



Interior Design of Day Care Centers from the Perspective of Environmental Psychology

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Abstract. This paper combines the background of the times, analyzes the psychological characteristics and physiological characteristics of the elderly, and combines the relevant contents of environmental psychology theory, with the goal of designing a senior living space that truly meets the needs of the elderly, creating a safe, comfortable and happy healthy senior living environment for the elderly, and thus improving the quality of the living environment in community day care centers.

Keywords: environmental psychology · psychological characteristics · day care center · interior design

1 Introduction

According to the seventh census data, China has begun to enter the phenomenon of aging society, the elderly and a series of related facilities are highly valued by all sectors of society, how to make the elderly dependent? It is a social problem that needs to be solved to provide the elderly with a sense of belonging and happiness.

2 The Current Situation of the Demand for Day Care Centers for the Elderly

Community day care centers for the elderly are facilities that provide daily care, medical care, recreation and sports, spiritual comfort and other day care services for semi-disabled elderly people who are over 60 years old and cannot take care of themselves and need some care in their daily lives [1]. The focus of the service is on the elderly who are old, empty nesters, living alone and have the ability to take care of themselves. It is a new model of community home care service that is suitable for semi-disabled elderly people to receive care and attention in the center during the day, and to be taken home by their children at night to enjoy the happiness of family life [2].

Day care centers are designed to improve the quality of life of the elderly by providing care services for them in their daytime lives, in order to achieve the goal of a sense of

security and well-being in their old age. It is a way for the elderly to continue living in their familiar homes, communities and environments, which is good for their physical and mental health, and is something that the elderly themselves, their institutions and their families will enjoy. Community day care centers, when combined with governmental resources, can better promote the development of senior care.

3 Analysis of Physical and Psychological Characteristics of the Elderly

With age, the functions of various tissues and organs of the body gradually decline, including vision, memory loss, dullness of taste and smell, and reduced motor coordination [3]. The children cannot always be with the elderly because they are always working outside; the change of roles can also lead to psychological disorders in the elderly. The psychological characteristics of the elderly include reduced psychological security, reduced adaptability, and feelings of loss, inferiority, loneliness and emptiness. The physiological characteristics of the elderly are characterized by a decrease in the functions of various parts of the body, a decrease in vision, hearing, memory and reaction ability, which leads to a gradual decrease in the elderly's ability to adapt to the environment. Through the analysis of the psychological and physiological characteristics of the elderly, we have to fully consider the needs of the elderly in all aspects of interior design and try to meet them, so as to design a day care center interior environment suitable for the elderly to live and play.

4 The Main Elements of Environmental Psychology Applied to the Indoor Environment of Day Care Centers

4.1 Implications of Environmental Psychology

Environmental psychology focuses on the interrelationship between the environment and human psychology and behavior. It focuses on the psychological and behavioral aspects to design an environment that is optimal for people and the environment, in other words, what kind of environment can meet people's psychological needs [4]. We usually understand the environment as the "surrounding environment", but the environment here includes the natural, social and artificial environment. Such as sunlight, climate, air quality, room temperature, building form design, personal privacy The environment includes natural, social and artificial environments. From the perspective of environmental psychology, the interior environment design should consider how to organize each space, how to reasonably design the interface, color, light, decorative furnishings, plant placement and so on. Reasonable arrangement of the indoor space environment to meet the needs of people in all aspects.

4.2 The Influence of Environmental Psychology on the Indoor Environment of Community Day Care Centers

For the design of the indoor environment of day care centers, the following two aspects are included.

- (1) The influence of the potential environment on the indoor environment of day care centers. The potential environment mainly includes climate, temperature, light, color and noise. In terms of interior design, the potential environment affects people's direct feelings and behaviors, and it determines people's mood and emotional experience. People's reactions to the environment can be described as: approach and escape. The extent of this is determined by the degree of pleasure people feel in the environment, and the moods of older people are particularly susceptible to environmental influences. For example, more use of natural light and warm lighting combined with keeping the room bright and airy can bring a sense of grounding and stability to the psyche of the elderly. Conversely, a dim, cold light environment can make older adults feel lonely and anxious [4].
- (2) The influence of environmental perception on the indoor environment of day care centers, environmental perception refers to the direct sensory response of people under the stimulation of the environment they are in at the time. Environmental perception has a very important role in evoking action. Older adults often go through the perception of their surroundings first and then perform activities. The decline of physiological functions of the elderly, such as the decline of vision, hearing and smell, can easily produce a feeling of insecurity in an unfamiliar environment. Therefore, the elderly need a relatively familiar, stable and safe living environment [5]. We can improve the unsuitable living atmosphere for the elderly by designing the interior furniture and furnishing environment. For example, furniture should minimize sharp edges and raised parts, reduce the use of unstable and fragile materials, etc.

5 Principles of Day Care Center Interior Design from the Perspective of Environmental Psychology

5.1 Healthy Safety and Comfort Principle

Day care center interior design needs to pay attention to the elderly because of mobility problems, easy to fall and dangerous. Flooring materials should be unglazed tiles, non-slip tiles, laminate flooring, etc. The materials used in the interior should be non-flammable and fragile green materials, and should not emit toxic gases. In each functional space and its junction, enough space should be left for wheelchairs to pass. The floor should be sloped as far as possible to reduce the use of steps and facilitate the elderly to walk. It is better to have a special ramp at the entrance, and the ramp should be treated with non-slip to facilitate the use of wheelchairs. Wall corners and exposed parts of furniture should be as little angular as possible. Beds and sofas and other seats should be hard and not too soft, and the height and depth should meet the ergonomic size specifications. To increase the safety of elderly people going to the toilet at night, low-level lighting should be installed indoors. Due to the physical and psychological vulnerability of the elderly, we need to consider their safety in all aspects of design.

5.2 The Principle of Reasonable Environmental Stimulation

Different visual color stimulation will affect the psychological feelings of the elderly. For community day care centers, the elderly prefer the feeling of natural simplicity, and

the interior colors should be soft and light tones, with more warm colors of wood, which can enhance the sense of solidity of the elderly. There are also some vibrant green plants placed on the balcony and indoors, which will give the elderly a sense of vitality and vigor.

5.3 The Principle of Creating a Familiar Environment

The unfamiliar environment will intensify the loneliness, so it is important to create a familiar environment for the elderly as much as possible, so that they can have a sense of belonging and security. Old people are easy to stay in the past, so you can place some photos, paintings, ornaments, etc. that they like indoors; in order to increase their sense of belonging to the new environment, you can also design some things that they have used for secondary use, which can ease their fear of unfamiliar environment.

5.4 Appropriate Personal Space Principle

Personal space is like an invisible bubble around the human body. Anyone who rashly walks into this space will bring a feeling of being violated and disturbed, which will cause emotional changes such as anxiety and uneasiness. The psychological and physiological characteristics of the elderly are special, so the requirements for personal space will be significantly different. Older people usually need to be taken care of and have a reduced range of requirements for intimate areas, and small-scale space will give a sense of security. Influenced by the psychology of independence, the elderly have greater requirements for domain space, such as bedrooms and other spaces that are easily angered if they are violated. The social space for the elderly mainly includes various entertainment rooms, such as painting and calligraphy room, chess room, etc. We should pay attention to the spaciousness of these spaces and the comfort of light as well as good ventilation when designing.

6 Application of Environmental Psychology in the Spatial Design of Day Care Centers

6.1 Public Space Design

Firstly, the basic functional requirements such as spatial scale, barrier-free function and smooth flow should be satisfied, which is the guarantee of safety [6]. Secondly, the design of entrance space should be hierarchical, it is also as a sign of belonging, not only as a “channel” in and out of the building, while solving the traffic problem, it can increase the function of guiding and resting for a short time according to the characteristics of the elderly with mobility problems.

6.2 Activity Space Design

The activity space includes recreation space, social space, restaurant space, etc., which can provide services such as chess and card entertainment, catering, friendships and parties, and hold various activities. Firstly, according to the ecological perception theory in



Fig. 1. Reading space at a senior center in a Japanese prefecture (Image source: <http://www.sohu.com/>)

environmental psychology, the public activity space should be well-lit and smoothly ventilated, so that the elderly can have a pleasant and comfortable feeling in the physiological perception experience of the activity space. Secondly, according to the environmental perception theory, appropriate environmental stimulation can also bring people a pleasant psychological feeling. Create a healthy and comfortable space atmosphere through changes in building color, material and design language to give the elderly certain environmental stimulation. For example, the scale of the activity space for the elderly should not be too large, and a relatively small space can reduce visual pressure and increase the sense of security of the elderly [7]. The reading space of a senior center in a prefecture in Japan shown in Fig. 1 makes use of transparent glass windows and large outdoor greenery to create a natural and pleasant reading environment. As shown in Fig. 2, the dining room is an open and bright space with warm wooden tables and chairs to create a homey feeling for the elderly dining environment.

6.3 Private Space Design

No matter what age group people are, they have a strong sense of intimacy with their living room. As independent elderly individuals, when the physiological decline causes psychological and emotional changes, the elderly need an independent and private, free disposal of private space more.

Foyer Space

As a transition and buffer space between indoor and outdoor, the foyer space is generally divided into a shoe changing area and a passing hall. For the elderly people, the size



Fig. 2. Spacious and bright dining room (Image source: WeChat Public)

of the foyer space should also take into account the use of wheelchairs. The size of the foyer should conform to the relevant specifications to ensure the wheelchair swing and the opening space of the door, and the distance between the door and the door facing the aisle and between the door and the adjacent wall should not be less than 500 mm, and the width of the foyer should not be less than 1.2 m if there is no closet, shoe cabinet and other furniture.

Bedroom Space

The bedroom is the master's private space. Considering the mobility difficulties of the elderly and the fact that they get up more often, the closed degree of the private space has increased the requirements. At the same time, interference from other rooms, outside sight and life should be avoided in the design process. The design of bedroom space in modern elderly convalescent center is divided into two forms, one is the bedroom set independently, which plays a good role in protecting the privacy of the elderly; the other is the bedroom with living room. From the economic point of view, the second type is the more commonly chosen form for the elderly in China. The bedroom should have direct light and natural ventilation, and the bedroom facing south is the best, north is the second best, east-west layout is hot in summer and not suitable for living.

7 Conclusion

At present, China is gradually paying attention to community care, and some community day service centers or day care centers have been built, but they are still in the initial stage, and the proportion of the total number of elderly people they can serve is very low, which cannot carry the increasingly serious trend of aging in China.

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