

Research on Aging Landscape Design of Old Residential Quarters Based on Ecological Values under the Background of Big Data

Fushuai Feng

Hetao University, Bayan Nur, Neimeng, 015000, China

Keywords: Old community; landscape space; aging

Abstract: The aging society is the inevitable result of the development of economy and science and technology level of human society to a certain extent, and it is the inevitable law in the development of human society. A large number of existing old residential areas did not pay attention to the problem of old people's aged care at home, and most residential areas could not meet the needs of old people's aged care at home. Therefore, it is an important direction for the transformation of old urban residential areas. Solving the problems of potential safety hazards, municipal supporting facilities and environmental improvement in old residential areas is the most important thing to improve people's livelihood, beautify the city appearance and create a livable place. At present, there is an urgent need for China to conduct systematic design research on the whole environment of old residential quarters, so as to quickly cope with the increasingly severe aging traffic situation. In this paper, aiming at the green landscape of old residential areas, we mainly analyze from the angle of ecology and aging, find out the difficulties in the renovation of old residential areas, and provide feasible schemes and reasonable suggestions for the landscape space renovation of old urban residential areas.

1. Introduction

The aging society is the inevitable result of the development of economy and science and technology of human society to a certain extent, and it is the inevitable law in the process of human social development. China's aging trend is more and more obvious, the number of nursing homes is obviously insufficient, most of the elderly have to stay at home, and the home-based care mode is still the main mode of China's current pension [1]. The growing elderly population is an important issue in economy and society, and home-based care has become a new social care model to adapt to the aging population and the changes of family structure [2]. The rapid change of aging population structure has a great impact on urban transportation in China. At this stage, the physiological function of the elderly in China has been greatly improved and their spiritual needs have diversified. Urban public transport has become the primary choice for the elderly to travel [3]. Many of the existing old urban communities where the elderly live can not meet their living and psychological needs. It is necessary to have outdoor activity space that can have a positive impact on the physical and mental health of the elderly, which shows the urgency of designing beautiful outdoor environment for the elderly [4]. Due to the large size, good location, long age, low standard, poor environment and lack of supporting facilities, the old residential area has become a big problem restricting the development of the city. Promoting the upgrading and transformation of landscape space in old residential areas is an important measure to improve the living conditions and quality of life of residents in old residential areas, and enhance the public's sense of satisfaction, happiness and security [5].

With the development of urbanization, building a "green livable ecological city" has become a key task for the government to pay attention to people's livelihood. To solve the problems of security risks, municipal facilities and environmental improvement of old residential areas is the top priority to improve people's livelihood, beautify the city appearance and create livable [6]. The landscape reconstruction, demolition and reconstruction mode of old residential quarters will no longer be the most cost-effective solution for urbanization. Therefore, this paper explores the residential environment to meet the overall needs of the elderly with the concept and method of

"micro transformation" [7]. In the city of high-rise buildings and fast pace of life, people who have lived for a long time inevitably want to change a relaxed and pleasant environment to relax their body and mind. Therefore, the ecological manor with beautiful natural scenery has naturally become the first choice for people's vacation and health care, pension and rest. It has become an inevitable trend to increase the aging design in the environment of old residential quarters. At present, China urgently needs to carry out systematic aging Design Research on the overall environment of old residential quarters, so as to quickly respond to the increasingly severe aging traffic situation [8]. With the development of economy and the improvement of medical technology, the situation of population aging is still grim. Under the mode of home-based care for the elderly, how to meet the needs of the external landscape environment of the residential area for the elderly has become the focus of social attention. In this paper, the greening landscape of the old community, mainly from the perspective of ecology and aging, to find out the difficulties of the transformation of the old community, and to provide a feasible scheme and reasonable suggestions for the landscape space transformation of the old community.

2. Analysis of the basic characteristics of the elderly and the corresponding landscape needs

The physiological characteristics of the elderly show obvious degradation of motor system, nervous system and sensory system, which will directly affect the normal life of the elderly. Considering that the landscape design of the old community will have hidden dangers to the old people whose physiological functions have changed, the designers should re-design the old community landscape according to the needs of the old people or alleviate the degradation of the old people's physiological functions through the community landscape design. The existing problems of old-style houses mainly focus on unreasonable space allocation, incomplete equipment, inconvenient use of toilets, high floors, unsound service facilities for the elderly and so on. No matter the residential environment or the single structure of the house, it can't meet the needs of the elderly living and can't adapt to the scale needs of the elderly's behavior. In the aging landscape design of old residential areas, designers can create a sense of belonging and security through the collocation of plants and infrastructure, so as to alleviate the negative life attitude of loneliness, loss and depression brought by the elderly in the process of role transformation [9]. Most of the old residential areas are self-built houses, and there are also commercial residential areas developed and constructed in the early stage. Due to historical reasons, these communities have been in a state of inadequate or unprofessional property management for a long time, and the green plants in the communities lack maintenance and pruning. Some old communities have been built illegally, some green spaces have been changed into parking spaces or their own gardens, and more green spaces have been hardened into concrete floors.

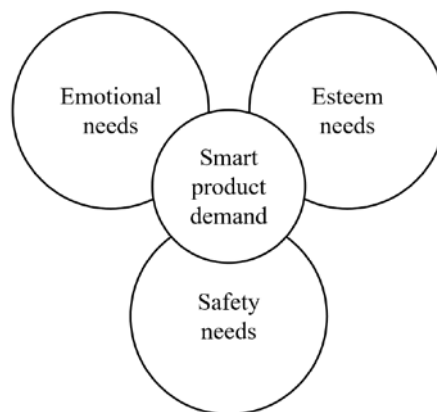


Figure 1 Psychological needs of the elderly

With the increase of age, the physical state of the elderly is not good, and the change of social role makes the mental state of the elderly change obviously. The psychological needs of the elderly are mainly manifested in three aspects: emotional needs, self-esteem needs and security needs, as shown in Figure 1.

With the rapid aging of China's population and the increasing number of families providing for the aged, residential areas play an important role in providing for the aged. Most elderly people choose to care for the elderly at home, and those living in old communities are more likely to interact with their neighbors, thus enhancing social cohesion. When the old community is being built, there is a big gap between the concept and level of landscape design and the current state of development. Therefore, there is a lack of landscape design in the community, and there is no way to create a landscape space environment. The public space of the old community is narrow and lacks the function of landscape space. Green space and green space are very limited, which limits the methods and means of greening. In daily life, in order to get rid of psychological loneliness and loss, the elderly actively participate in outdoor activities and improve their enthusiasm for life through activities and exchanges with other elderly people [10]. The gathering behavior of outdoor communication determines the needs of the elderly for group activities and group activities. At present, most of the old residential areas where the elderly live are difficult to meet the increasing leisure activities of the elderly due to their early construction time. Therefore, it is imperative to meet the needs of the elderly, and it is of great significance to carry out micro-renovation for the old community.

3. Research on landscape design strategy for aging of old residential area

3.1. Principles of landscape design for aging

In the aging-suitable renovation of old residential areas, it is not only the consideration of the safety of residential infrastructure, but also the psychological safety of the site for the elderly, that is, to eliminate the fear and tension of outdoor activities caused by the decline of physical function of the elderly. A pleasant landscape space is beneficial to the mental health and physical health of the elderly. Therefore, the dynamic functional space and static functional space should be divided according to the different needs of the elderly when carrying out the micro-renovation of the residential activity square. Nowadays, the elderly pay more and more attention to their health. Therefore, complete fitness equipment should be set up in other public spaces in residential areas to meet the daily exercise needs of the elderly. The setting of small-scale pavilions in the living environment can facilitate the elderly to familiarize themselves with the surrounding environment, and meet the communication between the elderly with audio-visual barriers. The incompletely closed pavilions can also ensure that the elderly can be observed, which is conducive to the timely rescue of the elderly in emergencies. The average time spent by the elderly in leisure and entertainment space every day is only the sleeping time. It can be known that leisure and entertainment space is an important place for the elderly to live in their later years. Therefore, special attention should be paid to the planning and design of leisure and entertainment space in the landscape design suitable for aging.

3.2. Key points of aging landscape design

In the design of the old residential areas, the separation of people and vehicles was generally not considered, and the proportion of parking spaces was low. Although the number of motor vehicles in the old residential areas where the elderly are the majority is low at present, it is difficult to park motor vehicles when children go home during holidays. Attention should be paid to the distinction between carriageways and sidewalks, and railings or vehicle isolation piers should be used to separate lanes from walkways. It can also be visually distinguished by the difference of paving materials, forms and colors. In order to enhance the recognition of the elderly and ensure the safety of the elderly in the use process, it is necessary to classify the residential roads, and carry out plant greening and infrastructure matching on both sides of the roads to provide short rest places for the elderly [11]. There are many factors involved in the landscape renovation of old residential areas, which require the coordination and cooperation of various social parties and comprehensive treatment. On the one hand, the renovation of building facade is the foundation of the renovation work. In the process of configuring aging plants in old residential areas, we should consider not

only the reference of native tree species, but also the changes of plants in different seasons, so that there are flowers to enjoy in the four seasons of the residential areas and bring vitality and vigor to the elderly. Plants with local characteristics should be planted during the micro-renovation of residential areas, and local plants often bear the memory of the city, which makes the elderly have a strong affinity for these plants and strengthens the sense of belonging of the elderly to residential areas.

4. Conclusions

Under the background of aging, home-based care for the aged has become the focus of national attention. Only when the government with public power assumes the responsibility and function of providing social public services can its fairness be guaranteed. It is a long-term process to transform the landscape space of the old urban community, which should be arranged in an overall way and laid out rationally. Old people spend most of their time in residential areas, which should be paid more attention to. Old people are different from young people in terms of physiology, psychology and behavior, and have higher requirements for environmental quality. The metabolism in the old urban areas has a process of progress, renewal and precipitation. In the whole process of change, when improving urban environmental quality through micro-landscape, urban builders should pay attention to the integrity and relevance of micro-landscape elements and the surrounding environment to meet the needs of urban development, so as to better improve urban landscape quality and environment. Only when the whole society makes joint efforts can the old residential quarters meet the living needs of the elderly and realize the real barrier-free life of the elderly.

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