



# Analysis of the Current Situation and Optimization Strategy of Fitness Space in Urban Comprehensive Parks

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## Abstract

Urban comprehensive parks are important places for urban residents to engage in outdoor fitness exercises. In the context of national fitness, whether urban comprehensive parks can meet the exercise needs of residents is particularly important. This article takes the People's Park in Chengdu as an example and conducts research and analysis on the fitness space in the park through on-site research and literature analysis. It is found that the overall number of existing fitness facilities in the park is insufficient, and the setting of fitness paths is unreasonable. Based on the current situation of the problems, optimization suggestions are proposed: activity venues should be reasonably divided, fitness facilities should be added, and safety hazards should be eliminated, to provide certain reference and reference for the design of fitness spaces in future urban comprehensive parks or various parks.

## Subject Areas

Urban Planning

## Keywords

National Fitness, Comprehensive Park, Fitness Space, Chengdu People's Park

## 1. Introduction

With the rapid development of China's economy and the acceleration of urbanization, social progress has brought earth shaking changes to people's lives. But at the same time, it also faces new challenges such as population aging and sub health issues [1]. In 2016, the State Council issued the "Healthy China 2030" Plan Outline, which put people's health in a strategic position of priority devel-

opment, emphasized the improvement of the public service system for national fitness, widely carried out national fitness activities, improved the physical fitness of the whole people, and promoted the popularization of national fitness into daily life [2].

Due to its large area and abundant fitness activities, comprehensive parks are a common choice for urban residents to engage in outdoor fitness activities. This article selects representative people's parks in Chengdu for research. The People's Park has a beautiful environment and is an important place for nearby residents to engage in fitness activities. A good fitness environment and suitable venue facilities can enhance residents' enthusiasm for fitness; Scientific and comprehensive facilities can also enhance residents' sense of exercise experience, in order to achieve the goal of relaxing their body and mind and improving their physical fitness [3]. Therefore, it is particularly important to identify the existing problems in the fitness space of People's Park and optimize and improve it.

## **2. Current Situation Analysis**

### **2.1. Overview of the Park**

The Chengdu People's Park has a history of over 110 years since its construction in 1911. The park is located at No. 12 Shaocheng Road, Qingyang District, Chengdu. It is a comprehensive urban park that integrates gardens, cultural relics, and leisure and entertainment. The main functional areas of the People's Park include: Dongshan Area, Long Corridor Area, Railway Protection Movement Monument Area, Square Area, Artificial Lake Area and Children's Park Area.

### **2.2. Fitness Space Type**

Through the summary of relevant literature and field investigations of multiple parks, it can be seen that although the form and distribution of fitness spaces in different parks are different, the types of fitness spaces and fitness activities conducted on a large scale are similar. Through sorting and summarizing, the types of fitness spaces can be divided into three types: comprehensive collective fitness spaces, path exercise fitness spaces, and specialized exercise fitness spaces [4].

### **2.3. Analysis of the Usage of Fitness Space**

#### **2.3.1. Comprehensive Collective Fitness Space**

The comprehensive collective fitness space of People's Park is mainly located in the Baolu Memorial Square and Dongshan area. Baolu Memorial Square is located near the east gate, with a wide transportation boundary and a large area. Dongshan is located on the southwest side of the park, with significant terrain fluctuations. According to research, most middle-aged and elderly people exercise here, and fitness activities such as Tai Chi, spline, square dance, and badminton are all conducted simultaneously in this area. There are a large number

of people participating in fitness exercises and there is a competition for venues compared to Tai Chi activities. Although the space is large, due to the lack of functional division of venues, the order within the space is not strong, and various fitness activities cannot be carried out well as shown in **Figure 1**.

### **2.3.2. Path Sports Fitness Space**

The path sports and fitness space mainly refers to the garden roads within the park, which are distributed in a curved and circular pattern. The plant landscape on both sides of the garden road is rich in terrain changes, with strong ornamental plants such as cedar, ginkgo, white pine, purple leaf plum, red leaf heather, and French holly planted. By changing the number of trees and shrubs and the distance from the road, different spatial feelings are created, with a clear and open forest lawn landscape as the main focus, providing users with a simple and open spatial atmosphere. Fitness enthusiasts can engage in activities such as running, brisk walking, and walking. There are more fitness enthusiasts participating in night running in the park, and many fitness enthusiasts say that the shading effect on both sides of the road is good, but they lack certain rest facilities and information signage facilities. Their role in guiding fitness enthusiasts to adhere to exercise psychological cues is weaker, and the fitness atmosphere needs to be improved. Some fitness enthusiasts have expressed that intelligent fitness facilities can be used on both sides of the road, and scanning the QR code on the screen can see real-time fitness mileage and rankings, making the sports environment more enjoyable and valuable. Fitness enthusiasts say this measure can effectively motivate themselves to persist in exercising as shown in **Figure 2**.

### **2.3.3. Specialized Sports and Fitness Space**

There is a lack of specialized sports and fitness spaces in the People's Park, such as badminton courts, table tennis courts, fitness equipment courts, etc. During the field research process, it was found that fitness enthusiasts who want to engage in ball games such as badminton can only engage in activities in the corner gaps of squares or parks. The venue is hard, and all facilities such as tennis nets need to be brought with them. At the same time, occasional pedestrians may pass by during the exercise, which can easily cause safety accidents. Various types of sports are carried out simultaneously on the same venue, resulting in significant interference between various fitness activities. This is also the issue that fitness enthusiasts reported the most during the research process as shown in **Figure 3**.

## **3. Analysis of Main Issues**

The existing problems in the fitness space of Chengdu People's Park mainly include the unreasonable distribution of sports space, overcrowding of fitness space, and the outdated facilities and low utilization rate in the children's activity area of the park, which occupy people's activity space; The setting of fitness paths is unreasonable and lacks guidance, and the flow lines of the paths interfere with each other; Insufficient quantity of basic service facilities, uncomfortable



**Figure 1.** Comprehensive collective fitness space.



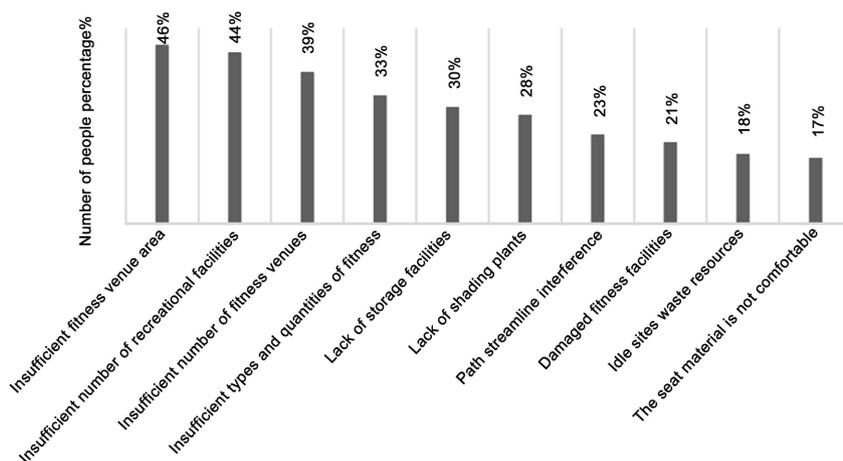
**Figure 2.** Comprehensive collective fitness space.



**Figure 3.** Comprehensive collective fitness space.

materials, low usage rate of metal seats, and lack of storage facilities have led to problems such as tourists hanging their personal belongings on the branches of trees, not only damaging the ecological environment of the park, but also the risk of objects falling and injuring visitors.

The survey targets fitness enthusiasts in the park, with a total of 200 questionnaires distributed, of which 172 are valid. According to the statistical results of the survey questionnaire (**Figure 4**), 46% of residents expressed that the fitness space is crowded and insufficient, which is the most common problem raised by residents, indicating that the insufficient area of fitness venues is an urgent problem to be solved in the fitness space problem. 44% of residents reported that there are too few rest facilities in the fitness space. 39% of residents reported a lack of professional fitness facilities, while 33% believed that the types and quantity of fitness facilities were insufficient. 28% of residents believe that the fitness environment lacks shading plants. 21% of residents believe that



**Figure 4.** Plan of Chengdu People's Park.

fitness facilities are damaged and affect their use. 17% of residents believe that metal and large area stone seat materials are uncomfortable. Residents also mentioned issues such as unsafe ground conditions in fitness venues.

## 4. Optimization Strategy

### 4.1. Optimization Strategies for Sports Venues

Considering that there are many types of fitness activities in the comprehensive collective fitness space and various activities are carried out together, which can easily interfere with each other, fixed activity areas can be divided for various activities. Signs, signs, bulletin boards, and other facilities can be added to the designated areas to guide residents to use them in an orderly manner. Separate the Tai Chi activity from the fitness exercise venue to avoid mutual interference from the sound system. Small scale activities such as splines and sandbags can be moved to other areas. Badminton and diabolo activities can be carried out within the designated venue line, and hiking activities can be carried out on the health trail of the park to avoid excessive competition for the venue and invasion of park green spaces, garden roads, and other functional land occupied by fitness enthusiasts. At the same time, small forest spaces will be opened up and recreational tables and chairs will be added to meet the needs of activities such as playing chess and cards [5].

### 4.2. Optimization Strategies for Sports Facilities

One way to meet the needs of fitness enthusiasts for sports facilities is to use idle spaces to set up fitness equipment and ball sports facilities, thereby increasing land use efficiency. The current space for children's activities is relatively small, and the activity facilities are relatively single. It should be moderately expanded, and various children's activity facilities can be added to a large open space in the center of the venue. According to Erikson's social cognitive development theory

and Freud's psychological development theory, children are divided into three levels: 0 - 3 years old, 3 - 6 years old, and 6 - 12 years old [6]. There are different psychological activities at different stages, and children aged 3 - 6 have a strong curiosity and adventurous mentality. A certain exploratory space should be set up to meet the needs of children playing with friends. Children aged 6 - 12 are more inclined to engage in some stimulating sports activities, such as climbing racks, trampolines, rope nets, etc. The installation of such facilities places more emphasis on safety issues, and should have sufficient safety measures and dedicated personnel to supervise and accompany them.

### 4.3. Optimization Strategies for Fitness Safety

To ensure sports safety, the ground of various fitness spaces should be solid and flat, free from obstacles and obvious large cracks. And the floor of the path exercise fitness space should be paved with professional greenways, which are elastic and cushioned, helping to provide some cushioning for fitness enthusiasts during the exercise process and avoid sports injuries.

Security measures such as cameras, fences, and warning facilities need to be installed in the dead corners and unsafe areas of the fitness space in the park to ensure a safe environment for fitness activities and prevent robbery and theft incidents. Install railings and warning facilities in areas prone to accidents, such as water edges, to increase safety factors.

## 5. Conclusion

A comprehensive park is a popular activity venue for outdoor sports among urban residents. The design of the fitness space in a comprehensive park should start from the needs of the people, the usability and functionality of the venue, integrate various forms and specifications of sports facilities, follow the trend of the times, and develop diversified, distinctive, and personalized national fitness paths. The full utilization of fitness space value can truly realize the core value of the public sports service system, effectively meet the needs of the masses, truly serve the fitness activities of the people, and improve the physical fitness of the whole people.

## Conflicts of Interest

The author declares no conflicts of interest.

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