

Research on the Design of the External Environment of Pension Institutions Based on the Needs of the Elderly

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Abstract: At present, the problem of population aging has become one of the most urgent problems to be solved in China. At the present stage of China's aging population, the elderly people's pension needs have become one of the main social contradictions. Rationalized environmental design has become the goal for the elderly to choose social pension institutions. However, China's related pension institutions generally have some problems, such as poor environmental conditions, relatively backward supporting facilities, lack of independent external space, which are not conducive to improving the living environment of the elderly. In view of this, this article from the physiological, psychological and behavioral aspects, analysis of the current behavior habits of the elderly. On this basis, from four aspects of walking space design, outdoor fitness zone design, entertainment space design and social space design, this paper studies the external environment design of pension institutions in order to provide theoretical guidance for the environmental design of institutions.

1. Research background

1.1 Literature review

With the acceleration of the aging population in China, in order to meet the housing needs of the elderly population, it has become an urgent problem to be solved in China. Qi Hui and Yuan Zhe believe that by studying the living environment and living conditions of the elderly population, they can effectively improve the mood and life span of the elderly (Qi and Yuan, 2017). In recent years, the contradiction of the old people's pension service has become more and more prominent in China, and the quality of life of the old people needs to be improved. It has become the main contradiction to adopt formal and specialized pension service in the old-age institutions. For the old-age institutions, it is necessary to construct a reasonable external environment with different functions to help the disabled elderly to live a normal life. Yao Changfu and Zhao Dongxia believe that under the impetus of China's pension policy, we should actively promote the development of the pension service industry, which can effectively deal with the social contradictions of the aging population (Yao and Zhao, 2017). Feng Jun believes that elderly people lack the accompaniment of their children, and the nursing home, a service facility for the elderly, has become the first choice for the elderly. An excellent nursing home can bring new life to the elderly and effectively prevent the contradiction of aging in China (Feng, 2017). Jin Ying and Ding Ning believe that with the aging problem becoming more and more prominent in China, the problem of old-age housing has become the focus of social attention. Providing old-age housing can provide better living environment and living quality for the elderly (Jin and Ding, 2015).

1.2 Research purpose

With the improvement of China's economic level, the problem of population aging has become the focus of social attention. At present, with the gradual increase of public work pressure, the gathering of children's personal rest space has been reduced, and the time of accompanying parents has been gradually reduced. Old-age institutions have gradually become the first choice for the elderly to spend their old age safely (Zhang and Qi, 2014). In this context, how to make the elderly have a happy life in their later years has gradually become an urgent problem to be solved in the pension institutions. Old-age institutions improve the quality of life of the elderly by optimizing the

internal and external environment. However, in the specific implementation projects, the design of internal and external environment of institutions has been lacking of corresponding reference standards, and there is a problem of low level of environmental design. Therefore, this paper investigates the external environment of different pension institutions and the allocation of related facilities, fully tapping the psychological characteristics, physiological characteristics and behavior habits of the elderly. The survey found that the poor external environment is a common problem in China's pension institutions, and the degree of beautification of the internal environment still needs to be improved. Therefore, the study of the external environment design of pension institutions plays an important role in improving the comfort of pension facilities and the living conditions of the elderly.

2. Analysis of Behavior Habits of the Elderly

2.1 Physiological characteristics of the elderly

From the point of view of biogenetics, the organism is mainly composed of some interacting and interrelated systems. These systems all have corresponding functions in the body to maintain the normal life of the body. When the body enters the state of old age, with the growth of age, the functions of the human body will gradually decline, and the corresponding skills will gradually degenerate. This phenomenon is called aging. It is manifested in three aspects.

First, perception deteriorates. The sensory abilities of the body mainly include hearing, taste, vision, touch and smell. With the increase of age, these sensory abilities of the body also gradually decrease. Moreover, with the increase of age, the function of all sensory organs in the body also declines. Older people's ability to distinguish color is declining, and even they may suffer from diseases such as glaucoma and cataract. As far as hearing is concerned, the decline of hearing ability of the elderly is mainly manifested in the loss of hearing function in a certain period of time, and even the decrease of sensitivity to some high-frequency sounds.

Secondly, the change of body shape and appearance. The changes of the body shape of the elderly are mainly manifested in the changes of body shape and appearance. The metabolic function of the elderly deteriorates with age (Zeng, 2018). First of all, the old people's hair begins to turn white, and even bald because of the serious loss. Secondly, in the early life of the elderly, due to the deposition of pigments in the body, a large number of age spots gradually appear on the skin surface. Finally, the absorptive capacity of the elderly gradually decreases, especially for calcium, which is prone to osteoporosis.

Thirdly, the function of nervous system decreases gradually. The perceptual function of the nervous system in the elderly is generally not strong, and there may be problems such as memory loss, motor incongruity, slow response and sleep duration (Huang and Dou, 2017). Affected by living habits and living environment, the elderly are unwilling to leave the original life circle, preferring to live in familiar surroundings.

2.2 Psychological characteristics of the elderly

In daily life, the psychological state of the elderly has also changed greatly, mainly due to the changes in the surrounding environment and their own physiology. It is mainly embodied in three aspects. First of all, the sense of security of the elderly gradually decreases. With the growth of age, the elderly will have a serious sense of aging, relatively sensitive to the perception of the surrounding environment, afraid of their own danger, no one found. Secondly, the sense of loneliness, inferiority and loss gradually sprouted. This phenomenon is more evident in the elderly in some pension institutions, they are more likely to feel left out and abandoned. Through the research and development of relevant data, it is found that some of the elderly in nursing homes are for the purpose of giving their children independent space, while others are arranged by their children in institutions. They always feel that there is a big gap between themselves and before, and they can not bring greater financial burden to their children. Finally, it produces depression.

Influenced by the above factors, the elderly, because of their own psychological reasons, will have depression, often insomnia.

2.3 Behavioral characteristics of the elderly

By investigating the daily behavior and working and sleeping time of the elderly in different institutions, it is found that the elderly are affected by different factors, such as their physical fitness, hobbies and age. The activity time and place are different, the activity time is mostly fixed, and the activity places are more diverse. In daily life, the elderly often enrich their lives by exercising or participating in recreational activities. In the process of investigation, it is also found that most elderly people like sunshine, walking and chatting activities, because they think this type of activity can effectively kill time, reduce their loneliness, and play a role in enriching the spiritual world. At the same time, in the course of the study, it was found that most of the living areas of the elderly were relatively fixed, their diet and sleep were more regular, and most of the elderly had the habit of taking lunch breaks.

3. Design of the External Environment of Pension Institutions Based on the Needs of the Elderly

3.1 Walking space design

Generally speaking, the most favorite activity for the elderly is walking. Because this kind of activity does not need to consume a lot of physical energy, but also can play a good exercise effect. The elderly usually walk outdoors, because the walking speed is relatively slow, the range of continuous walking in a short time will not be too large. Therefore, for the elderly walking space design, the scope of requirements is small. Relevant institutions should set up benches in the walking space of the elderly and some pavilions on certain nodes as the rest space for the elderly when walking. At the same time, the relevant agencies should consider some barrier-free design as far as possible, and set some handrails and ramps on the roadside appropriately. Set up some signs on the ramp for the attention of the old people walking. For the choice of ground materials, we should choose some anti-skid materials as far as possible based on the characteristics of the elderly's less flexible movement, so as to avoid the falls of the elderly in the course of walking. Of course, for the design of pedestrian space, it is essential to add plants around the road. Design some low shrubs and large lawns on both sides of the road to improve the ornamental performance of the elderly. Moreover, trees with sun-shading function should be planted on both sides of the road to shield the sun and bring good sensory experience to the elderly.

3.2 Design of Outdoor Fitness Zone

Because outdoor fitness activities have the characteristics of flexibility and randomness, they are popular with the elderly. Therefore, outdoor fitness activities are some healthy self-care ability of the elderly, a favorite activity. According to the survey, some elderly people will take part in outdoor exercise activities with some friends at a certain time. Unless affected by weather or physical discomfort, the elderly exercise regularly every day. At the same time, the elderly will choose suitable fitness equipment according to their own physical condition and hobbies, and exercise properly in a certain period of time. Therefore, in view of the design of outdoor fitness zone for the elderly, fitness equipment matching the habits of the elderly should be reasonably selected. Relevant organizations should place fitness equipment near the residential buildings of the elderly. If the composition area of fitness equipment is relatively large and the demand for the venue is relatively high, the relevant institutions should place the fitness equipment in the central area to ensure that all the elderly can use it.

In addition, for some outdoor fitness zones with smaller activities, the distance should not be set away from Taiyuan, a residential building for the elderly. In order to avoid the elderly spending a lot of physical energy in outdoor fitness areas, some visual connections should be established between the residential buildings, corridors and halls of the elderly. Let the elderly in one area, see the

specific situation of other areas. If special circumstances arise, corresponding measures can be taken in time. For the choice of floor materials in outdoor fitness areas, we should try to select some non-skid, smooth and elastic floor materials to ensure the safety of the elderly in fitness.

3.3 Entertainment Space Design

In their daily life, the elderly also prefer to participate in some recreational activities, such as playing cards, playing chess and performing arts, as well as some flower, vegetable and fruit planting activities. The space for the elderly to engage in recreational activities needs specialization. Relevant institutions should choose a certain area of special venues, design entertainment space for the elderly, so that the entertainment activities of the elderly have autonomy and purpose. According to the survey, many elderly people like to gather in the corridor and other areas for folk art activities, which can not only shade the sun, but also have a rest area, play a role in regulating health and livelihood. If weather conditions permit, the elderly will refer to outdoor chess and cards activities. The old people's chess and card activities are easy to carry and can expand their thinking. Generally speaking, the elderly participate in chess and card activities, mainly in chess activities, followed by poker activities. When designing the entertainment space, the organization should put the corresponding supporting facilities in the pavilion. Supporting facilities, multi-dimensional Tables, four-person seats, etc.

The outdoor activities of the elderly are generally aggregated, and a certain space should be set aside around the relevant recreational facilities for the elderly to stop and watch. For the location of entertainment space, we should give full play to the advantages of entertainment projects to attract the elderly, encourage more elderly people to go out of the room, increase more outdoor activities, in order to improve their physical quality.

3.4 Social Space Design

In outdoor activities, the elderly generally like to chat, watch, rest and related recreational activities in a certain activity space. Therefore, for the location of social space, generally choose relatively independent and quiet areas. Moreover, some older people prefer to be busy and observe the activities around them. Relevant institutions should take into account the relationship between social space and other spaces in the design of social space to ensure that the elderly can see the specific situation of other spaces in the region. In pension institutions, social space can be composed of some walking space, which is distributed in different areas of the institution. In the specific research process, it was found that the elderly like to chat with the eaves at the door of the residential building, and also consider chatting in the seats of the rest area. Therefore, the relevant departments can consider setting up some rest areas in these areas to form a more active entertainment and social space, which greatly improves the convenience of leisure for the elderly. In addition, institutions should also consider the relationship between social space and other spaces, greatly improving the ornamental performance of different areas, so that the elderly can observe other people's activities during the rest process, in order to kill boredom and increase the joy of life.

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