

Elderly Residential Space Design and Analysis: A Review

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Abstract. With increasing age, the elderly, the special requirements of living space and a corresponding increase in the degree of dependence. This article focus from the functional space housing the elderly begin to analyze the elderly housing designs should be noted that the problem of elderly residential points overall design of each room, summed elderly residential apartment space is designed to follow the safety, health, convenience and practical design principles and flexibility. Finally, the paper, the author type design, retrofitting existing senior housing and other aspects of a good attempt.

Introduction

Population aging is the product of social and economic development, China's elderly population is the largest in the world, one of the fastest growing in the country, old before getting rich features of an aging population, will make China's national economy and social development is facing enormous challenges. Second World Assembly on Ageing proposed the concept of active aging, this idea has become a global basis for countries to develop policies on aging. As a special group of society, quality of life and living conditions of the elderly has become an issue the government and the community of common concern. Many elderly body and health, comfort and other living heart is inextricably linked with the living. With increasing age, the elderly, the special requirements of living space and a corresponding increase in the degree of dependence [1-3]. Involves not only the survival of the living environment for the elderly to enjoy demand, such as providing sleeping, dining, entertainment, care of the place, but also related to the elderly in touch with family and community in time and space. How to adapt our upcoming aging society, how to meet the residency requirements of the elderly has become an urgent need to solve the problems we face.

Elderly housing problem involving thousands of families, elderly residential use subject the elderly, the elderly have special psychological, physical and social activities characteristics, therefore, should be set up with the elderly at the core of the guiding ideology, to understand the way of life for the elderly, habits, hobbies and demand and other aspects of life, so that the elderly can create a healthy, safe and comfortable living environment in which the living space [4]. Faced with the rapid growth in the number of cities for the elderly, concern for the elderly, caring for the elderly has become a consensus of all sectors of society, and therefore, the issue of urban senior housing, senior housing development, has effectively improve the living standards of living for the elderly significance. Elderly residential subdivision, research and practice of multi-mode, allowing different levels of the elderly to improve their quality of life, but also for the community to provide more ways to solve the problem of aging.

In this paper, a combination of design research in urban elderly residential apartment space for the center to start discussion, from the perspective of cross-disciplinary, multi-disciplinary perspective to explore the issue of aging and elderly population characteristics. By analyzing the domestic and foreign pension model and policies exist in the city to explore the current situation in the aging housing problem of the elderly. Articles focus from the functional space housing the elderly begin to analyze the elderly housing designs should be noted that the problem of elderly residential points overall design of each room, summed elderly residential apartment space is designed to follow the safety, health, convenience and practical design principles and flexibility. Finally, the paper, the author type design, retrofitting existing senior housing and other aspects of a good attempt.

Characteristics of elderly people

The elderly began to have higher requirements of environmental quality, hope to have more features and more devices within the regular activities of the space, reasonable layout room, and indoor furniture and equipment and the elderly have a considerable scale, reduce indoor height, etc. So must the elderly in elderly residential physiological, psychological characteristics and start living, in line with the elderly and create habits and characteristics of residential living space [5-6].

Changes in living patterns. As show in figure 1, enter old age, physical organs of people will be larger changes, such as visual, auditory, tactile and other physiological functions become dull, gerontology expert called these changes the continuity of life lost due to old age. After the retirement of older persons, their main activities range from a community-based day into family-based, people in contact with colleagues from primarily transferred to the families of the main changes in the living environment of the elderly can also cause physical, psychological and behavioral changes. Elderly above the physical, psychological and behavioral aspects of performance out of a special state called senile features.

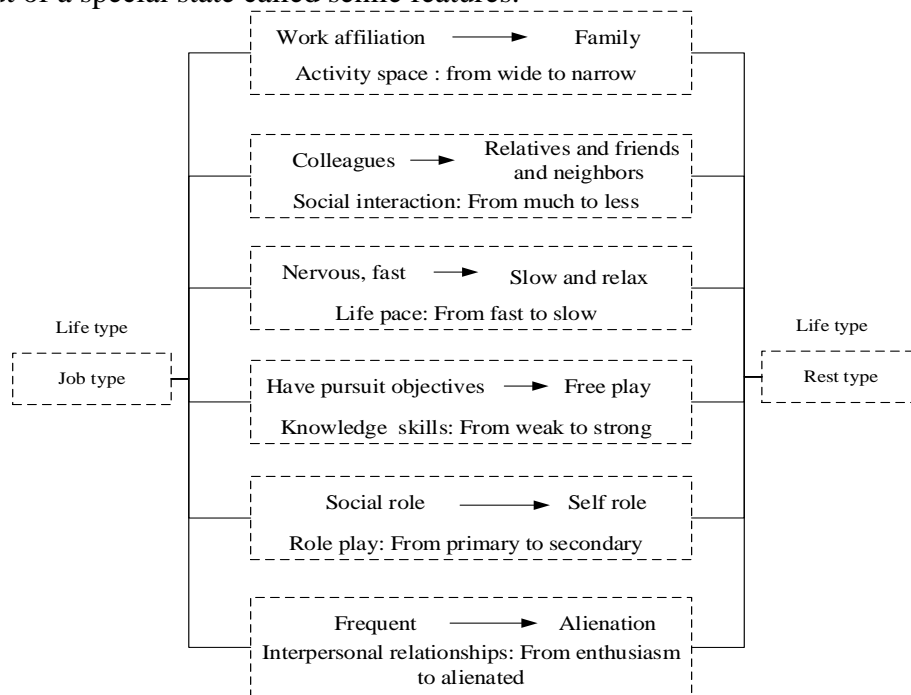


Figure 1. Mode changes in living patterns of elderly

Physiological needs of older persons. Through the analysis shows that the physiological characteristics of the elderly, the elderly have special physical needs of their living environment, mainly in the sound, light, thermal environment, accessibility and the special requirements of ergonomic aspects of the environment. The old psychological characteristics and the related daily life environment barriers is shown in table 1.

Table 1. The old psychological characteristics and the related daily life environment barriers

Psychological characteristics	Living environment barriers
Like warm;	Indoor decoration of cool color to move;
Like bright;	Indoor decoration of a large number of deep color;
Psychological safety;	The ground there is a big difference;
Don't want to change;	Within the space is too large, the line of sight without aid workers;
Cherish the old stuff	Sharp boundaries and corners;
	Big French window without fence or barrier is too low;
	Smooth reflective surface;
	The sudden change of environment;
	Insufficient storage space

Foreign elderly residential interior space case study



Figure 2. Foreign elderly residential interior space case

Early into the aging of the country, at the outset, the housing problem faced by the elderly, the urgent housing needs of these countries make the facilities of its energy, in order to find senior housing development path suited to their national conditions, after a process of exploration after different countries in solving the problem of elderly residential basic form of elderly living system has its own characteristics. Foreign existing elderly housing patterns and design method has entered the stage of an aging population, but only in the older residential research fledgling stage in our country, there is an important reference. Advanced experience and achievements abroad can help our country in this field of research, expand ideas, detours, so that our country as soon as possible to establish suitable for China's elderly live system, and promote the smooth conduct studies of elderly housing, good for our elderly living environment, as shown in figure 2. As the future of residential users is the designer's parents, the designer of the user's habits, psychological needs very understanding, so the design process, the architect can be considered in accordance with the actual needs of the user's overall planning of housing, spatial layout and detail design.

Minimal house concept. Residential designer is a "residential living machine" doctrine of architects, advocates abandoning all use less space. So this house is designed themes as how things really necessary to be a combination of residential, find a comfortable living functions. Residential interior space utilization increased to the limit, to the elderly to use the longest bedroom and living room as the center, the elderly in the indoor common spaces closer together, reducing the distance they walk.

Landscape maximized. Site has a unique landscape conditions, the beautiful natural landscape on the south side of the house has been fully utilized in the design. Elderly people are often due to physical mobility, cannot go out at any time, affecting the health of the elderly. Long window continuous outdoor storage comes in a rich scenery, very good to make up for the deficiency in the elderly life. In order to maximize the natural landscape outside into the room, the walls and the corresponding portion of the residential long windows on the south side of the construction of the lower courtyard, not block the line of sight of the elderly.

Elderly living in the interior design practice

With the increasing market demand for the elderly and the real estate market in their competition to develop senior housing project in China's major cities are quietly. At present, the development of China's elderly community project presents a diverse trends. Determine the characteristics of the elderly residential standards suitable for the elderly should be higher than the general housing, such as living room, bedroom sunshine requirements, elevator demand was higher than the normal population. According to behavioral activity carried out in the living room of the elderly, can be

divided into residential space kit sleep, rest room parlor entertainment space, reading and writing space, dining space, health space, storage space and ancillary space. They each interspersed repeats, close relationship. Whereby the residential function space can be divided into bedrooms, living room, kitchen, dining room, bathroom, storage, and balcony several parts, shown in Figure 3.

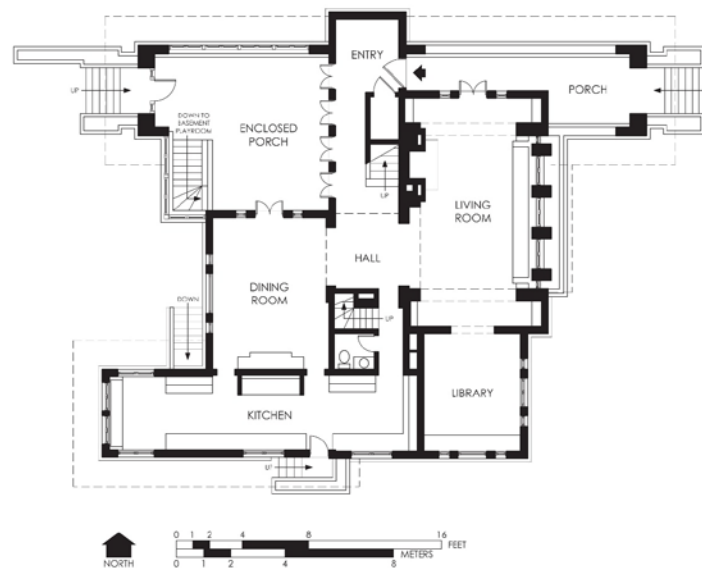


Figure 3. Elderly living interior design

Elderly people residing in the main house, compared to young couples family space requirements, their family life is generally simpler. Since the development of the cause of young people, a child's birth, education, work space and require more study space. In addition young people personalized living space requirements are relatively high. In addition to daily living elderly, mainly on account of their children, grandchildren or home reunion hospitality, in addition, there are mostly elderly retired after some life entertainment, such as flowers and grass, copybooks reading the newspaper, these living parlor, leisure space natural need to define them. Especially for older people lonely, nostalgic, heavy emotional and psychological characteristics, as far as possible to create an open, comfortable and convenient communication space, convenient neighborhood association and descendant's reunion.

Conclusion

With an aging population levels deepening housing problem of the elderly become the object of social concern. From the perspective of interdisciplinary departure, in-depth analysis of the physiological, psychological characteristics and needs of the elderly living at the same time, the present situation of older persons living abroad living model of development experience and our elderly, our proposed for the elderly from the architectural point of view residential living space design principles. Elderly residential indoor space design should follow function rationality, safety, practicality, health, convenience and flexibility design principles aimed at providing a suitable pension for the elderly living environment to try to extend the life of the elderly themselves the ability to improve the quality of life of the elderly. Elderly residential indoor spaces within the design principles of using objects including common residential, new homes and renovation specialist senile elderly housing.

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