Thinking about Healing Landscape Design from Environmental Psychology Perspective

Quying Wang, Julia Nerantzia Tzortzi
Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano, Milan, Italy
DOI: 10.32629/aes.v3i2.825

Abstract: With the rapid development of the economy and the improvement of people's living level, people's material conditions and activities are enriched at the same time, and the efficient living methods have also brought huge pressure to people. Life and work have led to the emergence of sub-health. What's more serious is that various diseases appeared. In severe cases, depression and other conditions may occur. Therefore, our physical therapy and psychological therapy are receiving more attention to the requirements of new effective medical tools. At the same time, world-wide problems are getting worse, medical care has become the major expenditure in many countries/regions, and it increase significantly as the average age increases. As a new type of garden, healing garden is gradually being adopted seriously. From a psychological point of view, people need a mental and physical healing environment. This article analyzes some of the effects of different environments on the mental and physical healing from the perspective of sensory (vision, hearing, smell, touch and other senses).

Keywords: healing, vision, taste, tactile, tearing

1. Introduction
Ageing is an inevitable global trend. Most countries have already entered into the ageing society for a few years. However, the number of nursing homes and nursing homes in many areas is not enough, and the quality does not meet the requirements.

At the same time, the sub-health conditions caused by the acceleration of urbanization are also increasing. Sub-health condition for young regeneration and increasing number of elder exist in the same time.

The purpose of this text is to try to combine horticultural therapy with interdisciplinary areas, such as environmental physiology, perceiving the sustainable design of the rehabilitation garden, and create a landscape environment that has the effect of healing.

Through the application of the concept of healing, the landscape has important social significance for daily life and has important significance for improving people's physical health and social health.

2. Overview of the healing garden
Healing garden is an innovation method to get healthy. The concept of healing is that in addition to efforts through the existing social and cultural factors, environment can also prevent disease, promote health, and restore emotional control.

The healing garden, also known as the health landscape, is a combination of landscape and healing medicine. It originated in the United States in the 1970s, it was not yet popular in China. Make use of outdoor space, including natural landscape and artificial landscape, is an excellent method to help users get healthy.

Promote activities in schools, rehabilitation centers, mental hospitals, nursing homes, prisons, and public places. In the nursing home, people can stimulate their senses, relieve stress through rest, watch, meditate and breathe, get rid of numbness and fatigue, and adjust psychological dysfunction.

Many people with physical resistance to drugs prefer to choose this way to relax their bodies. Eckerling (2010) pointed out that the purpose of repairing garden buildings is restoration, make people feel safe, less stressful, more comfortable.

Westphal (2000)[1] believes that the rehabilitation garden can provide patients with negative or positive opportunities to restore bodily functions. The focus is on the physical, mental and mental aspects or one of them to restore the overall health of the individual. Ulrich (2009) suggested that the rehabilitation garden should have a large number of green plants, flowers and water. It can provide treatment or benefit to most users.

3. Features of the healing garden
Healing gardens have appeared in the United States for nearly 30 years, and are also called healing gardens, therapeutic...
landscapes or medical gardens. In fact, the rehabilitation park has existed since ancient times. Since ancient Greece, the Sleeping Garden has been used as a medical staff, the arcade courtyard of the medieval monastery community. Open areas in the 14th and 15th centuries. In the 17th and 18th centuries, some hospitals began to pay attention to sanitation, air circulation and environmental comfort.

The concept of the sanatorium gradually developed in the 17th and 20th centuries, and people began to pay attention to their rationale.

After the First World War, the garden began to enter the hospital. After the Second World War, the garden of the hospital began to engage in horticultural treatment activities. After the middle of the 20th century, rehabilitation medicine, health medicine, and various articles and books on rehabilitation gardens.

Therefore, research on healing gardens has gradually matured. Main research content Including the current status, characteristics, users and planning of the rehabilitation garden, and research. The method uses multidisciplinary methods, such as science, landscape science, medicine, sociology, etc.

3.1 Reduce stress
Kaplan (1989)[2] and his wife proposed the famous theory of attention recovery from the viewpoint of reducing mental stress. (ART)

The core of ART is that the natural environment reduces stress and fatigue for people. Environmental physicist Professor Roger Ulrich[3] proposed the theory of reducing stress (SRT) in 1983. He believed that people's preference for a green environment is inherent early human response. In Roger Ulrich's observation in 1984[4], the patient living in the enclosure was looking outside the ward, and the plant was looking outside the ward, and wrote the particularly influential chapter titled "Viewing through windows may affect recovery from windows further supports this theory. At the same time, related concepts (consistency, legibility, complexity and mystery) are mentioned by Kaplan, which expands the healing garden interpretation.

3.2 Changed people's feeling and mood
Professor Clair Cooper Marcus (1999)[5] pointed out in her book "Healing Garden": "Garden users have changed their feelings after resting outdoors." Previously, a large number of studies have confirmed this theory and proved its repair value.

Natural factors of health, such as the discussion on "Relationship Research". Between the green space around the workplace and health: IT professionals taking Beijing as the target group", the author used questionnaire surveys, aerial image interpretation, and multivariate analysis, and found that the more plants in the indoor environment, the better they can get the results of their own health assessment; the more time they spend on outdoor green spaces, the healthier they get[6]. On "Naturally! The few steps possibly make a difference" shows: the more you have contact with nature, the more stress you will reduce and the faster your attention will recover. Therefore, designers and managers are encouraged to conduct pre-experiments naturally to expand the connection between them.

3.3 Body recovery
At the same time, some studies have analyzed the restoration effects of the environment.

The elements of natural parks, such as the research paper "research on the impact mechanism of forests" on the restoration effects of the urban park environment-take Chongqing as an example. According to the characteristics and behavior patterns of the park environment, the park dwelling found natural environmental factors, restoration factors and activity factors, natural factors have the most influence on the recovery effect of residents. The acting model play an intermediary role in the park's environmental impact mechanism and resumes its role. The author used the structural process model to analyze and found the recovery of the mined-out area. The dimensions of physical and cognitive health are slightly higher than good health. Therefore, we should pay more attention to the physical and cognitive health dimensions of home.

4. The design of taste, hearing and vision and touch in the environment
4.1 Demonstration garden
The demonstration park can provide a space for people to explore a large natural space. Large-scale teaching activities. The demonstration garden and the meditation garden are separated by a low barrier

Plant garden therapist. There are a variety of interesting vegetation and scenery (for example, waterfalls and streams on the wall) that attract people and give them different feelings, taste, hearing and visual perception.
4.2 Horticulture garden (horticultural therapy garden)

The gardening health garden is based on gardening design treatment. Horticultural therapy is to adjust and renew social, through planting and gardening in education, management and rationale operations.

4.3 Five senses (watching, touching, smelling, hearing and tasting)

Horticultural therapy can give people physical activity through farming activities. People can get the company of plants and restore their sense of time, season and season, nature. The five senses (watching, touching, smelling, hearing and tasting) make people pay attention to themselves, reduce stress and restore fatigue. The reaper has a certain sense of accomplishment and rich feelings. For people walking or using a wheelchair, there are planting areas of different widths and heights. Cannot use basil plants with different flowering periods, different species and different heights. Not only does it extend the life of the plants in the entire garden, but it also provides visual effects and the olfactory enjoyment of people in niches or in wheelchairs. The horticultural garden is also very spacious, providing enough space for the garden. Gardening operations.

In addition to the three gardens, many details of the entire sanatorium are worth paying attention and learning, such as accurately calculating the slope of the road, which can minimize the fatigue of the people on the steps; there are grounds on both sides of the road, a place where you can rest and stay; the blind script is printed on the back of the railing, which brings hope to people with visual impairment; there is support for arthritis patients nearby.

We choose, and at the same time, focus our attention on the sensory garden that is easy to use with five sensory experiences.

5. Sensory design plan for special groups

With the rapid urbanization process, many places are no longer suitable for people’s niches, People prefer to drive out when they go out. There are high-speed highways outside, which are very common in communities, and it is difficult to walk on the streets, which traps vulnerable groups within a small range.

5.1 The elderly

Many people rarely leave the community. Separately from staying at home and buying vegetables in the community, it’s difficult to engaged in the city and the natural environment, this situation also reduces the social interaction in daily life. This will also make the elderly feeling insecure and lonely. Research proves that people prefer a natural environment with rich natural elements. Naturally, there are patterns that are exhausting. At the same time, the wide field of vision also draws attention to the visual and important signs, and never ignores the immediate details.

5.2 Patients

5.2.1 Dementia patients

Because the disease is prone to clinical symptoms such as memory loss and inability to think properly, it is possible to appropriately increase facilities that easily wake up the patient's memory. Patients like to come into contact with animals such as birds and fish. Increase the number of greenhouses available regardless of the weather. Provide space like niches for patients and their family to have a rest. Increase the stimulus to the patient's five senses such as use water features, tranquil sound and scenery, opportunity for tactile contact, attenuation of extraneous noise, and the opportunity for viewing goldfish. Safe enclosure, low risk water features, pavement, non-toxic plants. Reduce visual irritation. Add road signs that help older people more identifiable about the road. Increase garden security, such as fixing chairs and seats to the ground. Provide enough shade to avoid being burned by the sun.

5.2.2 Catastrophic patients

Prepared raised planter which allows patient to access it by rolling their wheel chairs under it, and to use planter as they would a table. Increase green house in which patients can work. Provide barrier-free design for smooth roads, large turning radii, wide passages, etc. Distract patient attention from pain by using fountains and plants that attract birds.
5.2.3 **Psychiatric patients**

Reduce planter trunk to reduce the possibility that patients who have been diagnosed mainly with severe depression, in case they hurt themselves.

Reduce planter trunk which can be climbed to reduce the possibility that patients who have been diagnosed mainly with severe depression to they hurt themselves.

Provides different intensity and length of care for different mental conditions patients.

Facilities that can implement wellness programs, such as horticultural therapies, provide greenhouses, space for courses and patients’ crafts.

Easy-to-find landmarks, simple paths, open layouts and clearly marked destinations.

Provide niches and alcoves as for providing privacy.

Increase garden security, such as fixing chairs and seats to the ground.

Provide enough shade to avoid being burned by the sun.

6. **The prospects for the development of the rehabilitation environment**

In China or cities, the landscape of rehabilitation hospitals is still relatively conceptual, and there are very few outstanding cases. However, compared with the healing garden, it is the garden of our country that heals and introduces. Our East Garden has a history of hundreds of years. From the characteristics of the East Garden and Healing Garden, we can find some possible future directions for Chinese nursing homes.

Hu Haide's proposal (Hu Haide, 2019) The East Garden has similar healing properties, especially a sense of closure. Represented by comfort and Eastern elements.

7. **Conclusions**

In short, multiple perception experiences interaction each other. All kinds of consciousness should be strengthened and mutual cooperation, not weakened or destroy each other if there are too many awareness issues in the scene, for example: too smelly or too noisy will destroy the hard-won venue. On the contrary, if the views are complementary and harmonious, it will make people feel strong and profound.

At the same time, pay attention to mutual compensation or substitution between perceptions.

**Acknowledgments**

The authors gratefully acknowledge financial support from China Scholarship Council [202107820002].

**References**


