

A Study on Elderly-friendly Park Landscape Design with an Emphasis on Emotional Healing

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Abstract. With the growing trend of population aging, parks, as an essential part of urban green space play an increasingly significant role in the daily lives of the elderly. Parks are not only good places for the elderly to take leisurely walks, but also important venues for social, cultural, and physical activities. Therefore, a deep understanding of the elderly's expectations and needs for park landscapes is crucial for optimizing park design and enhancing the quality of park services. This article aims to study the design of elderly-friendly park landscapes with an emphasis on emotional healing. By analyzing the psychological needs of the elderly and combining park landscape design concepts, it explores how to create park landscapes that are in line with the characteristics of the elderly's life and have emotional healing functions. This study adopts a combination of literature review and case study methods, analyzes the current issues in park landscape design, and proposes corresponding optimization strategies. The research results show that elderly-friendly park landscape design with an emphasis on emotional healing can enhance the quality of life and happiness of the elderly, which is of great significance for building an elderly-friendly society.

Keywords: emotional healing, elderly-friendly park, landscape design, the elderly, quality of life

1. Introduction

Population aging is one of the world's key challenges, and China has undergone a rapid demographic transition in the past few decades (as shown in figure 1)^[1]. With the advent of an aging society, the quality of life and mental health of the elderly are receiving increasing attention. Currently, the number of elderly people in China stands at 212 million, and it is expected to reach 480 million by 2060, with an aging level of 15.5%. However, as social changes accelerate, contemporary elderly people are lagging behind in terms of life skills, gradually becoming socially alienated, experiencing less family companionship, and a decline in their life motivation and sense of control. They also face three major difficulties in their living environment: a sense of disappointment with their surroundings, a lack of control over their daily scenarios, and a sense of loss of life value. The larger the elderly population, the higher their health needs, concerns, and urgency. Due to the gradual increase in education levels and consumption capabilities, coupled with a more liberal consumption mindset, contemporary and future elderly individuals have higher expectations for the quality of life in their later years.

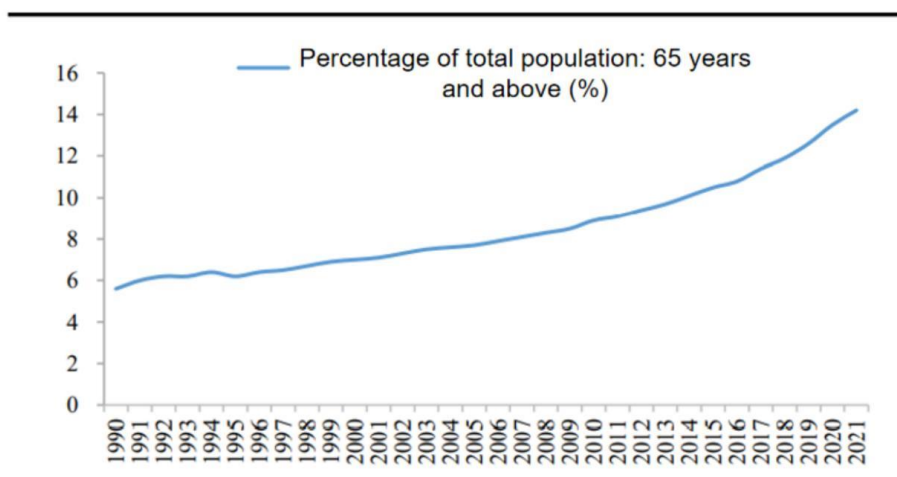


Figure 1. Growth trend of the proportion of people over 65 in China

(Data source: National Statistical Yearbook, The seventh national population census)

2. Emotional healing theory and its role in landscape design

2.1. Main content of emotional healing theory

Emotional healing theory covers a variety of methods and strategies aimed at helping individuals cope with and heal negative emotions. Through cognitive restructuring, emotionally-focused therapy, rational emotive behavior therapy, and other approaches, individuals can reshape positive cognitive and emotional patterns^[2]. Additionally, the restoration of intimate relationships and emotional impact therapy focus on improving interpersonal relationships and addressing deep-seated psychological issues. Moreover, emotion regulation strategies and psychodynamic therapies provide individuals with practical tools and methods to promote emotional balance and personal growth. The goals of these emotional healing methods are to assist individuals in achieving emotional stability, enhancing quality of life, strengthening self-awareness and coping abilities, and restoring damaged intimate relationships. In practical applications, it is essential to select suitable methods based on the individual's specific realities and needs, and to implement them under the guidance of professionals. Through emotional healing, individuals can gradually emerge from psychological difficulties and move towards a healthier and more fulfilling life. The cognitive restructuring theory in emotional healing focuses on changing individuals' negative evaluations and perceptions of events to reshape positive cognitive patterns. Through cognitive restructuring, individuals can re-examine past experiences, reduce the impact of negative emotions, and enhance their confidence and coping abilities. Emotionally-focused therapy emphasizes direct experience and expression of emotions, promoting emotional release and healing by focusing on and accepting negative emotions. This approach helps individuals gain a deeper understanding of their emotional needs and establish healthier ways of expressing emotions. Rational emotive behavior therapy focuses on individuals' irrational beliefs and attitudes towards events, guiding them to establish more rational and realistic thinking patterns by questioning and challenging these unreasonable concepts.

2.2. The role of emotional healing theory in landscape design

First of all, the theory of emotional healing emphasizes touching people's emotions through art, nature and other ways to release and dissolve emotions. In landscape design, this theory can be used to create a healing environment through the combination and collocation of landscape elements such as plants, water bodies and sculptures. For example, using the color, form and aroma of plants to create a peaceful and comfortable space atmosphere; A sense of peace and relaxation through the flow and sound of the water; With the help of sculptures and other works of art, it can arouse people's thinking and emotional resonance. Secondly, landscape design can be customized for the emotional needs of different people. According to the theory of emotional healing, people of different ages, occupations and cultural backgrounds may have different emotional needs and ways of healing. Therefore, in landscape design, these differences can be fully considered to provide a suitable healing environment for different groups of people. For example, the design of fun and exploratory play space for children, the design of quiet and comfortable leisure space for the elderly, the design of a relaxing space for people with high work pressure to relieve pressure and so on. In addition, landscape design can also enhance people's emotional experience and mental health by creating an interactive relationship between people and nature. For example, the design of interactive landscape facilities, such as touch plant walls, interactive water features, so that people can personally participate in and experience the charm of the landscape. At the same time, through the guiding and hinting role of the landscape, it helps people to establish a positive attitude towards life and a healthy lifestyle.^[3]

3. Analysis of psychological needs and park use behavior of the elderly

3.1. Psychological characteristics of the elderly

(1) Changes in self-cognition

As the elderly age, their physical functions gradually decline, and this physical change also brings psychological effects. They may become more aware of their health and feel more emotional and reflective about the passing of life. At the same time, due to the change of social roles, the elderly may have a "sense of worthlessness" and need more social identification and self-worth realization.^[4]

(2) Decreased emotional stability

Older people are often more prone to mood swings in the face of changes and challenges in their lives. They may feel depressed or anxious because of small things, or they may feel lonely and helpless because they can't adapt to their new lifestyle. This emotional instability needs more understanding and support from family members and society.

(3) Decline in memory and cognitive abilities

As people age, their memory and cognitive abilities gradually decline. This can cause them to have more difficulty processing information and solving problems, requiring more patience and help.

3.2. Expectations and needs of the elderly for park landscapes

(1) A leisurely walking environment

On the one hand, the elderly not only seek physical relaxation in the park, but also expect to be able to participate in various cultural activities. They hope that the park can provide some places for cultural activities, such as opera performance areas, painting and calligraphy exhibition areas, so that they can show their talents and exchange ideas. Therefore, in the design of the park, appropriate space should be reserved as a place for cultural activities, and equipped with necessary facilities to meet the cultural needs of the elderly. On the other hand, one of the expectations of the elderly for the park is to have a beautiful leisure walking environment. They wanted the roads in the park to be wide, smooth and unobstructed, while being able to enjoy beautiful natural scenery. Therefore, in the design of the park, attention should be paid to the planning and layout of the road to ensure that the elderly can walk safely and comfortably. In addition, you can also set up some landscape pieces in the park to increase the interest and enjoyment of the park.

(2) Complete infrastructure

First of all, seats are one of the important facilities for the elderly to rest in the park. They expect to find comfortable seats in all corners of the park so that they can relax at rest. Therefore, the park should rationally layout the seating facilities, and consider the physical characteristics of the elderly, choose ergonomic seat design to ensure the comfort and durability of the seats. Secondly, with the growth of age, the elderly have an increasingly strong demand for fitness exercises. They hope to find fitness equipment and venues suitable for themselves in the park, and carry out appropriate exercise. Therefore, the park should set up some fitness facilities suitable for the elderly, such as Taiji square, fitness walk, etc., and pay attention to the safety and ease of use of facilities. Finally, safety facilities are another important expectation of the elderly for the park. They want the park to provide good security to ensure that their activities in the park are safe. Therefore, in the design of the park, attention should be paid to the setting of safety protection facilities, such as the addition of safety guardrail, non-slip ground treatment, etc., to improve the safety of the elderly.

(3) User-friendly navigation system

In order to facilitate the elderly to visit and activities in the park, a perfect humanized guide system is also essential. This system can include clear signs, maps and audio guides to help the elderly better understand the structure, functions and features of the park, so that they can enjoy the park more freely. In addition, the elderly will also hope that the park in the shade of trees, flowers, can breathe the fresh air, feel the peace and beauty of nature. Therefore, in the design of the park, we should increase the planting of green vegetation, pay attention to the selection and collocation of plant types, and form a rich and diverse plant landscape.

4. Design principles and strategies for elderly-friendly park landscape design with an emphasis on emotional healing

4.1. Design Principles

(1) Safety design

Safety is the first principle of age-appropriate park design. In landscape design, the physical characteristics and behavioral habits of the elderly should be fully considered, and potential safety hazards such as setting too steep ramps and sharp corners should be avoided. At the same time, the use of anti-slip, anti-collision and other safety materials, set up obvious safety warning signs to ensure the safety of elderly activities in the park.

Take Hunter's Point South Waterfront Park Phase II for example, which has made many innovations in safety design. The walking path in the park is spacious and flat, and it is equipped with obvious signs and signage to facilitate the elderly to identify the direction. In addition, the park has also set up a number of rest booths and seats to facilitate the elderly to rest at any time during the walking process. At the same time, the vegetation configuration in the park is also very particular, which not only ensures the beauty of the landscape, but also ensures the fresh air and smooth ventilation. In terms of emotional healing, the park also has a number of evocative landscapes and interactive facilities. For example, some landscape nodes are designed to be familiar scenes or objects for the elderly, so that they can evoke good memories during the visit. At the same time, the park also sets up some interactive facilities, such as musical fountains, interactive sculptures, etc., so that the elderly can feel fun and vitality in the process of participating in the interaction).



Figure 2. Schematic plan of Hunter's Point South Waterfront Park Phase II^[5]

(2) Elderly-friendly facility planning

Aging facilities planning is the key to enhancing the park experience. In the choice of facilities, the use habits and needs of the elderly should be taken into account, such as the setting of seats with armrests, and the height of the wash basin. In addition, the layout of the facility should also be convenient for the elderly to use and rest, to avoid the inconvenience of walking or climbing for a long time.

Japan entered the aging society earlier than China, and has made very valuable achievements in age-appropriate landscape design. It is in the forefront of humanized detail design and spiritual construction. The created space is everywhere reflected in the delicate attention to the physical and mental characteristics of the elderly, and the strengthening of cultural identity.

In the concept of nursing service in Japan, great attention is paid to the maintenance and rehabilitation of the elderly's own ability. Therefore, in the design of rehabilitation garden, we try to guide the elderly to exercise their own ability unconsciously through the detailed design.

For example, in Chiyo's rooftop garden promenade, the paving near the entrance is marked with the words "50 meters starting point". According to the designer, this is taking into account that most Japanese male elderly people have strong goals, the length of the walking path is marked, the elderly can calculate their own amount of exercise, and even make some goals or plans, so as to mobilize the enthusiasm of the elderly exercise. Some roads also have the use of colored glass marbles and pebbles on the pattern, not only to increase interest, but also to allow the elderly to walk barefoot, to massage the role of the sole points.

In addition, in order to promote the interaction between the elderly and others, the landscape design has set up a rest space to talk with relatives and friends; For the elderly who prefer to be alone, there will also be a quiet space.^[6]



Figure 3. Chiyo's rooftop garden promenade in Japan

(3) Emotion-driven spatial layout

The emotional space layout aims to create a warm and comfortable atmosphere for the elderly to find a sense of belonging and security in the park. Through the clever use of color, light and shadow and other design elements, to create a peaceful and peaceful environment. At the same time, some landscape nodes with commemorative significance or cultural characteristics are set up to stimulate the emotional resonance of the elderly.^[7]

Warm colors are a space for outdoor activities

Due to the deterioration of the visual system of the elderly, the delicate and colorful colors with high saturation are easy to stimulate their visual senses and stimulate the elderly's desire for outdoor activities

- Stimulate brain nerve
- It helps to distinguish space, form memories, and arouse the desire to move



Figure 4. Focus on color design

(4) Integration of natural landscapes

The integration of natural landscape helps to enhance the ecological value and aesthetic value of the park. In landscape design, natural elements such as terrain and vegetation should be made full use of to create a natural landscape with rich levels and diverse colors. At the same time, attention is paid to the coordination and echo with the surrounding environment, making the park an important part of the city's green lung.

(5) Social interaction design

Social interaction is one of the important needs of the elderly in the park. In landscape design, a variety of social interaction Spaces should be set up, such as chess and card areas, exchange squares, etc., to provide a platform for communication and interaction for the elderly. At the same time, various cultural and sports activities are held to enhance the friendship and contact between the elderly.

(6) Barrier-free access guarantee

Barrier-free access is an important part of the design of age-appropriate parks. In landscape design, the mobility of the elderly should be fully considered, and facilities such as barrier-free access and ramps should be set up to ensure that the elderly can easily enter and leave the park. In addition, the signage system in the park should also be clear and easy for the elderly to identify and navigate.^[8]

Clear, clear and visible sign system

A good logo is a human. The identification system should fully combine the physiological characteristics of the elderly's eyesight decline and visual perception ability, so as to be concise and easy to recognize

- Through the deployment of color to convey effective information, pay attention to the color and the environmental background to open the gap
- Avoid thin lines, and font and graphic proportions should be easily recognizable
- Choose materials to avoid reflecting light



Figure 5. Explicit identification system

4.2. Design strategies

(1) Creating a warm and cozy atmosphere

Emotional healing oriented park landscape design needs to consider the physical and mental needs of the elderly as well as social and cultural background. In the atmosphere design, on the one hand is the choice of color, you can use soft, natural colors, such as light green, light blue, etc., to create a relaxed and pleasant environmental atmosphere. On the other hand is the lighting design, the use of soft lights, set with emotional atmosphere of the lighting landscape, such as path lights, tree lights, etc., to provide the elderly with a safe and comfortable night activity environment.

(2) Creating an emotion-driven spatial layout

In terms of spatial layout, we can first set up commemorative landscape nodes, such as sculptures, monuments, etc., so that the elderly can feel emotional healing in the memory. Secondly, some interactive Spaces can be designed, such as parent-child parks, pet activity areas, etc., to encourage the elderly to interact with their families and pets and enhance emotional contact. In addition, the rich plant species can be used to create a well-structured green landscape, providing opportunities for the elderly to get close to nature. At the same time, choosing plants with healing effects, such as lavender and rosemary, can help relieve the stress of the elderly. Finally, you can set up appropriate water features, such as streams, ponds, etc., to increase the park's agility and appreciation. The design of

water features should take into account the safety needs of the elderly and avoid the design of too deep or too complex water bodies.

(3) Emphasizing social interaction design

On the one hand, open activity squares and exchange areas can be set up to provide a platform for the elderly to meet, chat and communicate, and various cultural, artistic and sports activities can be held regularly to attract the active participation of the elderly and enhance the friendship and contact between them. On the other hand, it is necessary to design a flat and spacious path for the elderly to walk. At the same time, set up obvious signs and guidance systems to help the elderly easily find the destination. At the same time, barrier-free facilities, such as ramps, handrails, etc. are set up at each entrance, exit and key nodes of the park to ensure that the elderly can enter and use the park's facilities smoothly. By focusing on social interaction design and strengthening barrier-free access design measures, we can provide a safe and comfortable, beautiful and practical park environment for the elderly to achieve the purpose of emotional healing.

According to the existing research results, we can find that many parks are planned and designed with a special focus on promoting social interaction among the elderly to improve their quality of life and happiness^[9]. First, create diverse social Spaces. Designers will design various types of social spaces according to the different needs and interests of the elderly. For example, the establishment of open lawn areas for group activities and group games for the elderly^[10]; A seating area with shading facilities is set up to facilitate daily communication and rest for the elderly; Create a special performance stage so that the elderly can show their talents and interests. Second, introduce interactive facilities and activities. Interactive facilities can stimulate the enthusiasm of the elderly to participate and promote exchanges and cooperation among them. For example, interactive fitness facilities in parks allow seniors to interact with others while exercising; Hold regular gardening activities or craft making classes that allow seniors to build friendships and connections while participating in the activities^[11]. Finally, focus on the emotional expression of landscape design. Designers will use natural landscape elements, such as water features, plants, sculptures, etc., to create a warm and harmonious atmosphere and stimulate the positive emotions of the elderly. At the same time, through the use of visual elements such as color and texture, the landscape is made more friendly and attractive, so as to attract more elderly people to participate in social activities in the park.

5. Conclusion

This study provides a useful exploration for improving the quality of life and happiness of the elderly through the research of the affective healing-oriented park landscape design. However, there are still some limitations in this study, such as small sample size and regional differences. Future studies can further expand the sample scope, consider the needs of the elderly under different regional and cultural backgrounds, and provide more comprehensive and in-depth guidance for the emotional healing oriented age-appropriate park landscape design.

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