

# Study on the Improvement of Recreation Experience Quality of Urban Parks in Chongqing's Main Urban

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**Abstract:** In recent years, with the acceleration of urbanization and the introduction of the concept of a park city, the construction of city parks has received increasing attention. This paper selects three representative city parks in the main urban area of Chongqing as the research objects, sorts out relevant policy plans and cutting-edge theories, and understands and analyzes the current construction situation and development environment of city parks in the main urban area of Chongqing. Based on visitor opinions and feedback, the main influencing factors of recreation experience are summarized, and corresponding strategies are proposed based on the actual situation, hoping to provide a reference for the construction of city parks in Chongqing.

**Keywords:** City park; Recreation experience; Chongqing

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## 1. Research background

In recent years, Chongqing has vigorously developed city parks and issued a series of policy documents such as the “Chongqing Work Plan for Creating a National Ecological Garden City” and the “Guiding Opinions of Chongqing City Administration on Strengthening the Planning and Design of All-Age-Friendly City Parks.” These policies emphasize the implementation of city renewal actions as the starting point, integrating the concepts of children’s priority and care for the elderly into the planning and design of city parks, comprehensively strengthening the planning and construction of all-age-friendly city parks, continuously meeting the growing needs of the people for a better life, and serving high-quality development. City parks play an important role in citizens’ lives, and improving the quality of recreational experiences in city parks is not only related to citizens’ happiness but also a key to promoting green city development and achieving high-quality city life.

## 2. Overview of recreational experience in city parks

Research on recreational experiences in city parks at home and abroad mainly focuses on two aspects: influencing factors of recreational experiences and evaluation methods of recreational experiences.

### 2.1. Research on influencing factors of recreational experience in city parks

The factors that affect the recreational experience in city parks are diverse and complex. Some are prerequisite factors, such as accessibility; some are psychological factors, such as psychological emotions, cultural identity, and other demand expectations; and some are external factors, such as park landscapes and facility conditions. Therefore, when analyzing and evaluating recreation satisfaction, it is necessary to consider the actual situation of the research object comprehensively.

McCormack *et al.* found through research on the relationship between park utilization and physical activity that factors such as safety, aesthetics, park facilities, and landscape maintenance are important for park satisfaction <sup>[1]</sup>. Milman believes that the seven main factors affecting the satisfaction of theme park visitors are: diversity and quality of entertainment projects, cleanliness and safety, diversity and price reasonableness of food, quality of theme design, diversity and practicality of family activities, diversity and quality of entertainment facilities, and consumption price and reasonableness <sup>[2]</sup>. Bedimo-Rung *et al.* pointed out that park structure, facility conditions, accessibility, aesthetics, safety, and policies are relevant factors that affect park usage <sup>[3]</sup>. Domestic scholars such as Yin and Li pointed out that the accessibility of city parks is an important prerequisite for measuring and affecting recreation satisfaction <sup>[4, 5]</sup>. Another author, Li, took Nanjing Xuanwu Lake City Free Park as an example and summarized the factors that affect park leisure satisfaction into six aspects: leisure facilities, leisure services, leisure environment, leisure landscapes, accessibility, and leisure projects <sup>[6]</sup>. Based on Wuxi City Gardens, Wang *et al.* proposed that pricing, employee service, facility environment, crowding, convenience, safety, and time arrangement are important factors that affect visitor experience <sup>[7]</sup>. Xiao *et al.* took Guangzhou City Park as the research object and extracted six influencing factors of recreationists' satisfaction evaluation of city parks through factor analysis: landscape quality, infrastructure, recreation environment, recreation projects, service quality, and convenience. They also believed that there are significant differences in the satisfaction evaluation of city park recreationists <sup>[8]</sup>.

### 2.2. Research on evaluation methods of recreational experience in city parks

Foreign scholars' measurement studies on recreational experiences in city parks are usually based on the Recreation Experience Preference Scale developed by Driver and others, namely REP (Recreation Experience Preference Scale). According to the characteristics of recreationists' physical and mental experiences, it is divided into 19 categories <sup>[9]</sup>. Ryan's "expectation-satisfaction" model better reflects the essential connotation and structural characteristics of the recreational experience and clearly reflects the process of how recreationists' motivations and expectations are realized in the recreation environment and form the recreational experience <sup>[10]</sup>. Domestic scholars tend to construct a recreational experience satisfaction evaluation model, collect data through questionnaire surveys and in-depth interviews, and conduct empirical research using quantitative methods such as factor analysis, fuzzy comprehensive evaluation, and IPA analysis.

Li *et al.* took Xi'an Fanchuan Park as an example. Based on field dynamics theory and field research, they constructed a satisfaction evaluation model for recreational experiences in city parks. They used fuzzy comprehensive evaluation to determine the indicator scores and finally obtained the satisfaction level order as:

natural environment stimulation, self-improvement, basic needs, cultural landscape stimulation, and deficiency compensation <sup>[11]</sup>. Yu *et al.* selected four forest parks in Harbin as the research area. Through a sample survey of forest park recreationists, they explored the differences between the pre-trip expectations of forest recreationists and the satisfaction of their actual recreational experiences. They used survey sample structure analysis, reliability and validity analysis, paired sample t-test, Pearson correlation analysis, and other methods to analyze the questionnaire data. They also used the IPA method to construct a matrix analysis table of pre-trip expectations and actual recreational experience satisfaction to explore the level of recreationists' recreational experience satisfaction and provide strategic suggestions for improving the business performance of forest recreation management units <sup>[12]</sup>.

### 3. Development environment analysis

#### 3.1. Macro environment analysis

This paper employs PEST analysis to examine the macro environment for the development of city parks in the main urban area of Chongqing, focusing on four aspects: politics, economy, social culture, and technology. The specific details are presented in **Table 1**.

**Table 1.** PEST analysis of the macro environment for the development of city parks in the main urban area of Chongqing

	Regulations on Urban Gardening and Greening in Chongqing City (revised in 2021)
	Regulations on the Management of Parks in Chongqing City (revised in 2022)
Political environment	Notice from the Chongqing Urban Management Bureau on Improving the Planning and Management of City Parks Implementation Plan for the Pilot Project of Open Sharing of Green Spaces in Chongqing City Parks Guiding Opinions of the Chongqing Urban Management Bureau on Strengthening the Planning and Design of All-Age-Friendly City Parks
Economic environment	As a direct-administered municipality and a popular tourist destination, Chongqing's economic development directly affects the living standards and leisure needs of its citizens. With the rapid economic growth in Chongqing in recent years, rising income levels, and consumption upgrades, there has been an increased demand for park quality, diversified services, and activities from the public.
Sociocultural environment	Chongqing is rich in cultural resources, with a variety of cultural backgrounds such as Bashu culture and Hongyan culture. There are numerous social and cultural activities like science popularization meetings and reading clubs, continuously stimulating cultural vitality.
Technological environment	The application of new technologies such as the Internet of Things, big data, and artificial intelligence can enhance the intelligent management level and service quality of parks, including features like smart navigation, intelligent lighting systems, and environmental monitoring. The maturity of social media and mobile internet technologies also provides technical support for park promotion, enhancing park popularity and visitor experience.

The Chongqing government places great emphasis on the construction of city parks, and relevant policies have been introduced in recent years to provide strong support. Rapid economic development offers robust backing for park construction, and the growth of the tourism industry also brings new opportunities for parks. The local society has a profound cultural heritage and rich cultural resources. Technology in related fields is becoming more mature, and the introduction of intelligent and information technology provides technical support for the interactive experience between parks and residents.

## 3.2. Micro-environment analysis

The development of city parks in the main urban area of Chongqing faces a relatively complex micro-environment, analyzed as follows:

### 3.2.1. Natural conditions

#### (1) Climatic factors

Chongqing has a wet and rainy climate, providing sufficient water and nutrients for plant growth. This is conducive to the construction of city park landscapes and creates a pleasant leisure environment for residents.

#### (2) Natural resources

Chongqing is known for its rich animal and plant resources. Additionally, thanks to its unique geographical location at the intersection of the Yangtze River and Jialing River, it boasts a natural water network. These superior natural resources offer more choices and possibilities for the park's content and landscapes.

#### (3) Topographical factors

Chongqing has a complex topography with many mountains, which limits the construction scale and layout of parks to some extent. However, it is precisely these topographical characteristics that make the city parks in the main urban area of Chongqing more distinctive. By rationally utilizing the topography, rich and diverse spatial layers and landscape effects can be created.

### 3.2.2. Demands

#### (1) Leisure demands of residents

With the improvement of living standards, residents' demand for leisure activities is growing. Therefore, as an important place for residents' leisure activities, the construction and development of city parks need to meet the diverse needs of residents, including providing comfortable rest spaces, rich entertainment facilities, and beautiful natural environments, to satisfy residents' preferences in leisure activities.

#### (2) High-quality development demands

The construction of city parks directly promotes the improvement of the city's ecological environment and achieves green urban development. As an important public space in the city, parks can attract a large number of people, drive the prosperous development of surrounding commerce, culture, tourism, and other industries, enrich citizens' spiritual and cultural life, and facilitate high-quality development.

The development of city parks in the main urban area of Chongqing presents both opportunities and challenges. How to fully utilize the advantages of natural conditions, overcome the limitations of factors such as topography, and meet the diverse needs of residents are issues that need to be deeply considered and resolved in the construction of city parks in Chongqing.

## 3.3. Analysis of factors influencing recreational experience

In this study, three popular parks in the main urban area of Chongqing—Zhaomu Mountain Forest Park, Chongqing Central Park, and Eling Park—were selected as survey samples. Through field visits and surveys, the recreational experiences of visitors were analyzed, and key influencing factors were summarized. The

research found that there are multiple factors that affect the recreational experience in city parks, with the main ones being as follows:

(1) Green space area and activity scope

The area of green space and the scope of visitor activities are fundamental and decisive factors that influence the quality of the recreational experience in city parks. Adequate green spaces not only effectively improve park air quality, accelerate human metabolism, reduce fatigue, and meet the physiological needs of visitors, but also allow people to connect with nature, relieve stress, and enhance the recreational experience psychologically. Compared to other hard landscape areas, green spaces provide a softer and more inclusive spatial experience. Open green spaces offer a sense of psychological security, thereby optimizing the recreational experience.

(2) Transportation accessibility

As the link between residents and parks, transportation accessibility determines visitors' travel costs and comfort, affecting the actual utilization efficiency and visitor satisfaction of city parks. It encompasses not only the convenience of physical movement but also various aspects such as travel time, cost, congestion level, and the availability of transportation modes. Good transportation accessibility encourages visitors to choose city parks for their outings, providing a positive initial experience for their park visits. Additionally, convenient transportation increases effective recreational time, raises visitors' psychological expectations, and optimizes their recreational experience.

(3) Diversity of park functional facilities

With the improvement of living standards, people's demands for city parks have become increasingly diversified, and the completeness and diversity of functional facilities within the parks have gained more attention. Different visitor groups have varying needs for recreational facilities due to factors such as age, gender, interests, and physical condition. Meanwhile, modern life scenarios are rich and diverse, and people's recreational desires in parks cover various aspects such as fitness and exercise, parent-child interaction, social gatherings, cultural learning, and relaxation. Whether park facilities can provide corresponding support to meet these different needs and enable visitors to have a satisfactory recreational experience in different scenarios has become a topic of great concern.

## 4. Environmental quality

As key nodes of the city's ecosystem and important places for citizens' recreation, city parks' environmental quality directly impacts visitors' recreational experiences through sensory stimuli such as vision, hearing, smell, and touch. Specifically, the overall environment of city parks can be divided into three aspects: ecological environment, landscape environment, and sanitary environment. High-quality environmental conditions are core elements for city parks to attract visitors, enhance satisfaction and willingness to revisit, and achieve sustainable development.

## 5. Suggestions

(1) Optimizing the spatial layout of green spaces and strengthening their ecological functions

To make green spaces more useful and eco-friendly, parks should increase their size where possible and use the space more efficiently. In mountain parks with uneven terrain, more signposts can help visitors

find their way, and tools like GIS (Geographic Information System) can be used to create accurate maps. By studying how visitors move through the park, paths and routes can be better planned to spread people out and help them enjoy more of the park.

During busy times, temporary barriers and flexible space management can help control crowding. This keeps the amount of green space per visitor more stable and makes the park more comfortable. Parks can also make the most of limited space by using vertical areas like rooftops and walls for planting. Working with universities or research centers can bring in new ideas for improving plant variety, colors, and layout. These changes can make the park look better, clean the air, reduce noise, and give visitors a more pleasant natural experience.

(2) Improving transportation accessibility

Park managers should actively communicate with tourism and transportation departments. Regarding traffic congestion and parking difficulties around some parks, they should collaborate with transportation departments to plan and optimize bus routes, increase the frequency of bus services during peak hours, and strengthen seamless transfer connections with rail transit stations. At the same time, surrounding idle land or underground spaces should be utilized to build new multi-level smart parking lots, introducing smart parking management systems to improve parking space turnover rates and alleviate parking pressure. Additionally, intelligent traffic monitoring equipment should also be installed at key nodes to monitor pedestrian and vehicle flows in real-time, provide early warnings of congestion, and scientifically guide traffic. Furthermore, collaboration with platforms such as shared bicycles and online car-hailing services can be used to optimize “last-mile” travel solutions, encouraging visitors to travel green and enter the park conveniently.

(3) Enriching park functional facilities

To better meet the different needs of visitors, parks should offer a wider range of functional facilities, such as fitness equipment, children’s play areas, and comfortable seating. Creating spaces for cultural activities and social gatherings can also enrich the visitor experience. For example, parks can set up natural education areas for families, where activities like plant identification and insect observation are offered. Along hiking trails, smart fitness stations with solar-powered charging and health monitoring features can be added for fitness lovers. At the same time, parks should make full use of local cultural heritage, such as Bayu history, by expanding exhibition halls and using interactive multimedia to tell historical stories. Traditional craft workshops, like paper cutting and sugar painting, can also be included to let visitors participate and enjoy a deeper cultural experience.

(4) Strengthening environmental quality management

To better protect the park’s natural environment, special ecological zones should be set up to limit damage from human activity and improve overall ecological health. The park’s landscape design can also be improved by adding more variety and layers to make it more beautiful and interesting. A regular cleaning system should be in place, especially during busy times like holidays, to keep key areas such as dining spots and crowded paths clean and tidy. Water in the park should be checked regularly, and methods like plant-based cleaning and physical filters can help keep it clean. It’s also important to educate visitors about respectful behavior in the park. Encouraging quiet walking, polite sightseeing, and reducing noise can help keep the park peaceful and enjoyable for everyone.

## 6. Conclusion

This study focuses on city parks in the main urban area of Chongqing, conducting an in-depth analysis of issues related to their recreation experience quality. In the context of strong policy promotion and increasing social demand, the construction of city parks has become increasingly critical. They not only carry the leisure needs of citizens but also play a vital role in the green development of the city. Through analyzing visitor feedback, it is found that the key factors influencing the recreation experience in city parks include green space area and activity scope, transportation accessibility, diversity of park functional facilities, and environmental quality. These factors affect visitors' physiological and psychological feelings from different dimensions, thereby determining the quality of the recreation experience. Based on the above analysis, strategies with strong pertinence and operability, such as optimizing the spatial layout of green spaces, improving transportation accessibility, enriching park functional facilities, and strengthening environmental quality management, can effectively enhance the quality of recreation experiences and meet the growing leisure demands of citizens. In the future, with urban development and the continuous increase in residents' needs, further research is still needed to improve the recreation experience in city parks. On the one hand, attention should be continuously paid to the application of new technologies in park construction and management, exploring how to better utilize technologies such as the Internet of Things and artificial intelligence to optimize the recreation experience. On the other hand, in-depth research can be conducted on the differentiated needs of different cultural backgrounds and social groups for recreation experiences, providing more precise theoretical guidance and practical suggestions for the refined and personalized development of city parks, promoting deep integration between city parks and urban life, and achieving sustainable urban development.

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