Research on the Construction of Rehabilitation Landscape Evaluation System of Guangdong Urban Parks

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Abstract: The rehabilitation landscape of community parks can effectively improve the health of residents in all aspects by promoting moderate exercise, stimulating multiple sensory experiences, and enhancing social communication. At present, the evaluation of the rehabilitation landscape of community parks has not established a relatively complete system. The author uses the analytic hierarchy process to construct the evaluation model of the rehabilitation landscape of Guangdong community parks, decomposes and simplifies the complexity of the evaluation of the rehabilitation landscape of community parks, and realizes the quantitative study of non-quantitative factors.

1. Introduction

The process of urbanization in China is accelerating, bringing many conveniences to people's lives, but also bringing many negative effects on people's health. According to statistics, healthy people and disease patients each account for 15% of the total population, and sub-healthy people account for 15% of the total population. For 70% of the total population, the sub-health rate in Guangdong is as high as 75.31%, ranking first in the country. In 2012, China's elderly population reached 194 million, and the aging level reached 14.3%. As an important part of the urban green space system and municipal public facilities, park green space is closely related to people's daily life. The concept of healthy design is incorporated into the park design to provide people living in noisy and noisy urban environments with a respite and rest. A place where people can release themselves through contact with garden elements, thereby improving their physical and mental health.

2. Concept of Rehabilitation Landscape

The sleeping garden of the ancient Greeks, the military hospital of the ancient Romans, and later medieval European monastery gardens, Japanese Zen gardens, Chinese classical landscape gardens, etc., are all garden landscapes that have helped the body and mind healing, which can be regarded as the prototype of the rehabilitation landscape. Modern rehabilitation landscape, English is Healing landscape or Thera-putic landscape. Different people often define the rehabilitation landscape from different angles, but they all emphasize its role in restoring, maintaining, and promoting health. The rehabilitation landscape can include the affiliated green areas of hospitals, nursing homes, horticultural therapy gardens, and sensory gardens in park green areas. As a form of landscape, it can be extended to communities, parks, and even cities without being restricted by medical institutions. This article limits the scope of research on rehabilitation landscapes to parks, and defines rehabilitation landscapes as the use of garden landscape elements to create a landscape environment that can restore or maintain and promote health. In the environment of the rehabilitation landscape, the user and the landscape can interact well. The sensory system obtains the original information, and the information is transmitted to the brain through the nervous system. The brain processes the information and directs the endocrine and immune system to work, thereby reducing the body to a certain extent. It can relieve stress, improve human body functions, enhance comfort and health, and promote physical and mental health.

3. Types of Rehabilitation Landscapes in the Park

According to the different people targeted, the rehabilitation landscape in the park is mainly divided into three categories: one is the rehabilitation landscape for vulnerable groups such as the elderly, children, pregnant women, etc., and fully consider the physiological and psychological characteristics of these people to meet their behavioral needs , To improve their quality of life; one is the rehabilitation landscape for the disabled and patients, to increase their attention so that they can enjoy the public green space; the other is the rehabilitation landscape for the sub-health and healthy people, to provide them with relaxation Resting space to restore or continue to maintain health.

According to the different ways of user participation, the rehabilitation landscape in the park is mainly divided into two categories: one is a practical rehabilitation landscape that focuses on physical activities such as gardening practice, such as the "lush" garden in London's Battersea Park It is the first horticultural therapy garden specifically built for the disabled in the UK; the first type is a sensory experience-based rehabilitation landscape focusing on the stimulation of the five senses, such as the Toa Payoh Sensory Garden in Singapore, which is based on the five senses. Partitioning brings people an extraordinary feeling and experience. Both types can exist in the rehabilitation landscape environment. For example, the Biele Experience Garden in the Chicago Botanic Garden in the United States consists of two areas: a practical operation area and a five-senses experience area, which can meet the needs of different users.

The rehabilitation landscape in the park is an important part of the green space of the park, and its planning and layout should be rationally arranged according to the natural environment and the internal functional needs of the park. Make full use of the beneficial health factors in the surrounding environment, and try to choose the site in an area with beautiful scenery, quiet environment and pleasant climate, away from air, water quality, noise and other pollution. The accessibility should be strong so that as many city residents as possible can reach it easily and quickly. Handle the relationship between the various functional zones in the park to meet the activity requirements of people of different age groups and different health conditions. For example, Beijing Ditan Traditional Chinese Medicine Health Cultural Park was transformed from the Peony Garden in Ditan Park. Its overall planning layout highlights the theme of harmonious health preservation, and follows the orientation of the five elements, connecting the five elements (five internal organs) with water streams and land roads as meridians. Lung) area, wood (liver) area, water (kidney) area, fire (heart) area, soil (spleen) area, interspersed with cultural health, time health, exercise health, environmental health and other concepts and content, and collect health knowledge propaganda , Interactive experience and leisure and entertainment in one.

Different people have different psychological needs for the degree of space privacy. The rehabilitation landscape environment can be divided into open, semi-open and closed private spaces according to needs. For people who need to carry out cultural entertainment, interpersonal communication and other activities, open spaces can be set up, and some fitness playgrounds, playgrounds, leisure squares, etc. can be arranged to increase the chances of communication, stimulate communication between people, and relax through communication , And at the same time through certain exercises, such as Tai Chi, etc. to enhance people's physical fitness. For people who need a quiet rest, a closed and private space can be set up to enhance their sense of domain and belonging, and obtain spiritual comfort. Some semi-open spaces can also be set up to give people a relative sense of security and meet people's psychological safety needs.

The architectural design in the rehabilitation landscape should not only pay attention to the function of the building, but also integrate a certain rehabilitation concept, and explore the nature of the building's service to people and the spiritual care for people. The volume and layout of the building should be reasonable so that people can reach it easily. The choice of building materials, communication systems, and barrier-free design should reflect the concern for the physical and mental health of users. In particular, the design of the space scale in the building should be pleasant, and truly achieve the harmony and unity of man, architecture and nature. In addition, the health building in the rehabilitation landscape should also reflect the business environment, focusing on

the integration of multiple environmental qualities such as space environment, cultural environment, and landscape environment. For example, the health building in the Yuehe Garden of the Beijing Ditan Traditional Chinese Medicine Health Cultural Park: the growth gallery, the health workshop, and Xinglin Wencha, all of which do this well. The growth gallery promotes the culture of traditional Chinese medicine in the form of painting creation, relief and display panels, which is close to the public and easy to understand. The Health Shop integrates health care, interactive interpretation, and sales. It invites experts in traditional Chinese medicine to introduce health care culture, set up a number of traditional Chinese medicine health care experience projects, and practice and experience health care culture and appropriate technology. The overall space of Xinglin Wencha is decorated as an ancient Chinese medicine room, which can carry out humanistic performances in the process of prescribing, grasping medicine, and pharmacy, and let people understand the concept of health preservation through tea culture. In the garden road design of the rehabilitation landscape, the terrain should meet the needs of people of different ages and different physical conditions to walk easily. Set up as many flat roads as possible, and set less slope roads. If you encounter special terrain, set barrier-free passages to facilitate the special Crowd use. When the slope of the park road is greater than 8%, taking into account the needs of people with limited mobility for a short rest, it is best to set up a rest platform every 10-20m. In terms of color, according to the principles of color psychology, the colors of road paving should be mainly pleasant warm colors, and avoid cool colors such as gray and blue. At the same time, the safety of the park road should be considered, and waterproof, anti-skid, and anti-glare treatment should be done. Waterproof, polished hard paving or ecological paving such as grass-embedded bricks and permeable bricks can be used. The park road can also be used to build a fitness trail system for visitors to perform sports such as running and walking. One of the representative ones is the runway walkway in Beijing Olympic Forest Park. It has a total length of 18km and a width of 1.2m. It consists of three runways of 3, 5, and 10km in length. The whole park is distributed in a ring shape, providing visitors with A venue for fitness sports such as running and walking. The trail connects multiple important nodes in the park at the same time, so that bodybuilders can enjoy the surrounding scenery while exercising. Corresponding rest facilities are set up at each important node to provide a place for bodybuilders to rest and relax.

4. Guangdong Community Park Rehabilitation Landscape Evaluation System

The Analytic Hierarchy Process, abbreviated as AHP, is a process in which evaluation factors are simplified into several factors through a hierarchical processing method, and a model is established to assign weights to each evaluation factor. The outstanding feature of this method is that it can simplify complex problems, decompose complex evaluation targets into many next-level evaluation factors, and analyze on simple factors. It is a process of qualitative and quantitative comprehensive application. At present, it is widely used, but the Analytic Hierarchy Process has not been seen in the evaluation of the status quo of rehabilitation landscape in community parks.

The construction of evaluation indicators should follow the principles of scientificity, comprehensiveness, clarity, and universality, and be determined through methods such as expert inquiry, literature review, mathematical analysis, and exploratory practice research. Exploratory practice research method is to first conduct questionnaire surveys, interviews and observations on various aspects of the evaluation target and user groups through specific practices, and obtain indicators that are most suitable for the user and evaluator's environment. This method is the most widely used establishment. Method 4 of the index system. The selection of evaluation factors for the rehabilitation of community parks should not only consider the universality of community park users, the diversity of functions, and the richness of activity behaviors, but also the manifestation of rehabilitation landscapes in community parks. The above-mentioned types and expressions of the rehabilitation landscape in community parks are the conclusions drawn by integrating the exploration and practice research method, the literature synthesis method, and the expert consultation method, as well as the rehabilitation activities of the residents of the community park and the rehabilitation landscape types of the community park The overall result. Therefore, it is

used as an evaluation model factor of the rehabilitation landscape evaluation system. The evaluation model of the rehabilitation landscape of community parks is composed of three levels, namely the target level (A), the criterion level (B) and the plan level (C). The first target layer (A) is a comprehensive evaluation system for the current status of the rehabilitation landscape in Guangdong community parks, and it constructs a rehabilitation landscape optimization model system; the second layer of criteria (B) selects five types of community park rehabilitation landscapes As a comprehensive evaluation criterion; the third plan layer (C) is to evaluate the manifestation of the rehabilitation landscape of the community park.

In the evaluation of various factors, the landscape effect is used as the evaluation standard factor, and the better the landscape effect is perceived by humans, the higher the score; for some factors that use quantity and abundance as the evaluation standard, the more the number of similar facilities or landscapes, the higher the score. high. A unified score of 2 to -2 for each evaluation factor in the rehabilitation landscape of community parks, representing very good, good, average, bad, and very bad respectively. The specific evaluation criteria are as follows. Meditation environment: The quiet space atmosphere is comprehensively counted according to the number of private or semi-private spaces in the community park. The more the number, the higher the score; the comfortable rest environment is based on the shade effect of summer plants in the rest environment of the community park and the materials of the rest facilities Decide together, the more pleasant the overall environment, the higher the score. The beautiful landscape focus is evaluated according to the number of focus points with better landscape effects in the rest environment of the community park. The landscape effect is evaluated by the perceived actual feeling. The more landscape focus points, the better the effect, and the higher the score. Sensory experience environment: The evaluation of the visual sensory experience environment is based on the richness of the visual experience environment in the community park. The stronger the richness, the higher the score. The visual sensory experience environment here is mainly determined by the quantity and quality of ornamental plants and spot scene sketches. The higher the number of ornamental plants such as flower viewing, leaf viewing, fruit viewing, and point view sculptures in the park, the higher the score; the evaluation of the auditory sensory experience environment is based on the number of auditory experience environments in the community park. The more the number, the higher the score. Because the auditory experience produced by plants in the park is easily overlooked, the auditory experience environment is generally the auditory theme garden in the park, or landscapes and sketches that can produce pleasant sounds, such as water drops, musical fountains, etc.; the olfactory sensory experience environment the evaluation is based on the number of aromatic plants in the park. The higher the number of aromatic plants, the higher the score; the evaluation of the tactile sensory experience environment is mainly based on the number of touchable landscapes in the park, and only the touchable landscape environment is considered in the evaluation. , Such as scenery walls, plants, etc.

Horticultural therapy environment: The evaluation of the operable planting environment is based on the number of such environments in the community park, the more the number, the higher the score; the horticultural science environment is based on the number of such environments in the community park, the more the number is Higher. Fitness environment: The evaluation of fitness facilities is based on the number of fitness facilities in the community park, the more the number, the higher the score; the evaluation of the running track is based on the suitability of the design and material use of the running track in the community park, the stronger the suitability The higher the score; the suitability of the promenade design and material use is the basis, the stronger the suitability, the higher the score; the evaluation of professional courses is based on the number of courts in the community park, the more the number, the higher the score; the children's activity facilities The evaluation is based on the number of children's activity facilities in the community park. The more the number, the higher the score; the evaluation of the multi-functional activity field is based on the number of the multi-functional activity field in the community park. The more the number, the higher the score. Recreational environment: The evaluation of recreational lawns is based on the availability and maintenance of lawns in community parks. The better the situation, the

higher the score; the scores of dense forests in community parks are based on the area of dense forests. The larger the area of dense forests, the higher the score. High; The evaluation of the landscape water surface is based on the comprehensive performance of the water surface area and landscape in the community park. The larger the area, the better the landscape effect, the higher the score.

5. Conclusion

The method discussed in this article can be applied not only to the evaluation of a single park, but also to the horizontal and vertical comparison of the current rehabilitation landscape of multiple community parks. In the evaluation results, not only the current situation of the rehabilitation landscape of the community park can be seen, but also the evaluation results of all levels of indicators can be seen, and suggestions for improvement can be put forward. The establishment of a community park's rehabilitation landscape model and the determination of the weight of each indicator can provide a reference for the design and construction of this type of landscape, which is of great significance to the overall improvement of the landscape level. The weights in this model are determined based on the degree of user needs, and changes in user needs will directly lead to changes in the evaluation results, giving the evaluation system timeliness and making its future development have sustainable value.

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