

Research on Suitable Aging Design of Residential Interior based on Environmental Behavior

Xiaoxia Bai

Ningbo Institute of Technology, Zhejiang University, Ningbo 135135, Zhejiang, China.

Abstract : From the data of the “Seven Census”, the problem of population aging in China is relatively prominent at present, and the living environment and the form of old-age care for the elderly have attracted much attention. It is the era of required. Based on this, this paper takes environmental behavior as the theoretical basis, starts with people’s behaviors and feelings, and analyzes and studies the indoor aging-appropriate design of residential buildings for reference.

Keywords : Environmental Behavior; Residence; Interior; Age-appropriate Design

With the rapid development of society and economy, the problem of population aging has become a global problem, and the elderly have gradually increased their requirements for their living environment. In order to meet the needs of the elderly, it is necessary to do a good job of indoor aging-friendly design, effectively make up for the inconvenience brought to the elderly by the original living environment, relax the mood of the elderly, relieve the pressure of children, so that the elderly can live in a safer, Live in a comfortable environment.

1. Environmental behavior theory and analysis of the needs of the elderly

1.1 Environmental behavior theory

1.1.1 The basic theory of environmental behavior

The so-called environmental behavior mainly links people’s behaviors with the material and cultural environment, and regards the relationship between them as the subject of research. Environmental behavior is a comprehensive discipline, which is to explore and optimize the relationship between people and the environment from the perspective of behavior and psychology.

1.1.2 The basic elements of environmental behavior theory

First, the environment. There are also differences in the division and definition of “environment” in various disciplines. From the perspective of environmental behavior, the objective environment where people live can be divided into several types of natural, social and artificial environments. Among them, the natural environment is the synthesis of natural factors, such as mountains, rivers, vegetation, etc. The social environment is a general term for the mental environment created in various social activities based on the natural environment; The artificial environment is artificially processed. For example, transportation, etc., at multiple levels.

Second, people’s needs. Human needs are an inner psychological activity of human beings, which are presented through behavioral patterns. This is where the Hierarchy of Needs Theory emerges. Under this theory, human needs are divided into the following levels: First, physiological needs. This need is the basic need and the premise of other needs; the second is the safety need; the third is the social need. When the above needs are fulfilled, people will increasingly want to have more communication with others, so the need for respect appears. That is the fourth need.

Copyright © 2021 Xiaoxia Bai

doi: 10.18686/ah.e.v5i12.4297

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

1. 2 Analysis of the needs of the elderly

1. 2. 1 Psychological needs

What the elderly want most in their later years is the company of their children, and the company of children will make the elder's life more enjoyable. At the same time, the elderly need to maintain a good exercise habit and have a good work and rest time, which can also allow them to face life more actively. In addition, because some elderly people are retired at home, they will also feel a sense of psychological discomfort. At this time, it is necessary to encourage the elderly more, let them participate in more interest activities, and feel the joy of life.

1. 2. 2 Behavioral requirements

Eating, sleeping, doing laundry, cooking, and cleaning are the most important behavioral activities of the elderly. With the increase of age or the deterioration of physical condition and other factors, the chances of the elderly going out are generally less, and the range of activities is either in the community or at home, and they often exercise through simple activities. Therefore, a special activity place can be designed for the elderly, so that the elderly can practice calligraphy, sing and so on.

1. 2. 3 Physiological needs

Everyone gets old. When we are facing old age, especially when the activity of various organs in the body is declining, there will inevitably be a psychological gap. For the elderly, they have high requirements for the sound environment, which is related to their sleep quality. Therefore, it is necessary to analyze the sound insulation in the indoor space. At the same time, because the elderly are afraid of cold in winter, it is necessary to ensure good indoor heating conditions. In addition, in order to ensure the safety of the elderly in indoor activities, it is necessary to deal with the problem of indoor height differences, such as toilets, etc., and do a good job of anti-fall and anti-skid design.

2. Aging design of residential interior based on environmental behavior

2. 1 Residential design for self-care elderly

2. 1. 1 Features of house type

First, the apartment should be as compact as possible, the function should be perfect, and the area should be appropriate. The elderly at this stage can take care of themselves, have their own hobbies and hobbies, and have corresponding requirements for the quality of life. Therefore, it is necessary to design independent and fully functional bathrooms and kitchens. The home living space should be considered comprehensively.

Second, to ensure safety. Elderly people at this stage often live on their own, and it is very important to provide barrier-free treatment of the indoor space, such as appropriately adding anti-fall and anti-skid facilities. In addition, to increase intelligent monitoring and alarm equipment, when the elderly are in danger or in trouble, they must ensure that they can contact the outside world as soon as possible.

Third, presupposition. Handrails, railings and other protective measures must be preset in the space where the elderly are active, for example, balconies and other places.

Fourth, the space for communication activities can be designed. The elderly will feel a sense of loneliness when their children are not around at a certain age. In addition, as the elderly get older, their physical condition will gradually deteriorate. The space for communication in high-rise residences is limited, and many activities cannot be actively participated in a relatively closed space. In this situation, it is very easy to have a bad psychological state, and the chance of the elderly getting sick may also increase. Therefore, in the interior design, consideration should be given to giving the elderly more opportunities to communicate with the outside world. For example, the solid wall can be replaced with glass in some parts, or the small green balcony can be designed.

2. 1. 2 Layout arrangement

First, a two-bedroom can be considered for the indoor space of a single-living elderly residence. The two rooms can be an independent space for the elderly, or a temporary living space for children when they go home.

Second, a circular corridor can be set up indoors to connect multiple functional areas, so that the elderly can move around at home.

Third, the most frequently used bathroom or kitchen is designed in the center of the space, forming a circular line, reducing unnecessary walking and allowing the elderly to do housework faster.

Fourth, optimize the spatial structure and layout, and separate movement and static. Make sure the elderly room is well lit.

2. 2 Assisting in the design of housing for the elderly

2. 2. 1 The first characteristic of the apartment is the large area

The residential area of assisted elderly is larger than that of self-care elderly. In particular, the bathrooms, kitchens and other

spaces that the elderly often need to use should be enlarged. The elderly at this stage need the help of nursing staff, so the space requirements are relatively high.

Second, partition science. Helping the elderly is relatively insecure, so they usually live with their children. The two generations are different in terms of lifestyle and work and rest time. Therefore, the bedroom of the elderly should be separated from the children. It is best to design two bathrooms indoors, one should be close to the elderly bedroom or in the elderly bedroom.

2.2.2 Layout arrangement

First, help the elderly try to design a three-bedroom house. The elderly at this stage need someone to take care of them, and more rooms should be designed for the convenience of others.

Second, a circular corridor should be set up indoors to connect various functional areas, so that the elderly can have more opportunities for activities at home.

Third, the elderly room is arranged next to the most frequently used functional area, which is convenient for the elderly to use.

Fourth, increase the indoor moving lines to facilitate the safety of the activity distance. The elderly room can be set in the direction of good lighting and ventilation, and the elderly room and children's room can be isolated to avoid interference between generations.

Fifth, the three-bedroom house has better lighting on three sides and complete functions. For the consideration of relying on others to lose old things, a storage room can be designed indoors. Considering that some elderly people at this stage need to use wheelchairs, it is necessary to ensure that the corridors and other places are large and unobstructed. Induction lighting can be installed in wardrobes, bedsides, etc., to facilitate the safe access of the elderly. More importantly, an independent bathroom should be designed to facilitate the smooth progress of nursing work. The space of the elderly room should be as large as possible, and additional beds can be added according to specific conditions.

3. Conclusion

All in all, with the accelerated aging of the population, the problem of old-age living in my country has gradually emerged. In order to better meet the needs of the elderly, it is necessary to do a good job of indoor aging-friendly design, so that the elderly can have a comfortable living space and live happily in their later years.

References

1. Cao W. Research on age-appropriate design of outdoor spaces in urban communities based on environmental behavior. Xi'an University of Technology 2020.
2. Jiao Y. The integration of medical and nursing care——A discussion on the new application of interior space design for aging communities——Taking China Life Suzhou Yangcheng Lake senior care project as an example. *Design* 2020; 33(3): 62-65.
3. Liu S, Ding B. Enlightenment of aging-friendly design of the external environment of old residential areas based on POE. *Urban Housing* 2019; 26(8): 74-77.
4. Li Y. Research on landscape design suitable for aging in urban residential areas based on the behavior and psychological characteristics of the elderly. Luxun Academy of Fine Arts 2019.
5. Yuan J. Research on the space design strategy of elderly-friendly community based on environmental behavior. Shenyang Jianzhu University 2015.
6. Jia R. Research on landscape renovation design for aging environment in old residential areas in Xi'an. Xi'an University of Architecture and Technology 2019.
7. Gao L. Research on aging-friendly design based on outdoor space of old residential community. *Furniture and Interior Decoration* 2019; (8): 110-111.
8. Zhang T. Research on interior design of elderly residences based on comfort. Hubei University of Technology 2017.