*Effects of Design on Health and Wellbeing*
*I. Verma and L. Arpiainen (Eds.)*


*doi:10.3233/SHTI240971*

# Exploring Design for Healthy Aging in Community: A Case Study Approach in the Chinese Context

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**Abstract.** Due to traditional family values, older individuals tend to prefer aging within the community and home rather than in nursing homes. According to the World Report on Ageing and Health, the aged-care environment significantly influences healthy aging. Recently, there has been a growing trend to integrate various functions and resources into community centers for older citizens in the Chinese context. However, the design of community senior centers, as crucial environmental support for healthy aging within the community, requires further exploration. This study aims to explore the applicability of healthy aging in the Chinese community context through case studies of community senior centers. A comparative case study approach was employed, utilizing observation, interviews, and document analysis based on themes generated from the literature review. This research supplements the healthy aging model by analyzing practical and experience-based cases. The study identifies eight domains and twenty-three sub-domains of healthy aging in the community from a holistic health perspective. These domains include Care and Treatment, Rehabilitation, Prevention, Protection, Behavior, Perceived Health, Engagement, and Inclusion. The findings contribute to the exploration of the definition of healthy aging and provide design inspiration for localized community senior centers.

**Keywords.** Healthy aging, community care, community senior centers, case study, Chinese community, aging in place

## 1. Introduction

According to the United Nations' World Population Prospects 2024, China's population aged 65 and above, currently 216.76 million or 15.4% of the total, is projected to reach 30.92% by 2050 [1]. Given traditional family values, older people in China prefer to live at home with family rather than in nursing homes [2]. Compared to institutional care services provided by nursing homes, family care and mixed care models are more acceptable to Chinese older adults [2].

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However, due to the reduced number of children brought about by the family planning policy, the 4-2-1 (four grandparents, two parents, and one child) family structure has emerged as the new dominant form and caused the rising older adults dependency ratio in the long-term [3,4]. For the only child, it seems impossible to care for two parents and four grandparents [2]. The heavy burden of senior care forces family caregivers to shift from family care to seeking help from society. In urban areas, neighborhood committees play a role in supporting the seniors in the community [3].

Healthy aging, characterized by the World Health Organization as the process of developing and maintaining the functional ability that enables well-being in older age, encompasses a wide array of factors, including physical, social, and mental well-being [5] [6, p.28]. In the Chinese context, where community and family support are emphasized due to traditional values, community health promotion and healthy aging in place present distinct characteristics and challenges, which still require in-depth research [7].

This study investigates the implementation of the 'Healthy Aging' concept within the Chinese community context. The analysis examines several cases using themes drawn from prior research, such as Care and treatment, Rehabilitation, Prevention, Protection, Behavior, Perceived health, Engagement, and Inclusion. The aim is to provide a reference for designing the community senior center to promote the well-being of older adults.

## 2. Background

### *2.1. Healthy aging and built environment*

World Health Organization (WHO) identified health from physical, mental, and social perspectives [8]. The success of public health initiatives underscores both the reduction of disease-causing risks and the promotion of health benefits [9, p.8]. Focusing on the elderly population, healthy aging not only relates to dealing with illness and chronic disease, and supports the declining physical and mental functional capacity, but also includes social wellness and inclusion [6, p.25]. The domains of physical capability, cognitive function, metabolic and physiological health, psychological well-being, and social well-being are highly related to healthy aging [10]. For healthy aging, the aim from a pathogenic perspective is to cure and heal illness and reduce the impact of diseases, while from a salutogenic aspect, targeting promotes health and leads to the extension of healthy living time (Figure 1).


**Figure 1.** The holistic health and life span perspective of healthy aging (Source: Authors).

According to the World Report on Ageing and Health, the aged-care environment significantly influences the enhancement of functional ability in individuals with a given level of intrinsic capacity, which is one of the important measures to achieve healthy aging [11]. Understanding how the built environment removes obstacles and promotes the health of the older population is crucial and warrants further research [12].

### *2.2. Aging in place and community senior center*

The Centers for Disease Control and Prevention defines "aging in place" as the ability to live safely, independently, and comfortably in one's own home and community, regardless of age, income, or ability [13]. Aging in place offers several advantages such as fostering a sense of attachment or connection, providing practical benefits like familiarity and security, and enabling individuals to maintain their sense of identity through independence and autonomy [14]. At the community level, to help aging individuals remain in their community and homes and receive comprehensive support, community resources can provide timely access to adequate healthcare, housekeeping services, safety, social and physical activities, as well as connections to younger neighbors or youth groups.

While the “place” in aging in place features a homelike and de-institutionalized setting, in the context of China, it refers to networking with dwelling, institution, and community-based social spaces as the supportive resources, highlighting the significance of network and integration of social resources to better support aging [15].

### *2.3. Community senior center in China*

Guided by the Chinese government policy, to promote the health of older adults who live in the community, there is a trend to merge a variety of functions and resources into a community center for older adults, such as a multifunctional community senior center not only with daily care, long-term care, but also supported by possible food delivery, medical services, sport and entertainment facilities [16]. These community senior centers are comprehensive aged-care facilities located in the community, which integrate community resources and offer a variety of institutional and professional services according to older adults' day and medical needs [17–19]. It was first tried in Shanghai in 2014 and is now being adopted in several Chinese cities [20].

## 3. Methodology

This paper adopts a case study approach of seven community senior centers in China. The method is based on case selection, data collection, and data analysis.

### *3.1. Cases selection*

In the first step of case screening, the basic information of 423 community senior centers currently displayed was gathered from the official website (https://shyl.mzj.sh.gov.cn/homePage) to form a preliminary list. The information includes names, addresses, services, and contact information. To select suitable research subjects, filtering conditions were set (Table 1).

The inclusion criteria are defined as 1) Running well and more than 6 months, 2) Well maintained and service level has been recognized by the Shanghai government, 3) Well linked and open to the community or sharing the community resources, 4) Provide a variety of services based on community needs.

After the application of inclusion criteria, phone calls were made according to the information collected on the government website, to get permission for visits and interviews. Only the facilities that support visiting and interviewing are included, otherwise were excluded from the list.

**Table 1.** The selection criteria for cases (Source: Author)

| Selection steps | Aspects | Description |
|---|---|---|
| Inclusion criteria | Operation and maintenance | Running well and more than 6 months<br>Well maintained and service level has been recognized by the Shanghai government |
| | Link to the community | Well-linked and open to the community or sharing community resources |
| | Service provision | Provide a variety of services based on community needs |
| Exclusion criteria | Permission | Not accept visiting and interviews |

### *3.2. Data collection*

The data collection of the case studies includes observation, interviews, and documentary analysis. Initially, documents such as official introductory texts, brochures, and floor plans were gathered from the Internet and with the assistance of staff. With these documents carried, the researcher as a native Chinese-speaking architect and doctoral student conducted the on-site visits to these buildings. The interview is followed by the on-site observation of the usage and the design of centers.

The interviews were conducted both informally and semi-structured mainly focusing on how the design of the community senior center promotes healthy aging. For instance, the question posed to caregivers and staff includes: "How do you perceive the design of community senior centers supports care and treatment?" There are a total of 17 interviews, and the role of the interviewee includes older adults (n=5), community residents (n=3), caregivers/staff (n=7), and managers (n=2).

The information including Names, Addresses, Areas, Beds/Units, Interviewees, Map of the neighborhood, Analysis of layout, Photos, and Design strategies for each center are gathered from on-site visits and supplied by official websites, news websites, reports, and papers. The data collected from each center is summarized using the same template, and Figure 2 is an example.

### *3.3. Analysis of cases*

Seven facilities were selected and analyzed. To analyze these cases, a literature review was conducted to develop the domains as an analytical tool. Regarding the topic of the link between the built environment factors of the aged-care settings in the community and the health impacts, a systematic search using two databases (Web of Science; SCOPUS) was undertaken from June 2021 to October 2023.

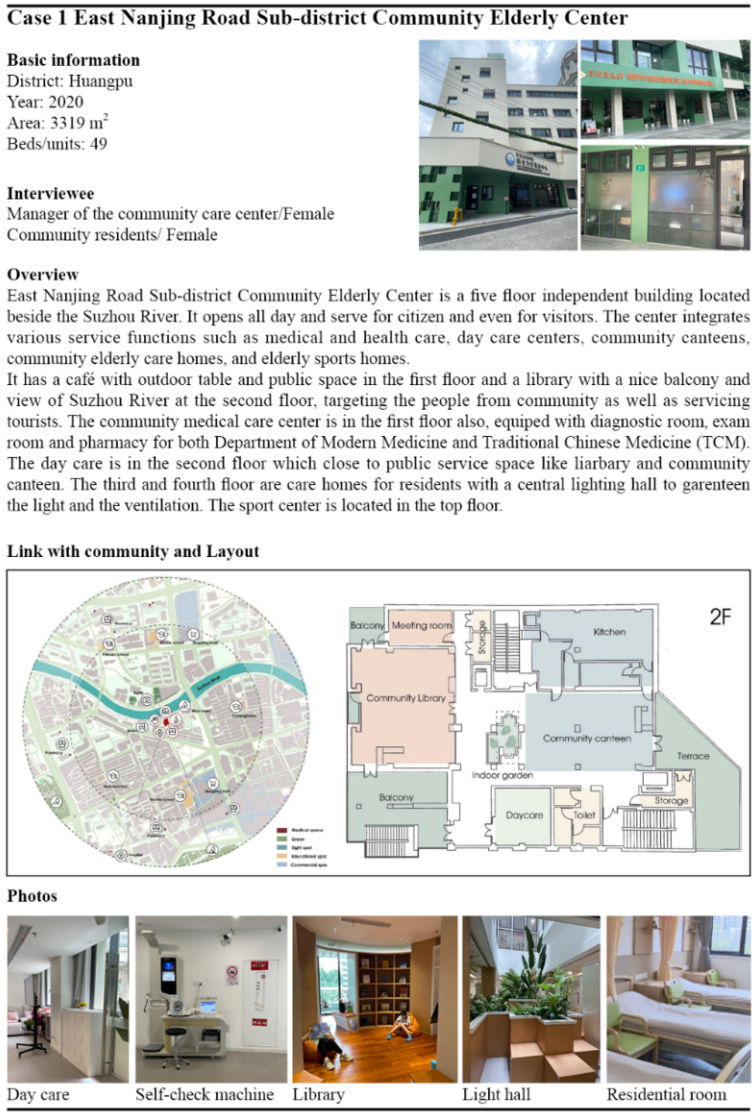


**Figure 2.** The example page of case data (Source: Authors).

The health outcomes related to the physical environment are summarized from both pathogenic and salutogenic perspectives. From a pathogenic perspective, which focuses on curing and healing illnesses to reduce the impact of diseases, it encompasses mobility [21,22], sensory support [23,24], cognitive support [23], restorative benefits [23], infection control [23,25], and safety [23,26,27]. From a salutogenic perspective, which aims to promote health and extend healthy living, it includes physical activity [28] [29],

maintenance of daily living activities [21,30], social activities [24,27,31,32], comfort and satisfaction [20,23,25,30], spiritual flourishing [23,34,35], emotional wellness [30], community links [25,36], and staff support [22].

These health-related outcomes are summarized into eight domains, including Care and treatment, Rehabilitation, Prevention, Protection, Behavior, Perceived health, Engagement, and Inclusion. These eight domains contain the health outcomes that the built environment could influence from both pathogenic and salutogenic perspectives and are proposed as a healthy aging model to review these cases. Here are 8 main aims of supporting healthy aging ( Figure 3).


**Figure 3.** Healthy aging model (Source: Authors).

- Care and treatment. Care and treatment refer to diagnosing, treating, and managing the reduced physical and mental functional abilities, such as mobility, vision, hearing, memory, and judgment. It involves creating and maintaining a physical environment that is conducive to the delivery of high-quality care services and the well-being of residents. It includes physical care, sensory care, and cognitive care.
- Rehabilitation and healing. Rehabilitation and healing refer to recovering physical and mental health abilities through a supportive environment. It includes physical rehabilitation and mental healing.
- Prevention. Prevention refers to limiting pathogenic factors such as smoking and alcohol consumption, as well as the spread of infectious diseases to prevent or reduce the disease risk in the facility.
- Protection. Protection refers to providing an environment that protects users from harm, danger, risk, or injury. It includes fall prevention (such as installing handrails, non-slip flooring, and grab bars in bathrooms) and emergency preparedness (such as having clear evacuation plans, emergency exits, and

accessible emergency response systems to ensure residents' safety in the event of fires, natural disasters, or other emergencies). Meantime, it also includes creating a security environment that prevents or mitigates security breaches and protects assets and individuals from intentional harm.

- Behavior. Healthy behavior means creating an environment that encourages and supports positive lifestyle choices and habits among senior residents. It promotes walking and exercise for older adults regardless of whether indoors or outdoors. Another aspect is to support a healthy diet that promotes proper nutrition and dietary well-being for older residents.
- Perceived health. Perceived health refers to the level of health perceived by the older adults themselves. As components of well-being outcomes from patients and staff, perceived health is verified to be a health-related outcome that is influenced by design intervention.
- Engagement. Engagement refers to linking older adults with the group and community through community engagement and provides them with the opportunity to have convenient access to community resources and participate in meaningful social activities.
- Inclusion. Inclusion means promoting and practicing the inclusion of all residents, regardless of their physical abilities, cognitive capacities, or personal backgrounds.

## 4. Results

### *4.1. Case Studies Description*

All seven cases are in urban areas, either inside or on the edge of residential areas. Except for Case 3, the other cases involve standalone buildings that occupy the entire structure and have their separate entrances. Case 3 is integrated with the official building located at the residential area boundaries. The basic information of these seven cases is listed in Table 2, such as the number of floors and area of the building.

### *4.2. Design factors for healthy aging in communities*

The design factors are listed and discussed according to the literature and the case studies. The relationship between the design elements and the healthy aging aim is also shown in Figure 4.

#### *4.2.1. Care and Treatment*

Given the declining physical abilities of the seniors, the design of the community seniors center needs to respond to three parts: physical care, sensory care, and cognitive care. The support for care and treatment is widely discussed in the design of nursing homes.

For physical care, mobility is a key deciding element. It is crucial for preserving independence and avoiding dependency on care [37, p.25]. Utilizing assistive technology and a supportive environment to provide opportunities are effective techniques to continue moving about despite a decline in mobility.

**Table 2.** The basic information of cases

| Project | Year | Area/ $m^2$ | Building type | Service provision | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Me[1] | Da[2] | Car[3] | Can[4] | Sp[5] | Ot[6] |
| 1 East Nanjing Road Sub-district Community Senior Center | 2020 | 3319 | Indep.[7] 5 floors | * | * | * | * | * | * |
| 2 Hongqiao Road Sub-district Community Senior Center | 2018 | 3072 | Indep.[7] 3 floors | * | * | * | * | * | * |
| 3 Jiangsu Road Sub-district Community Senior Center | 2019 | 2000 | Inter.[8] 2 floors | * | * | * | - | - | * |
| 4 Nandan Community Care Center | 2018 | 1800 | Indep.[7] 2 floors | - | * | * | - | * | * |
| 5 Huafu Community Care Center | 2021 | 1859 | Indep.[7] 2 floors | * | * | - | * | - | * |
| 6 Xinhua Road Sub-district Community Senior Center | 2019 | 2145 | Indep.[7] 4 floors | * | * | * | * | * | * |
| 7 Xianxia Road Sub-district Community Senior Center | 2020 | 2008 | Indep.[7] 6 floors | * | * | * | * | * | * |

Note: 1 Medical care; 2 Day care; 3 Care home; 4 Canteen; 5 Sport/Exercise space; 6 Other; 7 Independent building; 8 Integrated with other building

The environmental barriers to mobility capacity include the absence of ramps in public buildings, a shortage of public transportation, and unassailable public transportation (such as buses without ramps or bus stops that are too far away) [21]. The literature also demonstrates a relationship between self-efficacy in mobility and the availability of several outdoor terraces with views of greenery and the neighborhood, as well as easily accessible community dining areas [22].

The decline sensory of older persons is mainly visual and hearing, and the sensory support includes improving visual perception and supporting hearing decline.

The interior design of the building could reduce the need for visual decrease, by using contrasting colors and tones in the walls and furniture, painting doors, light switches, and wall-mounted fittings a different color from the background, and clear and easy understanding signage [23]. A quiet environment for conversation provides the possibility to support hearing and concentrate on the talking activities [24].

Cognitive decline presents increasing forgetfulness, loss of attention, and reduced ability to solve problems. Cognitive decline may be caused by diseases (such as hypertension stroke, or Alzheimer's disease) and even environmental factors [37, p.19]. The difficulty with orientation and activities of daily living (ADLs) are shown linked to cognitive impairment [37, p.19].

Study indicates that orientation and wayfinding are linked to the design of the physical environment from multiple levels. For the building level, the layout that provides a continuous circuitous route, visual cues at each change of direction, elimination of corridors where possible, and a centralized kitchen/dining/living area that serves as a central orientation point are helping [23].

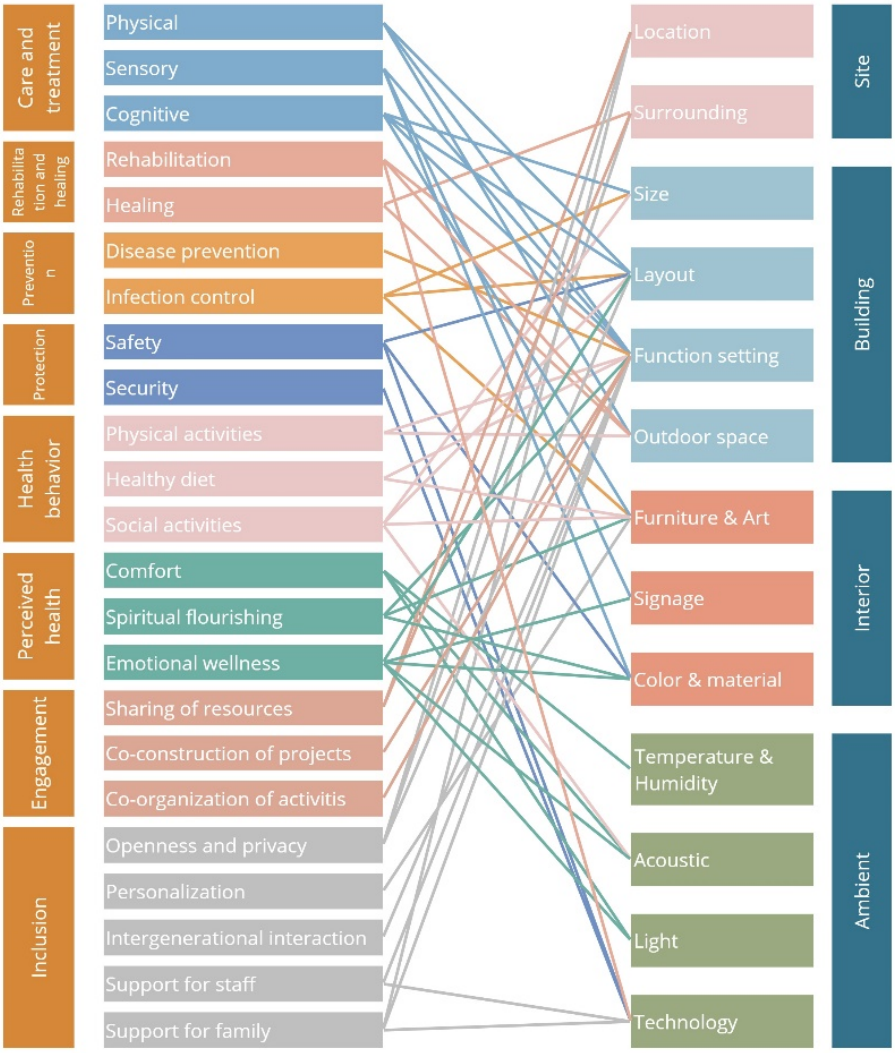


**Figure 4.** Link with healthy aging aim and design elements (Source: Authors).

### *4.2.2. Rehabilitation and healing*

Rehabilitation refers to providing a range of specialized services and therapies designed to help older adults regain or improve their physical abilities. For example, some centers include or close to community hospitals or Traditional Chinese Medicine hospitals based on residents' needs, providing basic medical and rehabilitation services such as dispensaries, general practice consultation rooms, and therapy rooms for community residents. For the community hospital integrated, they are usually on the first floor and close to the entrance (Case 2, 3, 6) or have independent entrance (Case 1, 4, 7).

Healing refers to providing a healing environment to help older adults promote psychological and emotional well-being. In the building design phase, the healing

environment is related to healing gardens and respite rooms. In Case 2, a Five Sense Garden aims to enhance the sense experience in this space and therefore reach the aim of healing. In other cases, like Case 1 and Case 5, a rooftop garden or balcony with a good view also contributes to the healing effect.

#### *4.2.3. Prevention*

In recent years, more evidence has emerged regarding the pathogenic factors in aged care spaces. The pandemic highlights the importance of the physical environment's effect on disease and risk prevention.

Disease prevention refers to limiting pathogenic factors such as smoking and alcohol consumption to prevent or reduce the disease risk in the facility. The action for Disease prevention in these cases is mainly the signs of No Smoking, which are usually displayed in the public activity spaces like lobby, canteen, and public corridors.

Infection control refers to preventing the spread of infectious diseases within the facility. In the early stages of COVID-19, scholars found a direct correlation between the mortality rate of senior people and the size of facilities [38]. The larger the building area, the more beds, and the higher the proportion of COVID-19 infection in the pandemic, thus increasing the mortality rate [25]. In addition, integrating social and health services into nursing homes is also beneficial for infection control and improving the quality of life for older people [25]. With regards to the layout, the design elements like one-way traffic flow systems in circulation areas, the use of separate entrances and exits; or separate staff, resident, and visitor entrances help to decrease the infection cases [39]. In terms of the ambient, the design of ventilation systems like installing supplemental exhaust ventilation, upgrading filters, and keeping doors closed to maintain the negative pressure prevent the spread of respiratory viruses and other contaminants [23,25].

#### *4.2.4. Protection*

For older people using facilities, protection mainly involves avoiding risks such as falls. The fall in the care facility is also considered an important pathogenic factor. As an accident, falling has a huge impact on the physical health and quality of life of older people, which can lead to fractures, even paralysis, and negative psychological effects.

Therefore, scholars have conducted extensive research on how to prevent older people from falling into building environments. The use of anti-slip materials, elimination of height differences, reasonable use of signage reminders, and provision of handrails have been proven over the past few decades to help prevent falls [23]. In an environmental intervention program, scholars modified the physical environment (e.g. installing handles, alarm bells, fences, reachable closets, and removing risks like small rugs, and cumbersome objects) to reduce falls and fear of falls, thereby creating a safe environment [26].

Reduction and prevention of falls is a main way of health protection, expect it, there are other methods to ensure safety, such as avoiding environmental risks and quick emergency response. Another example used in the case centers is the health monitoring technologies, including wearable devices, personal robots, posture and fall prevention systems, and apps for smartphones and tablets [27].

There also arises the conflict between safety and autonomy according to the Manager of Case 6. She said “For the safety of the older adults, the elevator to the roof deck requires an access card. If the older adults want to go to the rooftop garden, they need permission from the staff or accompanying them. In addition, the handrails of the

second-floor terrace vegetable garden have been additionally raised, which block the view outside." From the side of the manager, safety is much more important than autonomy, and "designs that balance safety and autonomy are needed".

Security issues are widely considered in these cases. The setting of the reception desk at the building entrance, the access control system in the residential area, and the monitoring signs in the public areas aim to create a security environment that prevents or mitigates security breaches and protects assets and individuals from intentional harm.

#### *4.2.5. Behavior*

Healthy behavior includes Physical activity, Healthy diet, and Social activities.

Encouraging daily physical activity is an important method to keep active behavior and therefore promote healthy aging. Designs like long corridors, and free access to outdoor, safe, and walkable outdoor spaces provide support for both indoor and outdoor walking, even wandering for seniors who have cognitive problems [23,29]. In addition, the maintenance of activity in daily life is also discussed in the studies. A familiar environment could provide opportunities and encourage them to engage in activities of daily living [30].

Outing activities for some seniors who have nothing to do represent a sense of ritual. The easy access (proximity and accessibility) to shops, services, and medical care promotes the outing activities [21]. In these cases, for people who live in the centers, the canteen and sometimes charity minimarket are set up in the same building, which promotes the outing activity at a close distance.

In 7 cases, 5 centers contain community restaurants, open to the entire community. The restaurants sell nutritious and well-balanced lunches and dinners at reasonable prices, some cases even include breakfast, and there are discounted prices for seniors. For people aged 65 and above who have limited mobility and live at home, the restaurant also provides meal delivery services. In addition to the community canteen, some facilities with medical care services (Case 1, 2, and 6) also provide nutrition advice and healthy eating consultations.

Social activities relate to multiple aspects of the physical environment. For the architectural design, small-scale home-like settings, facility characteristics like home size, and higher common space variability impact the development of social activities [31]. In these cases, according to the observation, free access, ease of reach, and moving around safely also contribute to the usage of common space and therefore promote social activities. For the ambient environment, a low noise level in the public space is not mandatory but in the living space helps the presence of close conversation which is a kind of social activity between small groups of people [24].

#### *4.2.6. Perceived health*

Comfort is closely linked to the perceived quality of the design and has a direct impact on the mood and mental health of the seniors, while satisfaction is a dimension of quality of life.

As components of well-being outcomes from patients and staff, perceived improvement in mental health and satisfaction is used to verify the suspect that the building design interventions could improve health-related outcomes, and the results were shown as positive [22].

Comfort is related to good experience in the environment. For the residence room of the seniors, designs like a private room with a bathroom, suitable size of the room,

good natural light, and possible access to a private outdoor space or balcony create a nice and comfortable living environment and therefore promote well-being [25]. In addition, comfortable furniture and home-oriented interior decoration are also beneficial for improving comfort. Comfort and satisfaction associated with interior and ambient design vary as person-centered furniture, "home-like" decoration, temperature controls, good ventilation systems, and low noise levels [23].

As one aspect of well-being, spiritual flourishing is confirmed associated with the spaces for recreational activity (e.g., music therapy, arts and crafts, games, reading, and exercise) [23]. Spiritual flouring refers to creating an environment that recognizes and supports spiritual well-being. The smaller communal rooms rather than a single large lounge, garden rooms, and focal points for conversation provide the possibility of spiritual improvement [34,35]. Other design elements like having access to health services, having access to information also contribute to spiritual wellness [35].

Promoting spiritual flourishing in the physical environment involves quiet and reflective spaces, spiritual counseling, and support for rituals and ceremonies. Spiritual nourishment also includes the shaping of spiritual space. For example, in the space near the entrance, the development process of the community is displayed in the form of an exhibition (Case 1, Case 3, Case 5) to awaken the sense of community belonging. In Case 2 and Case 7, localized interior design is adopted to create a space with urban characteristics. It also reflects on the support for local festivals and ceremonies, like hosting festive and community events and festival decorations.

Emotional wellness is highlighted during the conversation with caregivers. Emotional wellness means the environment supporting a person's ability to effectively manage and express their emotions, experience positive feelings, and cope with stress and challenges.

Emotional wellness is linked to a familiar and domestic environment. The provision of a variety of spaces allowing for privacy and social interaction and the provision of opportunities to follow an interesting path that guides the resident from inside to outside and back again also help maintain more stable emotions [30].

#### *4.2.7. Engagement*

There is an important connection between the social health of seniors and community engagement. In the literature, the care facility which proximity to the home gives the users a sense of connectedness with the community [25]. Integration with the community also means sharing community resources.

According to the practical cases, community engagement contains the Sharing of community resources, Co-organization of activities, and Co-construction of projects. These three aspects of engagement come from the interviews with managers and also appeared in the introduction brochures of several community centers. The engagement means providing opportunities for convenient access to community resources (e.g., equipped or linked with barbers, minimart, and one-stop network service points), participating in meaningful social activities (e.g., multifunctional indoor and outdoor space for activities), and involving the older adults in the collaborative planning, design, and decision-making processes related to the development or renovation of facilities and spaces.

#### *4.2.8. Inclusion*

Openness refers to the opening of public spaces in the community care center, except for private residential spaces, to promote communication between the older adults and the other community residents. Openness is closely related to being able to integrate into the community. Gated community centers are not fundamentally different from traditional nursing homes and cannot provide convenient services to community residents. These centers usually have services for all community people on the first floor, such as cafes, restaurants, and sometimes clinics. And in case 1, it even services travelers because of the tourist location.

Personalization means customizing and tailoring the living spaces, amenities, and care services to meet the unique needs, preferences, and individuality of each resident.

Integration with community groups is frequently highlighted in these cases, with children being the most connected group. Some facilities are located near kindergartens or share public spaces like community libraries and canteens, fostering opportunities for joint activities between the elderly and children.

Support for Staff means creating a work environment that offers resources, facilities, and amenities designed to assist and enhance the well-being and effectiveness of the caregiving and administrative staff who work in the aged care facility. When talking about staff support, scholars put forward Staff's interprofessional interaction. Staff's interprofessional interaction means opportunities for interprofessional collaboration. The design of public space provides space for interaction and therefore has a positive impact on it [22]. In the practical centers, one staff for caring for older adults living in the centers mentioned that a staff living area that is easily accessible to the residential space but is not in the same building is needed. Separate rest and recreation spaces provide staff with the opportunity to escape from the stress of the workplace.

Several cases also highlight support for family caregivers through health advice, education, and offering respite. In Case 2, a consultation and guidance room for families caring for dementia patients was established on the building's third floor.

## 5. Discussion and Conclusion

The important part that design plays in promoting healthy aging in community-based older adult facilities in China has been highlighted by this study. The eight dimensions for creating an environment that is supportive of healthy aging are described below and are explored through in-depth case studies of seven facilities: Care and Treatment, Rehabilitation, Prevention, Protection, Behavior, Perceived health, Engagement, and Inclusion. These areas provide a framework for understanding the complex aspects of healthy aging in the community.

In addition, the findings from this study underscore the critical role of Engagement and Inclusion in the effectiveness of community senior centers. The practical cases highlight three primary aspects of Engagement: the sharing of community resources, the co-organization of activities, and the co-construction of projects. Engagement with the local services not only enhances the day-to-day convenience for older adults but also contributes to building social networking and integration within the community [40]. Co-organizing activities is an effective way to engage in social activities. This involvement is crucial for maintaining cognitive health and fostering a sense of community and belonging [41]. Involving older adults in the planning, design, and decision-making

processes for facilities is more likely to address their actual needs and preferences, enhancing the overall effectiveness of centers [42]. The findings of the study highlight the significance of combining various functions, integrating community resources, and making sure senior care facilities are open and connected to their communities.

For future research, there is also an opportunity for comparative international research to further refine the Healthy Aging in Community model. By analyzing how different cultural, social, and economic contexts influence the design and effectiveness of older adult care centers, researchers can identify universal best practices as well as region-specific strategies.

Moreover, this study not only contributes to the ongoing dialogue on healthy aging and community design in China but also serves as a call to action for architects, planners, and policymakers to consider the board aspects of health for older adults in community planning.

## 6. Limitation

The study presents a limited number of case studies that may not fully capture the design practices at the community level. More case studies and also international practices would provide a more comprehensive understanding of the concept of healthy aging. While the study identifies eight domains and twenty-three sub-domains of healthy aging, there may be other relevant factors and domains not considered in this research. Further studies such as expert interviews could explore additional aspects that contribute to this topic.

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