide better recreational services for residents and tourists, it is particularly important to conduct research and analysis from the perspective of recreationists to provide urban forest parks with a high-quality recreational environment.

Existing research on the spatial environment of forest parks can be divided into expert perspectives and recreationist perspectives, from a research perspective. From the expert perspective, 26 evaluation indicators in five categories are selected to construct a quality evaluation system for urban forest parks [6] which provides the basis for cities. Forest parks provide quantitative analysis methods to strengthen landscape quality management and prevent landscape quality risks. From the perspective of tourists, Zhang, Z, and other scholars used a combination of eye movements and questionnaires to identify the influencing factors on tourists' visual behavior and satisfaction preferences for the urban forest park environment in order to provide visitors with the best visual effects on the tour route [7]. From the perspective of the research path, structural equations are used to conduct correlational research on the quality of the forest park's spatial environment, environmental preferences, and health benefits, while recreation satisfaction, restorative evaluation [8], place perception [9], etc., are used as intermediary influencing factors; however, few scholars have explored the relationship between tourists' environmental preferences, perceived satisfaction, and post-tour behavioral intention and the urban forest park recreational environment.

Existing research has focused on the impact of forest space environment on health benefits. Scholars such as Liu Q Y have constructed multiple positive paths and influencing factors for health benefit assessment based on recreationists' perception of landscape preference for the forest park environment [8]. Scholars such as Geng T Y posit that landscape perceptual naturalness can be divided into three dimensions: perception of natural attributes, perception of natural space, and perception of natural form. The importance of these three dimensions is, in order of importance, perception of natural form, perception of natural attributes, and perception of natural space. At the same time, it is concluded through verification that: There are two complex influence paths: "Landscape perceived naturalness → place dependence → place identity → health benefit assessment" and "landscape perceived naturalness → place identity → health benefit assessment" [9].

Therefore, this article primarily focuses on the important relationship between the tourists' perceived satisfaction and environmental preference and the urban forest park environment, and explores the relationship between perceived satisfaction and environmental preference and its influencing mechanism on tourists' behavioral intentions. The intensity of the interaction between the three factors also differs across different types of spatial environments; however, existing relevant research has not yet covered the urban forest park landscape type.

In the process of creating the urban forest park recreational environment, how to protect and utilize the existing natural resources, measure tourists' perceived satisfaction with the urban forest park, and through reasonable planning, improve the perceived satisfaction that the urban forest park brings to people and that generates a positive willingness to act merits in-depth consideration. Based on the above research background, this article takes Tongzhou Grand Canal Forest Park as an example, uses a structural relationship model to explore the interrelationships between the feelings about the urban

forest park's recreational environment, perceived satisfaction, and post-tour behavioral intention, and further clarifies the impact on urban forest parks. Factors affecting the post-tour behavioral intentions of urban residents in the recreational environment and an adaptive optimization strategy are proposed to provide certain ideas for the planning, design, and management of urban forest parks of the same type in the future.

2. Literature Review and Research Hypotheses

2.1. SOR Theory

The SOR theoretical framework is based on the stimulus response model first proposed by two American psychologists, Mehrabian and Russell, in 1974, under the background that the environment has a complex effect on people. It is applied to examine the impact of external environmental stimuli on the body's consciousness and behavior [10]. S stands for stimulus, which refers to the external environmental factors that can affect the individual. O stands for organism, which represents the individual's inner feelings, and R stands for response, which refers to the behavioral decision made by the individual after integrating the stimulus factors and the inner feeling process. The SOR model mainly explains the impact of an organism's behavioral response after being stimulated by external stimuli and going through certain psychological processes.

The SOR theoretical model provides a better explanation of the relationship between individual psychology and behavior. Therefore, it is widely used in the field of consumer behavior research to analyze the behavior and attitudes of consumers after being stimulated by external markets or marketers [11]. With the expansion and application of the theory, the SOR theoretical model has also been used by scholars to analyze the impact of different environmental atmospheres on tourists' behavior and emotions. Zhang Hui and other scholars determine the physical factors of tourist destinations to be external stimuli which stimulate tourists' place attachment to the specific destination [12]. Based on the SOR model, Bin Zhou and other scholars studied the impact of perceived environmental restoration on the pro-environmental behavior of forest park tourists through the mediation of place attachment [13]. Wang Qingsheng and other scholars took the Long March National Cultural Park as their research object and concluded that the red tourism experience positively affects tourists' travel emotions, which in turn affects cultural attachment and functional attachment [14]. It can be seen that there are existing results related to the field of tourism research which define stimulation (S) as the external environment [12], service quality [15], etc., while treating the body (O) as tourists coming from different dimensions of perception, such as satisfaction [16], value perception [17,18], etc. The response (R) is defined as behavioral intention, loyalty, word-of-mouth promotion, etc., regarding the destination [19,20].

2.2. Service Scene Theory and Forest Park Recreation Environment

2.2.1. Service Scene Theory

This theory began in the 1970s, and academic circles began to pay attention to the impact of artificial environments on consumer behavior. Kotler first proposed using the word atmosphere to refer to artificial environments, pointing out that customers' perception of the atmosphere will affect their ability to obtain product or service information and further influence their purchasing behavior [21]. Bitner first created the term "service landscape" as early as 1992, defining it as a combination of intentionally designed and controllable physical environment dimensions. Baker pointed out that the service scene theory defined by scholar Bitner ignored the "people" factor; therefore, Baker added the dimension of social factors [22]. Turley and Milliman, by organizing the research results of this theory from 1964 to 1997, summarized five types of scene elements [23]. Since then, through the research expansion of scholars such as Bitner, Baker, Turley, and Milliman, the connotation of service scene extends from a simple tangible environment such as the physical dimension to the extended service scene model proposed by Rosenbaum involving physical dimension, social dimension, social symbolic dimension, and natural

dimension [24]; among them, the natural dimension is a new dimension. The natural dimension reveals the impact of natural stimulation in service scenes on individual health and mentality.

From the perspective of the application scope, the spatial scope studied using this theory is extended from closed indoor environments (such as restaurants, cafes, etc.) to outdoor spaces, such as street scenes. Cox proposed the concept of street scenes, which include vegetation, signs, public facilities, water features, buildings, paving materials, and other esthetic elements [25]. Kwortnik proposed the concept of the cruise scene. The cruise scene is a kind of environment that includes the physical environment, the social environment dimension (social interaction space onboard the ship), and the natural environment dimension (ocean) in comprehensive service scenarios [26].

2.2.2. Proposal of the Concept of an Urban Forest Park Recreation Environment

As mentioned above, the study of service scenes has been extended from indoor environments to outdoor environments. Based on this, this study extends this theory to the study of urban forest parks. Urban forest parks are located in urban areas and are connected to residential areas. It is an ecological service system in itself which plays an important role in regulating urban air quality, cultivating residents' sentiments, and improving the quality of life and physical and mental health [27]. It also provides an important place for leisure and recreation for tourists and residents; therefore, in this study, the concept of the forest park recreation environment is proposed. The forest park recreation environment is regarded as providing a collection of all of the comprehensive environmental elements that can be sensed (the synthesis of various tangible and intangible environmental elements felt by tourists [28]) during the entire recreation process. It includes three dimensions: the spatial physical environment, the service experience, and the regional cultural characteristics (Table 1). Among them, the spatial physical environment dimension refers to the physical landscape composed of natural elements and artificial elements that represent all landscape elements in the forest park and their spatial forms that directly affect the senses of tourists. Existing research has found that the urban forest park landscape quality (LQ) is an important resource that increases residents' quality of life [29], and the evaluation of research on the role of landscape quality is relatively comprehensive and systematic. Most urban forest park attendees are non-professionals; therefore, environmental preference is used in this concept. This theory is used to study the evaluation of individual recreationists' preferences for the urban forest park recreation environment. The environmental preferences of recreationists further affect individual choice behavior. Kaplan and other scholars proposed the environmental preference theory in the 1980s [30], and based on this theory, an environmental preference scale was proposed, including four types of landscape features that affect environmental preferences, namely, coherence, ease of identification, complexity, and mystery. The environmental preference scale in Table 2 was refined and summarized by Kaplan and other scholars in 1989. Coherence and complexity are directly interpreted as landscape information that can be perceived and understood, while ease of identification and mystery are regarded as landscape information that can be obtained after understanding and speculation; at the same time, coherence and ease of identification are summarized as understanding behavior, complexity, and mystery, which are in turn summarized as exploratory behavior, thus forming a matrix of environmental preferences.

The innovative application of service scenes in this study is, firstly, the application of the theory to large open spaces. Secondly, it integrates multiple single dimensions into a physical and social dimension that combines psychological research, pays more attention to the natural dimension and the regional cultural characteristic dimension, highlights the commonality and differences of service scenarios in specific applications, and allows the research to be more targeted and applicable.

Table 1. Three dimensions of forest park recreation environment.

Dimensions	Related Definitions
Spatial physical environment	Kaplan’s Environmental Preference Scale (Table 2).
Regional cultural characteristics	Richards found that the cultural and historical resources of the destination may affect destination selection [31].
	Rudan found that the unique cultural assets of the destination can also improve its image and enhance its competitive advantage [32].
	The Memorable Tourism Experience (MTE) scale developed by KIM and other scholars in 2010 included local culture as one of the seven influencing dimensions [33].
	Landscapes are also defined in terms of the social processes that shape them. In this view, landscapes modified by human activities reflect cultural values and practices and can therefore be considered social phenomena [34].
Service experience	The interaction between tourists, other tourists, and the staff who provide services in the park is one of the contents of the recreational experience of tourists in the urban forest park recreation environment.
	Various service facilities ensure the functional needs of tourists for recreation in the urban forest park recreation environment.

Table 2. Environmental Preference Scale.

	Understanding Behavior	Exploratory Behavior
Direct Message	Coherence	Complexity
Information obtained after speculation is required	Legibility	Mystery

2.2.3. The Concept of the Cultural Landscape

The concept of the cultural landscape was proposed by the German geographer F. Ratzel in the 19th century. He posited that cultural landscapes are created by human activities and reflect the characteristics of local cultural systems and geographical features [35]. F. Ratzel’s definition of the cultural landscape expands the definition of landscape in spatial science to cover broader cultural and geographical meanings. In the 1990s, the cultural landscape was re-proposed by the United Nations World Heritage Center for its systematic exploration of local culture. Subsequently, the cultural landscape has been more widely incorporated into theoretical system research and local practice by scholars from various countries. The concept of the cultural landscape pays attention to both material and cultural components, breaking the traditional binary division of material and culture and extending the connotation from the physical elements of the landscape to the intangible social and cultural elements. In the subsequently promulgated “Operation Guidelines for the Implementation of the World Heritage Convention”, cultural landscapes were divided into designed landscapes, evolved landscapes, and related landscapes [36]. Many scholars who study cultural landscapes regard region, history, culture, and people as the four spatial driving forces of cultural landscape changes [37]. At the same time, they posit that the change and formation of cultural landscapes are subject to the long-term dynamic evolution of natural forces and human activities. The Chinese cultural landscape is a limited scope that adds China’s geographical, historical, and other factors to the cultural landscape.

The research object of this study, Tongzhou Grand Canal Forest Park, is a forest park built along the water system of the Tongzhou section of the Universiade Canal. The Grand Canal is both a physical water system and a canal context spanning thousands of years. It has served China since its construction. The water transport economy in the north and south brought about commercial prosperity. During this period, it also served as a military defense transportation channel. Today, some sections of the Grand Canal have both transportation functions and cultural protection and reuse value functions. This study

area combines the Grand Canal with the city. The combination of forest parks forms a unique ecological and cultural landscape. Therefore, compared with the aforementioned classification of cultural landscapes, Tongzhou Grand Canal Forest Park is a cultural landscape type that integrates a designed landscape and an evolved landscape.

2.3. Research Hypothesis

2.3.1. The Impact of the Urban Forest Park Recreation Environment on Recreationists' Perceived Satisfaction

The SOR theory shows that people will respond accordingly when they are affected by the external environment. In the forest park recreational environment, environmental preference is the most intuitive feeling for tourists regarding the forest park, providing opportunities for tourists to connect with the urban forest park recreational environment. Existing research shows that the impact on satisfaction perception in human settlements includes spatial attributes and non-spatial attributes. Non-spatial attributes are mainly aimed at socio-economic attributes, and this study does not involve social capital and technological updates that are included in socio-economic attributes (Table 3).

Table 3. The relationship between perceived satisfaction and spatial attributes.

Classification	Related Description	
Spatial attributes	Spatial physical environment	Various landscape elements that constitute landscape space.
	Service experience	Supporting leisure facilities, management and maintenance, and other factors; basic public service facilities are the core elements that affect residents' perceived satisfaction [38].
Non-spatial attributes	Regional cultural characteristics	Without important landscape resources, the quality of urban forest parks will be greatly compromised [39]; regional cultural characteristics will be a component of landscape resources.
	Service experience	Scholar Yuekun Tian studied the factors affecting the satisfaction of recreationists in scenic spots and pointed out that "scenic spot services, tourist landscapes, and scenic spot management have a greater impact on recreationists' satisfaction" [40]; Yang and other scholars proposed seven subdivisions of service perception, namely, catering, accommodation, transportation, shopping, travel routes, travel safety, and tour guide explanations [41].

Therefore, this study, focusing on the spatial attributes of the study object in the forest park recreation environment, suggests that the built environment space has become the main factor influencing tourists' perceived satisfaction; based on this, the following research hypotheses are put forward:

H1. *A space's physical environment has a positive impact on perceived satisfaction.*

H2. *Service experience has a positive impact on perceived satisfaction.*

H3. *Regional cultural characteristics have a positive impact on perceived satisfaction.*

2.3.2. The Impact of the Urban Forest Park Recreation Environment on Post-Tour Behavioral Intention

Warshaw and other scholars posit that behavioral intention is a state of psychological preparation, that is, the degree of awareness of an individual about whether they will perform a certain future behavior [42], and post-tour behavioral intention refers to the specific behaviors (pertaining to urban forest parks) that tourists display following recreation in an urban forest park [43]. Actions are mainly expressed in the form of willingness to revisit and word-of-mouth publicity. In the urban forest park recreation environment,

tourists continuously interact with the physical environment of the space, the public service facilities provided in the forest park, and all visible and non-visible site contexts in the forest park, all of which encourage them to form a positive perception of the space. There is a certain sense of emotional extension after the visit, resulting in a strong willingness to revisit. Zhang, Z Hua, and other scholars posit that through the shaping of the spatial image of the urban forest park recreational environment, the core cultural values of the place are introduced and local characteristics are promoted in a variety of ways, making tourists feel a place attachment to the urban forest park recreation environment and increasing their willingness to revisit through positive value perceptions [44]. Qiaoling Shi and other scholars took Jiulong Valley National Forest Park in Putian City, Fujian Province, China, as an example and established a model including three factors that influence tourists' willingness to revisit: behavioral attitudes, subjective norms, and perceived behavioral control [45]. Some scholars have conducted research on the climate comfort of the forest recreation environment. Research by scholars such as B.X. DANG has shown that climate comfort perception positively affects environmental restorative evaluation, and both positively affect tourist satisfaction; climate comfort perception and the degree of tourist satisfaction also have a positive impact on post-tour behavior, but environmental restorative evaluation does not have a positive impact on post-tour behavior [46]. However, in view of the special natural resource characteristics of forest parks, a certain number of studies have been carried out on pro-environmental behavior. Pro-environmental behavior (also known as environmentally responsible behavior and environmentally friendly behavior [47]) refers to tourists' spontaneous actions to reduce damage to the ecological environment and natural resources; such behavior or actions support the sustainable use of the environment in tourist destinations. Qian Zhang and other scholars took China's Zhangjiajie National Forest Park as an example to analyze the interactive effects of environmental knowledge (cognition), environmental sensitivity (emotion), and place attachment (attitude) on tourists' pro-environmental behavior [48]. Xiaoting Yu outlined that environmental knowledge, environmental attitude, motivation to travel close to nature, environmental behavioral intention, scenic environmental quality, and scenic environmental policies are six important driving factors that influence environmentally responsible behavior in tourists [49].

The interaction between tourists and regional culture is considered an important factor in the tourism experience [50]. Exploring and learning about local culture may be important motivations for some tourists. The cultural experience formed by the interaction between tourists and culture has become an important aspect that affects tourists' willingness to visit again a place [51,52]. Based on this, the following hypotheses are put forward:

H4. *The physical environment of a space has a positive impact on post-tour behavioral intention.*

H6. *Regional cultural characteristics have a positive impact on post-tour behavioral intention.*

H5. *Service experience has a positive impact on post-tour behavioral intention.*

2.3.3. The Impact of Perceived Satisfaction on Post-Tour Behavioral Intention

Tourist satisfaction can usually be evaluated through attribute satisfaction and overall satisfaction [53]. Existing research on satisfaction shows that when tourists are satisfied with the individual attributes of a destination, this in turn will enhance the overall satisfaction with the destination [53,54]. According to the theory of perceived satisfaction, the behavioral intention decision making of individual recreationists mainly depends on the individual's perceived satisfaction with the environment, services, and cultural characteristics of the urban forest park in multiple dimensions; perception is the most important link between understanding human needs and the services provided by the landscape. Effectively, the multi-dimensional perceived satisfaction obtained by individuals after recreation in urban forest parks is crucial to promoting regional economic development and achieving regional sustainable management. At the same time, tourists' satisfactory

sensory experience can promote tourists' willingness to revisit a destination, encourage positive word-of-mouth, and attract new tourists to visit a location [20,55–59]. Based on this, the following research hypothesis is put forward:

H7. *Perceived satisfaction has a positive impact on post-tour behavioral intention.*

To summarize, people's use and perception of specific spaces allow users to meet their needs. Over time, various perceived satisfaction levels regarding spaces are gradually developed, which in turn generates a positive post-tour experience for users and promotes a series of positive behavioral intentions in users. This study uses the stimulus (S) organism (O) response (R) model as the basic theoretical framework and adjusts the SOR model accordingly based on the actual situation to construct the theoretical model required for this study, integrating the spatial physical environment, service experience, and region. Cultural characteristics are regarded as the external stimulus factors that affect individual recreationists in the urban forest environment; "organism" refers to the internal perception state of the individual, and perceived satisfaction is used as the intermediary variable in the model. The reaction refers to the recreationists' actions after recreation in the urban forest park. Positive behavioral intentions can be used as the behavioral response in this model. Based on the above analysis, as well as on the SOR model, this article, through empirical research, examines the relationship between environmental stimulation (spatial physical environment feeling, service experience, and regional cultural characteristic feeling), perceived satisfaction, and tourism to construct a structural model of three behavioral intentions (Figure 1), using Tongzhou Grand Canal Forest Park as an example.

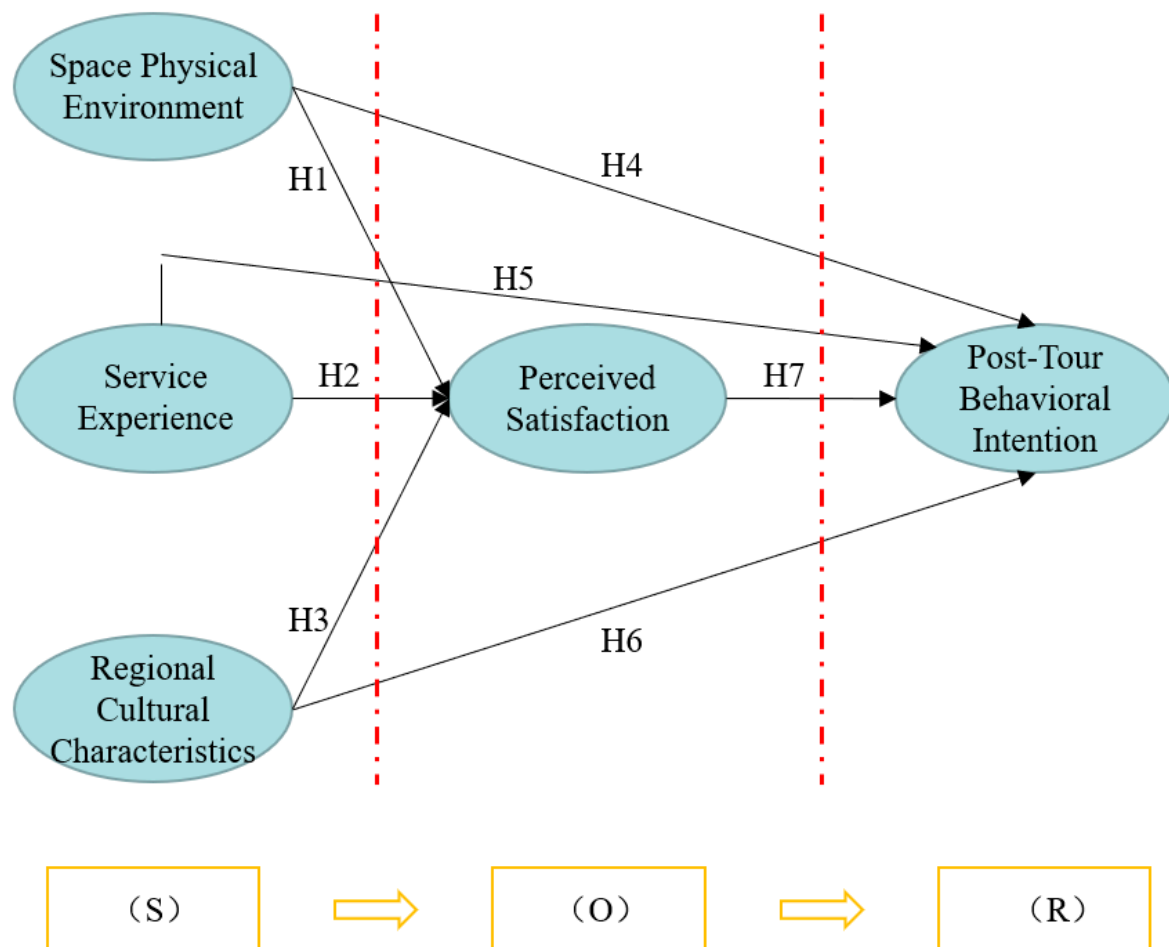


Figure 1. Theoretical model research framework.

3. Materials and Methods

3.1. Study Site

Tongzhou Grand Canal Forest Park is located in an urban section of the North Canal of Tongzhou New Town, Beijing, from the southern end of the North Canal Source Island in the north to the Sixth Ring Road in the south and from Binhe West Road in the west to the North Canal flood control embankment in the east (Figure 2). The total construction area of the park is 713 hm², comprising a water surface area of approximately 166.67 hm² and a green area of approximately 546.67 hm². The plant landscape must obey the landscape planning concept, adhere to the overall design concept of “green as the body, water as the soul, and forest and water depend on each other”, and rely on the overall layout of “one river, two belts, six major scenic spots, and eighteen scenic spots” to create a unique large-scale waterfront space in Beijing [60]. On 22 June 2014, China’s Grand Canal, including the Grand Canal Forest Park, was selected for the World Cultural Heritage List, becoming China’s 46th World Cultural Heritage project. The Grand Canal Forest Park has become the preferred leisure location for tourists and residents. Recreators and urban residents can engage in leisure activities such as cycling, kite flying, parent–child tours, walking, camping, and rafting in this urban forest park. In recent years, the Grand Canal Forest Park has attracted around 2 million visitors annually.

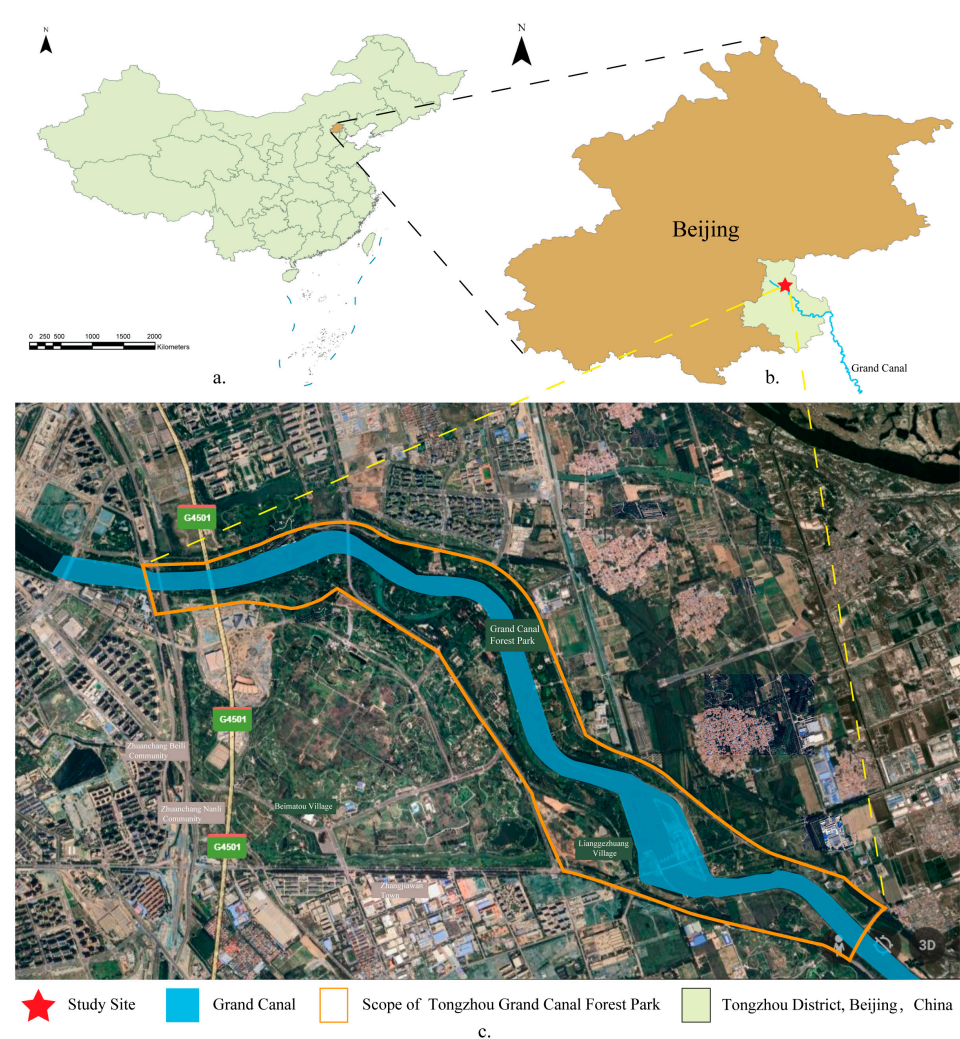


Figure 2. (a–c) A map of the Tongzhou Grand Canal Forest Park. (The base map of (c) is from Google Earth 10.45.0.3 version).

This article examined Tongzhou Grand Canal Forest Park as its research object for two reasons: (1) the Grand Canal Forest Park relies on the Grand Canal, with a history spanning thousands of years and continuing as a long-standing historical cultural resource, and is a typical urban forest park, and its rich water resources also provide recreational boating and waterfront recreational activities for recreationists and residents. (2) The Grand Canal Forest Park is the only urban forest park in Beijing. The relationship between tourists' and residents' physical spatial feelings, regional cultural feelings, service experience, perceived value, and post-tour behavioral intention of the Grand Canal Forest Park has been explored, which provides important implications for forest parks to provide efficient and sustainable services and management for tourists and residents.

3.2. Questionnaire Design

To better understand the relationship between urban forest park recreation environment, perceived satisfaction, and post-tour behavioral intention, this study designed a questionnaire to collect data. The questionnaire consists of two parts: the first part is to collect the basic information of tourists who fill out the questionnaire and obtain specific details including gender, age, education level, occupation, monthly income, whether it is their first visit, etc., through a typed survey; the second part is the main part of the questionnaire. The scale used is a scale recognized and widely used by academic circles. It involves a total of five latent variables. The external stimulus factors include three aspects: spatial physical environment dimensions, service experience, and regional cultural characteristics are used as explanatory variables; perceived satisfaction is used as an intermediary variable; and tourists' behavioral intention after traveling is used as the outcome variable (explained variable). The items in the scale refer to existing research results or make appropriate adjustments based on existing research results to adapt to the content of this study, spatial physical environment feeling preference, and set 11 items based on the four types of characteristics of the environmental preference theory (items A1 to A3 correspond to legibility, items A4 to A6 correspond to coherence, items A7 to A8 correspond to complexity, and items A9 to A11 correspond to mystery). There are 4 items under the service experience. The regional cultural characteristics draw on the 4 items proposed by scholars such as XH H. [6]; the measurement of perceived satisfaction is adapted from the education, esthetic, recreation, and immersion factors proposed by scholars such as Lee and Jan [61]. There are four dimensions of experience value related to tourists' behavioral intention after travel. According to the analysis of scholars such as Huimin J., etc., [62], the happiness accumulation after travel is divided into two stages: the post-tour value experience process and the happiness precipitation undervalue experience. The four dimensions are the recommendation value, the revisit value, good memories, and future expectations. The main part of the questionnaire adopts the Likert five-point scale method, with 1–5 representing the evaluation scale (such as very dissatisfied, dissatisfied, average, satisfied, and very satisfied) for ratings. The specific scale is shown in Table 4.

Table 4. Scale design and descriptive statistics.

Latent Variable	Measure Items No.	Measure Items	Variable Types and Assignments	Mean	Standard Deviation
Spatial physical environment	A1	The landscape within the urban forest park can be identified	Ordered variable, 1–5: very low–very high	4.09	1.034
	A2	It's not easy to get lost in the urban forest park	Ordered variable, 1–5: very easy to get lost–very difficult to get lost	3.97	1.032
	A3	There are obvious landmarks in the urban forest park	Ordered variable, 1–5: very unobvious–very obvious	3.89	1.040
	A4	The landscape in the urban forest park is continuous	Ordered variable, 1–5: very discontinuous–very continuous	3.93	1.077

Table 4. Cont.

Latent Variable	Measure Items No.	Measure Items	Variable Types and Assignments	Mean	Standard Deviation
Spatial physical environment	A5	The landscape within the urban forest park is repetitive	Ordered variable, 1–5: very high repeatability–very low repeatability	4.01	1.024
	A6	The landscape in the urban forest park has distinct layers	Ordered variable, 1–5: very unclear–very clear	3.77	1.084
	A7	There are rich types of landscapes in the urban forest park	Ordered variable, 1–5: very not rich–very rich	4.05	1.018
	A8	The landscape in the urban forest park has rules and order	Ordered variable, 1–5: very low rules and order–very high rules and order	4.12	1.008
	A9	Urban forest parks invite further exploration	Ordered variable, 1–5: very low exploration–very high exploration	3.81	1.102
	A10	The landscape in the urban forest park is clear at a glance	Ordered variable, 1–5: very high–very low	4.13	1.004
	A11	The landscape in the urban forest park is deep and mysterious	Ordered variable, 1–5: very low mystery–very high mystery	3.85	1.099
Service experience	B1	The hygienic environment in the dining area is clean	Ordered variable, 1–5: very unclear–very clean	3.92	1.056
	B2	The amusement facilities are clean and safe	Ordered variable, 1–5: very untidy–very tidy	3.65	1.096
	B3	Is the service provided by the service staff in place	Ordered variable, 1–5: very low–very high	3.52	1.103
	B4	The sanitary environment of the recreation area is clean	Ordered variable, 1–5: very low–very high	3.78	1.065
Regional cultural characteristics	C1	Is the regional cultural background significant	Ordered variable, 1–5: very unobvious–very obvious	3.99	1.055
	C2	The richness of cultural attractions	Ordered variable, 1–5: very low–very high	3.75	1.067
	C3	cultural heritage integrity	Ordered variable, 1–5: very low–very high	3.61	1.107
	C4	The popularity of cultural attractions	Ordered variable, 1–5: very low–very high	3.88	1.075
Perceived Satisfaction	D1	Motivating learning and mastering new knowledge	Ordered variable, 1–5: very low–very high	3.76	1.141
	D2	Forest Park is very attractive	Ordered variable, 1–5: very low–very high	3.58	1.198
	D3	Recreational experience activities are fun	Ordered variable, 1–5: very low–very high	3.48	1.192
	D4	Immersive experience value	Ordered variable, 1–5: very low–very high	3.67	1.166
Post-Tour Behavioral Intention	E1	Form beautiful memories in memory	Ordered variable, 1–5: very low–very high	4.20	1.014
	E2	Invite friends to play together in the future	Ordered variable, 1–5: very low–very high	3.99	1.079
	E3	I would also like to come and play during the holidays	Ordered variable, 1–5: very low–very high	3.88	1.090
	E4	Will recommend this place to colleagues and friends	Ordered variable, 1–5: very low–very high	4.09	1.053

3.3. Field Survey and Data Collection

This study was conducted in the form of a questionnaire, using a convenience sampling method to collect data through the on-site distribution of questionnaires. The questionnaire was administered with the assistance of three graduate students. Graduate students received

systematic questionnaire survey management training at the school. The survey was conducted two times from May to September 2023. A total of 610 questionnaires were distributed on site and 582 valid questionnaires were recovered. The validity of the questionnaire was 95.41%.

According to the research results of experts such as Hair Jr., research usually requires the ratio of latent variables to sample size to be between 1:10 and 1:25. The questionnaire has 27 items, and the sample size is between 270 and 675 people. The number of 582 valid questionnaires meets the requirements of PLS-SEM analysis.

4. Results

4.1. Descriptive Statistics of Sample Data

Among the 582 valid questionnaires obtained, 37.46% ($n = 218$) are male and 62.54% ($n = 364$) are female. The age groups are mainly 45–54 years old and those over 55 years old. The types of tourists are mainly residents and those who work, study, and live in Beijing; the proportion of non-first-time visitors to Tongzhou Grand Canal Urban Forest Park for recreation reaches 94.04%; when the absolute value of data skewness is less than 3 and the absolute value of kurtosis is less than 10, it is generally believed that the sample data conform to the normal distribution. In this article, there are five measurement scales, namely, Spatial Physical Environment Scale, Service Experience Scale, Regional Cultural Characteristics Scale, Perceived Satisfaction Scale, and Post-Tour Behavioral Intention Scale, with a total of 27 measurement indicators. The absolute value of the skewness of the data is between 0.538 and 1.493, and the absolute value of the kurtosis is between 0.526 and 1.732. Therefore, it can be considered that the obtained sample data meet the requirements of normal distribution and are suitable for further analysis.

4.2. Reliability and Validity Analysis

4.2.1. Reliability Analysis

To ensure that the data results of this questionnaire truly reflect the expected goals, further reliability testing was conducted on the data, and the reliability analysis results are shown in Table 5. The overall Cronbach's α value of the questionnaire calculated using SPSS software is 0.932. The data results calculated using Smart PLS 3.0 software are shown in Table 3. The factor loading value of each observed variable is greater than 0.83. The Cronbach's α value of all latent variables' α values are all above 0.7 and all composite reliability (CR) values are between 0.83 and 0.946, which means that the measurement scale has high reliability and meets the corresponding constraints [63], indicating that the data obtained from the questionnaire survey are reliable in reflecting the actual situation and suitable for further research and analysis.

Table 5. Reliability and validity analysis of the scale.

Latent Variable	Measure Items No.	Load Value	Cronbach's Alpha	rho_A	CR	AVE
Spatial physical environment	A1	0.805	0.946	0.947	0.953	0.647
	A2	0.804				
	A3	0.81				
	A4	0.787				
	A5	0.806				
	A6	0.793				
	A7	0.837				
	A8	0.819				
	A9	0.784				
	A10	0.811				
	A11	0.795				

Table 5. Cont.

Latent Variable	Measure Items No.	Load Value	Cronbach's Alpha	rho_A	CR	AVE
Service experience	B1	0.834	0.843	0.847	0.895	0.68
	B2	0.819				
	B3	0.799				
	B4	0.845				
Regional cultural characteristics	C1	0.834	0.83	0.83	0.887	0.662
	C2	0.8				
	C3	0.797				
	C4	0.823				
Perceived satisfaction	D1	0.874	0.885	0.885	0.921	0.744
	D2	0.856				
	D3	0.854				
	D4	0.866				
Post-tour behavioral intention	E1	0.865	0.864	0.866	0.908	0.711
	E2	0.815				
	E3	0.834				
	E4	0.859				

4.2.2. Validity Analysis

We used the KMO and Bartlett test for validity verification. It can be seen from (Table A1) that the KMO value is 0.946, which is greater than 0.8. The research data are very suitable for extracting information, indicating that the validity of the research data is very good.

To test convergent validity and discriminant validity, according to relevant research by Hair and other scholars [64], the testing criteria for convergent validity are as follows: (1) all standardized factor loadings (factor loading) are greater than 0.7; (2) the average of all latent variables and the extracted coefficients of variation (AVE) are all greater than 0.5. The test results are shown in Table A1. At the same time, the AVE of all latent variables is greater than 0.5, indicating that each latent variable has good convergent validity.

The criterion for discriminant validity is as follows: if the value on the diagonal (arithmetic square root of different latent variables, AVE) is greater than the value below the diagonal (Pearson correlation coefficient between variables), it indicates the discriminant validity of the scale is good. As can be seen from Table A2, the Pearson correlation coefficients are all smaller than the values on the diagonal. Therefore, the discriminant validity of the scale is good.

4.3. Structural Model Analysis

The model was evaluated concerning the PLS-SEM research steps proposed by Hair et al. Firstly, the variance inflation factor VIF value was used to check for collinearity issues. Normally, the VIF value should be close to 3 or lower. The VIFs of the five latent variables constructed in this article are all less than 3.

Secondly, the coefficient of determination (R-squared) represents the explanatory effect of the exogenous latent variables in the model on the endogenous latent variables and measures the prediction accuracy of the model. Its value range is between 0 and 1, and an R-squared value higher than 0.75, 0.50, and 0.25 is considered to indicate a strong, medium, or weak explanatory ability [65]. As can be seen from the table, the R-squared of the two endogenous latent variables is as follows: For perceived satisfaction, it is 0.161,

and the prediction effect is at a low level. The R^2 of post-tour behavioral intention is 0.493 (Table A3), and the prediction effect is at a medium level.

Finally, Q-squared is used to measure the predictive relevance of the structural model. Q-squared values greater than 0, 0.25, and 0.50 indicate small, medium, and large predictive relevance of the structural model, respectively. The Q-squared values of the two endogenous latent variables, perceived satisfaction and post-tour behavioral intention, are 0.117 and 0.344 (Table A4), which are small and medium, both of which meet the requirements, indicating that the fitting effect of the model is relatively ideal.

4.4. Structural Modeling and Hypothesis Testing

4.4.1. Goodness-of-Fit Test of Structural Model

The structural equation model analysis results obtained by using the PLS method show that the RMS_{θ} of the structural equation model is 0.09 (evaluation standard: $RMS_{\theta} < 0.12$ indicates a good adaptation model) [66] and the SRMR index value is 0.038, which is in line with the appropriate model proposed by Henseler et al. (2016) [67]. The SRMR value should be less than 0.08; the NFI value is 0.925, and the structural equation model has good overall fitness [68].

4.4.2. Hypothetical Test

Based on the path coefficient and its p value in Figure 3 and Table 6, the research hypothesis proposed in Section 2.3 of this study was verified and analyzed, and the following verification conclusions were obtained.

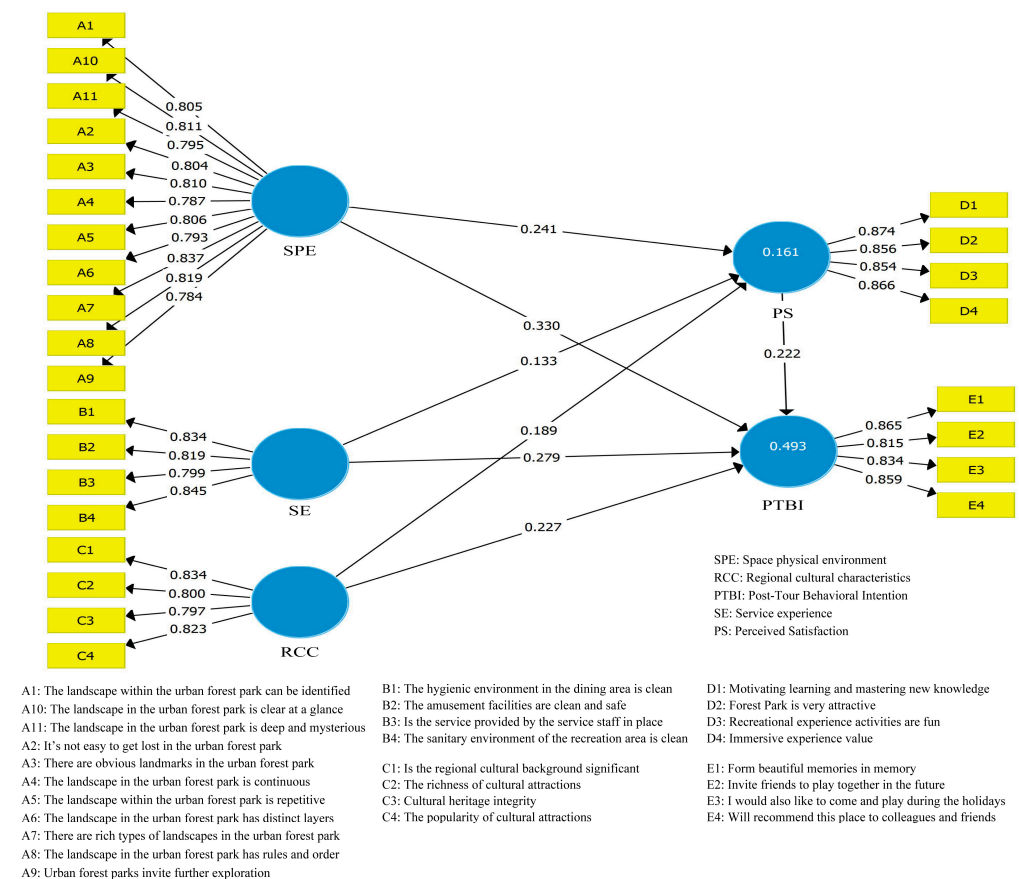


Figure 3. Structural equation model path coefficients and factor loadings. SPE: spatial physical environment; PS: perceived satisfaction; SE: service experience; RCC: regional cultural characteristics; PTBI: post-tour behavioral intention.

Table 6. Hypothetical model regression coefficients.

NO.	Path	Initial Sample	Sample Mean	Standard Deviation	T-Statistic	<i>p</i> Value	2.5%	97.5%
1	SPE-PS	0.241	0.242	0.045	5.347	0.000	0.154	0.328
2	SE-PS	0.133	0.133	0.043	3.069	0.002	0.05	0.219
3	RCC-PS	0.189	0.191	0.042	4.454	0.000	0.109	0.269
4	SPE-PTBI	0.33	0.332	0.037	8.946	0.000	0.258	0.404
5	SE-PTBI	0.279	0.279	0.035	7.915	0.000	0.208	0.345
6	RCC-PTBI	0.227	0.226	0.043	5.234	0.000	0.14	0.308
7	PS-PTBI	0.222	0.221	0.034	6.45	0.000	0.152	0.287

Note: the initial sample is the path coefficient and β value. SPE: spatial physical environment; PS: perceived satisfaction; SE: service experience; RCC: regional cultural characteristics; PTBI: post-tour behavioral intention.

The path coefficient value of the impact of spatial physical environment dimensions on perceived satisfaction is $0.241 > 0$, and this path shows significance at the 0.01 level ($T = 5.347$, $p = 0.000 < 0.01$), which shows that the spatial physical environment dimensions will have an impact on perceived satisfaction, and perceived satisfaction has a significant positive impact. Hence, the H1 hypothesis is established.

Regarding the impact of service experience dimensions on perceived satisfaction, the path coefficient value is $0.133 > 0$, and this path shows significance at the 0.01 level ($T = 3.069$, $p = 0.000 < 0.01$), thus indicating that the service experience dimensions will have an impact on perceived satisfaction degree, which has a significant positive impact. Hence, the H2 hypothesis is established.

The path coefficient value of the dimension of regional cultural characteristics on perceived satisfaction is $0.189 > 0$, and this path shows significance at the 0.01 level ($T = 4.454$, $p = 0.000 < 0.01$), which shows that the dimension of regional cultural characteristics will have an impact on perceived satisfaction, which has a significant positive impact. Hence, the H3 hypothesis is established.

When the spatial physical environment dimension affects post-tour behavioral intention, the path coefficient value is $0.33 > 0$, and this path shows significance at the 0.01 level ($T = 8.946$, $p = 0.000 < 0.01$), which shows that the spatial physical environment dimension has a significant positive impact on post-tour behavioral intention. Hence, the H4 hypothesis is established.

When the service experience dimension affects post-tour behavioral intention, the path coefficient value is $0.279 > 0$, and this path shows significance at the 0.01 level ($T = 7.915$, $p = 0.000 < 0.01$), which shows that the service experience dimension has an impact on the travel intention. There is a significant positive impact on behavioral intention later. Hence, the H5 hypothesis is established.

When the dimensions of regional cultural characteristics affect post-tour behavioral intention, the path coefficient value is $0.227 > 0$, and this path shows significance at the 0.01 level ($T = 5.234$, $p = 0.000 < 0.01$), which shows that the dimensions of regional cultural characteristics have an impact on post-tour behavioral intention, which has a significant positive impact. Hence, the H6 hypothesis is established.

It can be seen that hypotheses H4, H5, and H6 are verified. And the results show that the three elements of stimulation dimension, spatial physical environment dimension, service experience dimension, and regional cultural characteristics dimension, all have an impact on post-tour behavioral intention, among which the spatial physical environment dimension has the most significant impact on post-tour behavioral intention.

When perceived satisfaction affects post-tour behavioral intention, the path coefficient value is $0.222 > 0$, and this path shows significance at the 0.01 level ($T = 6.45$, $p = 0.000 < 0.01$), thus indicating that perceived satisfaction has an impact on travel intention. Behavioral intention has a significant positive impact. Hence, the H7 hypothesis is established.

4.4.3. Test of the Mediating Effect of Perceived Satisfaction

The bias-corrected bootstrap procedure was used to test the mediating effect. We used the repeated random sampling method to extract 2000 bootstrap samples from the original data (n = number of samples) and generate an approximate sampling distribution, and we used the 95% confidence interval of the mediation effect which is composed of the 2.5 percentile and the 97.5 percentile (Tables A5 and A6). This study explores the mediating effect of perceived satisfaction. In the path of “space physical environment dimension \rightarrow perceived satisfaction \rightarrow post-tour behavioral intention”, the indirect effect of perceived satisfaction has a 95% confidence interval (0.029, 0.083), the confidence interval does not include 0, and the significance $p = 0.00 < 0.01$, indicating that the mediating effect is statistically significant, the mediating effect exists, and the effect value is 0.054. In this path, the 95% confidence interval of the direct effect of the independent variable, spatial physical environment dimension, is (0.154, 0.328), the confidence interval does not include 0, the significance $p = 0.000 < 0.01$, the effect value is 0.242, and the proportion of the mediating effect is 14.09%, which further proves that the intermediary variable, perceived satisfaction, plays a partial mediating role in the path of “space physical environment dimension \rightarrow perceived satisfaction \rightarrow post-tour behavioral intention”.

This study explores the mediating effect of perceived satisfaction. In the path of “service experience dimension \rightarrow perceived satisfaction \rightarrow post-tour behavioral intention”, the indirect effect of perceived satisfaction has a 95% confidence interval (0.01, 0.051), the confidence interval does not include 0, and the significance $p = 0.00 < 0.01$, indicating that the mediating effect is statistically significant, the mediating effect exists, and the effect value is 0.029. In this path, the direct effect of the independent variable, service experience dimension, is at a 95% confidence interval (0.05, 0.219), the confidence interval does not include 0, the significance $p = 0.002 < 0.01$, the effect value is 0.133, and the mediating effect size is 9.4%, further proving that the mediating variable, perceived satisfaction, plays a partial mediating role in the path of “service experience dimension \rightarrow perceived satisfaction \rightarrow post-tour behavioral intention”.

This study explores the mediating effect of perceived satisfaction. In the path of “regional cultural characteristics dimension \rightarrow perceived satisfaction \rightarrow post-tour behavioral intention”, the indirect effect of perceived satisfaction has a 95% confidence interval (0.021, 0.066), the confidence interval does not include 0, and the significance $p = 0.00 < 0.01$, indicating that the mediating effect is statistically significant, the mediating effect exists, and the effect value is 0.042. In this path, the direct effect of the independent variable, regional cultural characteristics dimension, is at a 95% confidence interval (0.109, 0.269), the confidence interval does not include 0, the significance $p = 0.000 < 0.01$, the effect value is 0.191, and the proportion of the mediating effect is 15.61%, which further proves that the intermediary variable, perceived satisfaction, plays a partial mediating role in the path of “regional cultural characteristics dimension \rightarrow perceived satisfaction \rightarrow post-tour behavioral intention”.

4.5. Model Result Analysis

As can be seen from Figure 2, the three measurement dimensions of the urban forest park recreation environment in this study can effectively verify post-tour behavioral intentions. From the perspective of environmental preferences in the spatial physical environment dimension, complexity has the highest correlation with environmental preferences, then comes recognizability, mystery, and coherence. It is different from the high correlation between mystery and environmental preference found in the existing research. The Grand Canal Forest Park, the object of this study, is an urban forest park. Most of the visitors are local tourists and nearby residents and have a high frequency of visits. They (recreational visitors) are generally familiar with the Grand Canal Urban Forest Park; therefore, in the Grand Canal Urban Forest Park, complexity and ease of identification (both direct observation and speculation), two types of landscape information that can be directly obtained by tourists, are more likely to make tourists develop environmental preferences, while

mystery is offset by the high familiarity of tourists with the Grand Canal Urban Forest Park, so the influence of mystery is low. Coherence, as environmental information that is immediately perceived and understood, expresses logic through spatial composition, and the Grand Canal Forest Park needs to express the continuity and hierarchical relationship of space through reasonable construction methods, making the space more continuous, and to rationally arrange repetitive landscape elements and differentiated landscape elements to form a spatial sequence. It can be seen that focusing on improving complexity and the ease of identification will help improve tourists' environmental preferences and perceived satisfaction with urban forest parks.

In the dimensional perception model of regional cultural characteristics, the correlation coefficient range between the four measured variables and post-tour behavioral intention is 0.797–0.834, indicating that the cultural background in the urban forest park and the degree of awareness and number of cultural attractions constitute a complete system of urban forest park culture, which is also the strength of cultural characteristics that tourists feel after relaxing in the urban forest park environment. The integrity of cultural heritage has the lowest impact coefficient because integrity conveys a degree of complete preservation and does not affect tourists' understanding and cognition of culture. Missing or incomplete parts can stimulate tourists' desire to explore and attract tourists to further fill in the gaps through their learning abilities. At the same time, this feature also makes up for the mystery of the aforementioned environmental preferences. From this perspective, in the construction of urban forest park landscapes, integrating regional cultural characteristics can help stimulate tourists' environmental emotions, enhance passengers' sense of regional belonging, increase the cultural perception satisfaction achieved through space, and enhance their positive attitude toward behavioral intention, especially willingness to return.

In addition, because the urban forest park is located in the city, it is located at the edge of the city, far away from other types of parks such as country parks and wetland parks. In comparison to those parks, the travel time for tourists to visit to the urban forest park is shorter. At the same time, urban forest parks can also meet the needs of tourists for recreation, leisure, and exercise that are offered in other types of parks. Therefore, it is extremely easy to form high-frequency recreation characteristics, and the demand for urban forest parks is more urgent and intense. Therefore, tourists with all kinds of actual needs are converted into perceived value and the various dimensions reflected in the perceived value present the best satisfaction; that is, they positively affect positive behavioral intentions.

In the perception model of post-tour behavioral intention, the correlation coefficient range between the four measurement variables and post-tour behavioral intention is 0.815–0.865, indicating that each measurement variable can better reflect the positive behavior of tourists toward the urban forest park after recreation.

According to the structural equation model, it can be seen that the direct effect of the spatial physical environment dimension on post-tour behavioral intention is 0.330, the indirect effect of the spatial physical environment dimension on post-tour behavioral intention calculated from the results of PLS-SEM is 0.05, and the total effect is 0.383. The direct effect of the service experience dimension on post-tour behavioral intention is 0.279, the indirect effect of the service experience dimension on post-tour behavioral intention is 0.03, and the total effect is 0.308. The direct effect of regional cultural characteristics dimension on post-tour behavioral intention is 0.227, the indirect effect of the regional cultural characteristics dimension on post-tour behavioral intention is 0.04, and the total effect is 0.69. Therefore, it shows that the urban forest park recreation environment can directly and positively affect the generation of post-tour behavioral intention, as well as indirectly affecting the generation of post-tour behavioral intention through the mediating effect of perceived satisfaction. Perceived satisfaction mainly measures the psychological state of tourists when relaxing in urban forest parks, and this psychological state is based on the individual's value to the environment and services of urban forest parks. Existing research shows that perceived satisfaction at the individual level has a great impact on their behavioral intentions [69].

5. Conclusions

5.1. Analysis Conclusions

This paper uses 582 valid passenger questionnaires as research samples, uses SOR as the basic theoretical model, takes Tongzhou Grand Canal Forest Park as the case study site, and uses the partial least squares structural equation model (PLS-SEM) to demonstrate the impact of urban forest parks on post-tour behavioral intention. The relationship between recreation environment (dimensions of the spatial physical environment, service experience, and regional cultural characteristics), perceived satisfaction, and post-tour behavioral intention allows us to understand the perceived satisfaction and behavior of tourists after recreation in the urban forest park environment and their willingness provides a new way of thinking. This study found that the urban forest park recreation environment has a significant positive impact on perceived satisfaction and post-tour behavioral intention. In addition, perceived satisfaction has a significant positive impact on post-tour behavioral intention. Specifically, this study concluded the following:

(1) The three dimensions of the urban forest park recreation environment, namely, the spatial physical environment dimension, service experience, and regional cultural characteristics, all have a significant positive impact on post-tour behavioral intention. Among them, the spatial physical environment dimension has the maximum impact on post-tour behavioral intention. Perceived satisfaction (including educational value, esthetic value, recreation value, and immersive experience value) positively affects post-tour behavioral intention, among which the recreation value has the greatest impact. It shows that in the behavioral intention decision making of individual recreationists after recreation in urban forest parks, they pay more attention to the essential utility of the recreational value brought by urban forest parks, including direct participation in recreational activities and the pro-nature environmental atmosphere brought by urban forest parks.

(2) In the relationship between the urban forest park recreational environment and perceived satisfaction, the three dimensions of the urban forest park recreational environment have a significant impact on perceived satisfaction, among which the spatial physical environment dimension has a significant impact on perceived satisfaction. And the path coefficient is high, indicating that the environmental preference corresponding to the spatial physical environment dimension is the most critical factor affecting tourists' perceived satisfaction.

(3) Perceived satisfaction plays a mediating role in the relationship between the three dimensions of the urban forest park recreation environment and post-tour behavioral intention. Perceived satisfaction (and the associated educational value, esthetic value, recreational value, and immersive experience value) plays an intermediary role in the relationship between the spatial physical environment dimension, service experience, and regional cultural characteristics of the urban forest park recreational environment and post-tour behavioral intention.

5.2. Design and Management Implications

Based on the above conclusions, the following management implications are proposed for urban forest parks and other similar forest parks:

(1) By enhancing the environmental preferences of tourists, one can improve the willingness of tourists to take positive actions after visiting urban forest parks. The above research results confirm that the urban forest park recreation environment is an important factor affecting perceived satisfaction and post-tour behavioral intention. Therefore, it is recommended that urban forest parks start from the three dimensions of the urban forest park recreational environment to improve post-tour behavioral intention (recommendations, revisiting, etc.) in the urban forest park environment. The feedback can be used to enhance the specific design and construction techniques. From the perspective of coherence and complexity, we can focus on increasing the richness of landscape elements, such as increasing the practicality of lawns for recreation and rationally organizing

the site topography. Natural and artificial elements create the diversified characteristics of the spatial sequence and enhance the complexity of the urban forest park landscape, forming a reasonable interspersed and transitional relationship between different spatial sequences, allowing tourists to have continuity when visiting, and enhancing their memory. Correlation and organization can not only avoid esthetic fatigue caused by homogeneous landscape elements but also avoid jumps in spatial narrative logic. From the perspective of ease of identification and mystery, we can set up exploratory winding recreational paths to enhance exploration and mystery. While maintaining the original natural site, at the same time, one can increase the rarity of plant species in the forest park to enhance the mystery of the natural landscape in the urban forest park.

(2) By improving the multi-dimensional perceived satisfaction of tourists in the urban forest park recreation environment, it enhances the behavioral intention after visiting the urban forest park (recommendations, revisiting, etc.). In their daily lives, urban residents have an actual need to visit green spaces for leisure and recreation. By improving the construction and quality updates of basic service facilities such as slow walking trails, public health facilities, and leisure facilities in the urban forest park, we can meet the actual needs of tourists during their recreation in the urban forest park to the greatest extent. In the construction process of urban forest parks, attention should be paid to the creation of regional landscapes and the inheritance of historical culture in urban forest parks, strengthening the cultural and emotional experience of tourists, and improving the sense of regional historical and cultural identity. Taking Beijing's Tongzhou Grand Canal Forest Park as an example, at the Mingjing Yizhou section of the scenic spot, historical and cultural scenes from the Qing Dynasty ancient painting "Lu River Supervision Picture" are carved on the scenery wall. This "Lu River Supervision Picture" records the Qing Dynasty during the Qianlong period, and the Luhe River (also known as the North Canal Section) is a historical picture of the prosperity of the canal during its time of water transportation, economy, commerce, and folk customs. Canal boats shuttled on the river, with pink and green willows on both sides of the river and fields, farmhouses, shops, and temples scattered everywhere, while merchants, officials, and boatmen are all busy. This reproduces the regional historical and cultural characteristics of the Grand Canal Urban Forest Park, awakens people's historical memory of the Grand Canal, and improves tourists' educational satisfaction with the acquisition of historical and cultural knowledge. Ultimately, the purpose of enhancing tourists' willingness to behave positively after recreation in the Grand Canal Urban Forest Park is achieved.

5.3. Research Limitations

The limitations of this study are as follows:

First, because the urban forest park recreational environment involves many related elements, although this study introduced the measurement items of the urban forest park recreational environment through a literature review, text analysis, and other methods at the beginning of the article, it is inevitable that there will be omissions or neglected aspects. On the one hand, follow-up related research will be carried out to further improve the validity of the test research scale. On the other hand, this study only uses the Tongzhou Grand Canal Forest Park in Beijing as a research case. Although it is somewhat typical, the park still needs to improve the urban forest through continuous research. The measurement content of the park's recreation environment can enrich and expand the conclusions of this study and better serve the planning and design for urban forest park managers.

Secondly, this study has not yet considered the influencing factors of moderator variables. Future research will explore single moderator variables and multiple moderator variables to test their impact on post-tour behavioral intention.

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Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Table of Results

Table A1. KMO and Bartlett’s test analysis results.

KMO		0.946
Bartlett’s Test of Sphericity	Chi-Square	9180.592
	<i>df</i>	351
	<i>p</i>	0.000

Table A2. Discriminant validity test results (comparison of the square root of each variable’s AVE value and the corresponding correlation coefficient).

	SPE	SE	RCC	PS	PTBI
SPE	0.805				
SE	0.175	0.824			
RCC	0.308	0.197	0.814		
PS	0.322	0.213	0.289	0.862	
PTBI	0.52	0.428	0.447	0.453	0.843

Note: SPE: spatial physical environment; PS: perceived satisfaction; SE: service experience; RCC: regional cultural characteristics; PTBI: post-tour behavioral intention.

Table A3. R-squared value results.

	R-Squared	Adj R-Squared
Perceived Satisfaction	0.161	0.156
Post-Tour Behavioral Intention	0.493	0.49

Table A4. Q-squared value results.

	SSO	The Sum of Squared Residuals	Q ² (=1 – SSR/SSO)
Spatial physical environment	6402	6402	
Service experience	2328	2328	
Regional cultural characteristics	2328	2328	
Perceived satisfaction	2328	2056.732	0.117
Post-tour behavioral intention	2328	1528.052	0.344

Table A5. Mediation test results.

Path	Initial Sample	Sample Mean	Standard Deviation	T-Statistic	<i>p</i> Value	2.5%	97.5%
SPE → PS → PTBI	0.05	0.05	0.014	3.905	0.000	0.029	0.083
SE → PS → PTBI	0.03	0.03	0.01	2.821	0.005	0.01	0.051
RCC → PS → PTBI	0.04	0.04	0.012	3.581	0.000	0.021	0.066

Note: the initial sample is the path coefficient and β value. SPE: spatial physical environment; PS: perceived satisfaction; SE: service experience; RCC: regional cultural characteristics; PTBI: post-tour behavioral intention.

Table A6. Total affect test results.

Path	Initial Sample	Sample Mean	Standard Deviation	T-Statistic	p Value	2.5%	97.5%
SPE → PTBI	0.383	0.386	0.039	9.929	0.000	0.305	0.46
SE → PTBI	0.308	0.308	0.036	8.626	0.000	0.236	0.375
RCC → PTBI	0.269	0.268	0.042	6.34	0.000	0.189	0.35

Note: the initial sample is the path coefficient and β value. SPE: spatial physical environment; PS: perceived satisfaction; SE: service experience; RCC: regional cultural characteristics; PTBI: post-tour behavioral intention.

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