

Humanized Design of Public Space under the Background of Aging in China

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Abstract: Meet the needs of the elderly has become an important topic. It has also become a hot spot in society. The design of public Spaces in the residences of the elderly becomes very important. This paper summarizes the background of the Chinese aging society, aiming at the lack of humanized design for the elderly living public space, the author discusses the public space design strategy suitable for the elderly. For the aging trend of new requirements as well as the status quo of China's public space design, this paper, based on the physiological and psychological needs of the elderly, to listen to the voices of the socially vulnerable groups through the way of humanized design, improve the construction of urban public space for elderly tolerance, promote the fairness of the social environment.

Keywords: aging, Public space, Humanized design

1. Introduction

China has been an aging society since 2000. China's population aging is characterized by a large number of elderly people, rapid aging growth and uneven distribution of aging [1]. In order to build a positive and healthy aging society, it is particularly important to design public space to meet the elderly's pension needs.

There are a large number of kinds of literature and research on the theme of public space design for the elderly in China, most of which focus on greening and space aesthetics, and the research topics are mainly oriented to the living environment where the elderly live. However, there is a lack of research and attention on the public Spaces where the elderly mainly engage in social activities, such as activity centers for the elderly. This paper uses qualitative writing methods to study the humanized design of public space under the background of China's aging population and discusses how to improve the quality of living space for the elderly, weaken the contradictions of the aging society, maintain the harmony between society and family, and further realize the humanized design of people-oriented under the background of the overall aging population.

2. Literature Review

2.1. A Study of Aging in China

Several studies have investigated the problem of aging. In the contemporary social background, due to the decline of the fertility rate and the extension of people's life expectancy, the global aging

society has become more serious[2]. China has been an "aging society" since 1999. In 2015, 14.9 percent of China's population was over 60 years old, and it is expected to reach 38.6 percent by 2050[3]. The number of people aged 65 and over far outstrips the rest of the world. By 2050, the proportion of the elderly in the country's population is expected to be around 25%. The trend of an aging society is irreversible[4]. Evandro, 2015 cited in Zeng and George, 2010 claims that China is the world's most populous country, accounting for 8.2 percent of the world's population. Among them, China accounts for almost a quarter of the world's elderly population[1].

China is rapidly becoming an aging country and will have one of the highest proportions of elderly people in the world[5]. The report of the 19th National Congress attaches great importance to the aging of the population in the new era, and stresses the need to "actively respond to the aging of the population and build a policy system and social environment for old-age care, filial piety, and respect for the elderly". The severe problem of an aging society has a profound impact on the sustainable development of the social economy in China and even the world, and also makes the aging problem become a public topic discussed by all walks of life[6]. Under the background of the aging society, aging design shows different development and trend. Overall, the researchers agreed that the aging of society is an important challenge for China. And as the base of the elderly population continues to expand, it is an important task to create a better living space for the elderly.

2.2. The Definition and Meaning of Public Space

Public space has been defined in many published literature. "Real" public Spaces are supposed to be open to all groups, offering freedom of movement[7]. In the wider built environment literature, there is a lack of consensus on the definition of public open space. In life studies, public open space is mainly defined as parks and green Spaces, and less attention is paid to other types of public open space (such as public squares, nature reserves, and greenways). In urban design studies, public open space is defined as "managed open space, usually green, available and accessible to all, even if temporarily controlled". The public space of a city is the "meeting room" of a city, an important carrier to carry people's public life and show urban characteristics, and also an important site for the high-quality development of a city[8].

2.3. Problems Existing in Urban Public Space Design

Because society continues to develop people's pursuit of spirit is also constantly improving[9]. Urban public space forms gradually single, and lack individuality and urban characteristics. In some urban public spaces the layout and compositions blindly pursue large-scale and grand atmospheres, causing public space can't satisfy people's needs, lack of human public space design, can not embody the characteristics of each city is different, the design of public space is more and more machine-made, gradually lost the regional unique cultural landscape. Moreover, most urban public space planning, construction, and management are still in the initial stage, urban public space technology is relatively lacking, and the classification and hierarchical management and control mechanism of public space is still not sound. It can be summarized as two aspects of urban public space planning and design and implementation management[8].

2.4. Humanized Design

Humanized design is designed following human behavior and habits, the relationship between humans and space, and physiological and psychological characteristics to meet people's basic needs [10]. The design of human nature is to respect people and designers should think about the problem. In today's society with the continuous improvement of living standards and abundant materials, the people-oriented design concept has also become the mainstream, and the consciousness of this kind

of service is also constantly strengthened.

2.5. The Lack of Humanized Design of Public Spaces Suitable for the Elderly

At present, most of the public Spaces designed for the elderly in China are oriented toward greening and aesthetic functions, and researches mainly focus on the housing and living environment for the elderly [11]. However, there is a lack of attention and research on the public social places where the elderly mainly engage in activities, such as urban parks and community activity centers. Public space is an important part of the life of the elderly, and also an important part of the social psychological service system. Therefore, in addition to attaching importance to infrastructure, the design, implementation, and maintenance should pay more attention to the social and psychological needs of the elderly, such as interpersonal communication, society, and respect [12].

The physical functions of the elderly gradually decline with age, and the elderly tend to engage in social activities in public rest areas, but the rest areas in many public Spaces are not enough to meet the needs of the elderly, and the satisfaction of the elderly will also decline[13].

3. Research Methodology

3.1. Data Collection

Qualitative method is adopted in this paper. Exploratory data collection was used to obtain qualitative data for further analysis[14]. Therefore, this article must learn more about the material related to the topic. This paper adopts pre-structured technology or data acquisition method. Secondary materials, such as books, journals, websites or studies related to learning, are collected through secondary sources. The next step is to monitor the collected data. Primary sources of data include newspapers, books and other sources such as the Internet. Therefore, previously reliable and relevant data sources can be used when investigating a problem.

The data collected in this paper are mainly from CNKI, and a large amount of existing data is obtained by searching the literature of 2021-2022 to analyze and study the humanized design of public space under the background of China's aging population.

4. Results

This finding was consistent with the previous finding that with the development of society, China's aging society is an inevitable trend, and China will become one of the countries with the largest aging population in the world. China's national policy has emphasized the need to deal with the country's aging society and build better living Spaces for the elderly. However, through the analysis of relevant literature, it is concluded that the design of public space for aging in China is mostly oriented to greening and aesthetic function, and the layout and structure of urban public space are single. For example, the blind pursuit of appearance design leads to the failure of public space to meet people's needs and the lack of humanized public space design. Secondly, the design of public space is becoming more and more patterned, gradually losing the unique urban culture. Moreover, the classification and hierarchical control mechanism of most urban public Spaces is not perfect.

Secondly, in the process of literature collection, the author extracted some data from Chinese literature websites (see Fig 1). Using the literature in the CNKI database as the source, the periodical limited time was 2012-2022. The advanced search was conducted with the keywords "aging" and "public space design" (among which the theme lyricist of "humanized design" was searched separately), and more than 100 related literature were retrieved. The results showed that, From the point of view of the number of papers published in the relevant studies from 2012 to 2022, the number of papers published from 2012 to 2021 rose tortuous, but the number of papers

published from 2021 to 2022 began to decline. In addition, the number of articles published in 2021, when the number of articles published 2021 was the highest, was not more than 35. Compared with other subjects, there was a lack of kinds of literature related to the topics of "aging" and "public space design".

number of published papers



Figure 1: Published quantity of keywords such as "aging" and "public space design" from 2012 to 2022

5. Discussion

The author concludes that China's aging society has become an inevitable trend of China's development through the summary of the literature data. Moreover, humanized design in public spaces plays an important role in improving the quality of living space for the elderly. Because the development of society and the increase in the proportion of the elderly population have prompted the elderly to have higher requirements for public space, the perceptual and physiological needs of the elderly should be met from the perspective of their human care. Secondly, according to the data, there is a lack of attention to the humanized design of public spaces to meet the needs of the elderly in China. The Chinese government and relevant researchers and planners should pay more attention to and study the design of public spaces suitable for the elderly.

5.1. Public Space Design Strategies in the Context of Population Aging

Compared with ordinary adults, the elderly have significantly different environmental requirements, which are mainly manifested in the special requirements of the acoustic environment, light environment, thermal environment, barrier-free environment, and ergonomic environment[15].

5.2. Building Service Spaces Suitable for the Elderly

To improve the single design of the existing public space, we should not only focus on the modern appearance of the space design, but also build more public Spaces suitable for the elderly from the perspective of the elderly, increase the humanized design for the elderly, and provide more age-appropriate service facilities.

5.3. Create Ecological Public Space

The elderly have a small social scope, single social activities, and no rich entertainment life. Moreover, most social groups are elderly people. The construction of a comfortable ecological

space can provide a better space platform for social activities and fitness activities for the elderly. More importantly, most of the elderly travel on foot, so the location of ecological space is best near the residential area.

5.4. Design for Accessibility

Considering the physical health of the elderly, more attention should be paid to the design of barrier-free public Spaces for the aged [16]. Provide mobility for the elderly. The decline in the physical function of the elderly may also lead to problems such as vision loss and mobility problems. The design of public spaces suitable for the elderly should add security alarm facilities connected to calls for help, to provide a higher sense of security for the elderly, especially those living alone and those with mobility difficulties.

5.5. Limitation

This study only used qualitative methods to summarize, sort out and analyze the existing data. This has some limitations. If further research is to be carried out, more methods and the use of larger research theoretical frameworks and models are needed to explore the research. The background of the aging of the humanized design of public space in the direction of the study is interesting and has a more profound potential, this article only from China's aging population under the background of the humanized design of public space are analyzed, and discussed the most of China's urban public space design is not perfect, and the relative lack of public space design for the elderly in China, However, there are still many problems to be determined on how to improve the quality of living space for the elderly in the overall aging environment.

6. Conclusion

The aging problem will be a major social problem to be solved urgently in China. In the face of this huge challenge, the government and planners should constantly explore and innovate new residential design schemes for the elderly to design targeted, operable, and humanized places for the elderly. Adhere to the people-oriented design concept, create diversified and humanized public space, and respect the needs and action rules of the elderly, so that the elderly live as far as possible to have a comfortable environment for the elderly. The principle of safety and comfort should be followed in the design of the public space of the elderly living environment, to improve the living effect of the elderly and ensure that their later life is more interesting, comfortable, pleasant, and safe.

Based on the study of living space under the background of aging, this paper summarizes the main problems existing in public space and puts forward relevant design strategies. It is hoped that these strategies can provide ideas and references for the construction of public Spaces suitable for the elderly in today's increasingly serious aging situation. Create a livable environment for the elderly, and try to meet the actual needs of the elderly, to improve the quality of life for the elderly. This paper hopes to appeal to more planners and designers to design more and better public Spaces for the elderly.

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