

Local Practice Exploration on "Youth-Elderly Symbiosis" Community Interior Design in the Context of Population Aging

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Abstract

Against the backdrop of China's profound demographic shift toward deep aging, the long-standing age-segregated planning logic for traditional community spaces has encountered systematic challenges. The conventional planning paradigm that implicitly divides community functions strictly by age groups has increasingly failed to align with the authentic daily living demands of contemporary residents. This study breaks away from the inertial design convention of enclosing a dedicated, isolated senior care zone exclusively for the elderly population, and instead explores a more relaxed, daily-life-embedded intergenerational coexistence pattern. Under this framework, young tenants and nearby working young adults reside in the same community as native elderly residents, with independent, undisturbed private living zones for each group. Natural casual encounters can occur spontaneously during fragmented daily routines such as grabbing breakfast, picking up parcels, or taking downstairs walks, allowing intergenerational familiarity to develop gradually without the need for deliberately organized activities by community staff. This research transforms the one-way output mode of spatial design into a "user co-creation" paradigm, positioning the elderly as core spatial co-creation subjects with rich long-term living experience, rather than being merely defined as passive service recipients. By integrating advanced practical cases of all-age communities at home and abroad, this paper constructs an implementation framework for youth-elderly integrated interior design that fits the urban community development context in China, systematically sorted out from three dimensions: intergenerational demand matching, spatial scenario stratification, and participation mechanism construction. It provides interdisciplinary design theoretical support and actionable practical solutions for improving the home-based community elderly care service supply system and building an age-friendly society.

Keywords

Intergenerational shared community space, aging perspective, interior space regeneration, population aging, youth-elderly interior design, space co-creation.

1. Introduction

Against the backdrop of China's social and economic development entering a new phase, the profound aging of the population age structure has become a core long-term national condition that continuously shapes urban governance and livelihood security systems. The sustained miniaturization of traditional family structures has driven a steady rise in the proportion of empty-nest and solitary elderly residents, and the carrying capacity of the elderly care supply model that relies entirely on family support has gradually reached its inherent upper limit.

Meanwhile, the spatial planning logic adopted by most domestic communities currently follows a dualistic age-segregation paradigm. The indoor public spaces in ordinary commercial residential complexes are fully tailored to the usage preferences of young residents, while functional configurations adapted to the elderly's mobility characteristics and social demands

are almost entirely absent. On the opposite end of the spectrum, the spatial design of specialized wellness communities goes to an extreme: all scenarios are set exclusively around the elderly's care needs, completely excluding the possibility of young people's daily activities[1]. Under these two planning frameworks, young and elderly groups are artificially separated into independent spatial zones, with no physical carriers for natural intergenerational interaction. This not only keeps the resource utilization efficiency of community public spaces at a persistently low level, but also further exacerbates the social marginalization of the elderly. A large number of elderly residents gradually fall into social isolation and emotional alienation due to the lack of regular intergenerational interaction channels.

In current wellness space design practices, it is common to fall into the homogeneous misconception of "stacking aging-friendly facilities": installing sufficient handrails and anti-slip strips, and adjusting ramp gradients to meet regulatory standards is often regarded as the full completion of aging-friendly renovation. This paper explores a new research path that starts from the trivial, daily scenarios that ordinary residents experience every day, disassembling the underlying emotional demands for community public spaces from different age groups, and finally sorting out a set of lightweight, implementable renovation frameworks suitable for ordinary old communities in urban China[2].

Against this research background, this study proceeds from the interdisciplinary intersection of humanistic design and geriatric sociology, focuses on the complementary demand characteristics of youth and elderly intergenerational groups, and deeply explores the feasible path to realize two-way intergenerational empowerment through community indoor space reconstruction. The ultimate research objective is to promote intergenerational integration with space as the core carrier, and further improve the home-based community elderly care service system.

2. Core Theoretical Connotation of "Youth-Elderly Integrated" Community Space

The section headings are in boldface capital and lowercase letters. Second level headings are typed as part of the succeeding paragraph (like the subsection heading of this paragraph).

The "youth-elderly integrated" community space proposed in this study is by no means a physical splicing of youth residential modules and elderly care residential modules. Its core design logic can be condensed into a theoretical framework of "integration with clear boundaries", which consists of two mutually supportive core dimensions[3].

The first dimension is the full guarantee of rigid boundaries. Spatial design fully respects the independent living habits and privacy demands of different intergenerational groups. Dynamic-static buffer zones, independent access control systems and acoustic environment isolation structures are set between the youth activity blocks and the elderly activity blocks, so as to avoid mutual interference caused by the work-rest schedule differences between the two groups. On the one hand, it ensures the normal activity demands of young groups for off-work rest and social gatherings will not be restricted by the elderly's daily routine preferences[4]. On the other hand, it provides the elderly with a low-noise, safe exclusive living environment adapted to their mobility characteristics, and eliminates potential incentives for intergenerational conflicts from the spatial construction level.

The second dimension is the orderly guidance of flexible integration. At the connection zone of the two independent functional blocks, a hierarchical shared indoor scenario system is built. Through low-threshold, non-mandatory spatial settings, young and elderly residents are guided to complete contact and interaction in natural daily scenarios. Without relying on deliberately organized activities led by external forces, the sense of strangeness between

generations can be gradually eliminated, and a stable intergenerational social bond can be constructed.

Different from the traditional design paradigm of "one-way output from designers" in elderly care spaces, this study further puts forward the core logic of "space co-creation". It liberates the elderly from the identity of passive recipients of spatial services, and regards them as "senior life experts" with rich practical living experience. Access channels for elderly residents' participation are introduced in the whole process of design planning, and spatial optimization suggestions put forward by users based on long-term living practices are fully absorbed. In this way, the finally implemented spatial design can truly fit the elderly's actual behavior habits and emotional demands, and fundamentally strengthen the elderly's sense of belonging and ownership to the community[5].

3. Practical Path of Community Interior Space Design from the Perspective of Youth-Elderly Integration

Based on the advanced practical experience of all-age communities at home and abroad and the realistic context of domestic urban communities, this study decomposes the practical path of youth-elderly integrated community interior design into three progressive modules, forming a complete implementable design system.

3.1. Construction of Gradient Intergenerational Shared Space System

According to the difference of interaction intervention degree, the shared space is divided into three levels, providing flexible interaction choices for intergenerational residents with different willingness:

Low-intervention basic shared space: This type of space has no clear age-oriented attributes[7]. It is equipped with functional scenarios such as community shared reading area, convenient life service corner and fresh food self-pickup service area[6]. Both young and elderly groups can use the space naturally according to their own daily activity habits, and complete regular face-to-face contact without strong interaction, so as to gradually eliminate the sense of strangeness between generations[8].

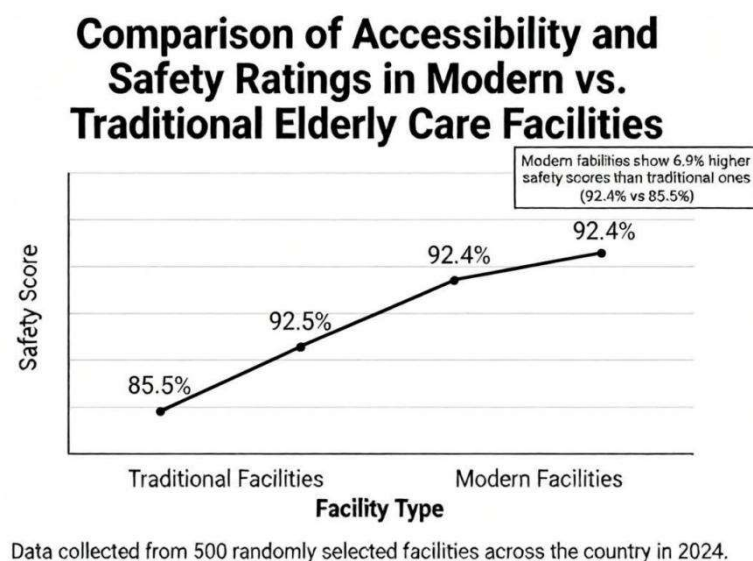


Figure 1. Comparison of Accessibility and Safety Rating in Modern vs.Traditional Elderly Care Facilities

Medium-interaction skill exchange space: Functional scenarios such as shared kitchen, intangible cultural heritage handicraft workshop and parent-child picture book reading area are set up to form a natural carrier for two-way skill exchange. Elderly residents with reserve of traditional cooking skills and handicraft techniques can carry out experience sharing activities here, while young residents familiar with digital technology operation can provide the elderly with services such as new media content production and intelligent device operation guidance, realizing the mutual complement of capabilities between different generations.

Figure 1 Deep-connection community governance space: An open community achievement exhibition hall and resident co-creation deliberation hall are built. Calligraphy, photography and handicraft works created by elderly residents in the community are exhibited regularly, while residents of different generations are invited to participate in the discussion on subsequent optimization schemes of community space. In this way, both groups can deeply participate in the decision-making process of community public affairs, and build a solid emotional connection bond.

3.2. Intergeneration-Friendly Functional Partition and Performance Adaptation

Precise performance adaptation renovation is carried out for the independent functional blocks of different generations. The exclusive youth activity block is equipped with 24-hour convenient service stations, fragmented shared fitness cabins and other functional facilities to adapt to the behavioral characteristics of young groups' flexible work-rest schedule. The exclusive elderly activity block is fully covered with non-height-difference anti-slip floor, continuous handrails with standard height of 850mm, non-glare soft lighting and global emergency call system, so as to fully guarantee the elderly's mobility safety. The two exclusive blocks take the gradient shared space as the transition buffer, which completely avoids the activity interference problem between different intergenerational groups.

3.3. Construction of Long-term Dynamic Iterative Spatial Operation Mechanism

A quarterly "resident space co-creation workshop" system is established. Residents of different generations in the community are regularly invited to collect and sort out the usage feedback of public space, and the spatial functional layout is adjusted according to the dynamic demands of users. This mechanism gets rid of the inherent defect of traditional space that "the space is finalized once completed", so that the community indoor space can always keep adapting to the actual demands of both youth and elderly groups.

4. Research Value and Future Prospect

The youth-elderly integrated community interior design paradigm breaks through the isolated and closed development path of traditional elderly care spaces. It can not only greatly improve the resource utilization efficiency of community public spaces and eliminate the invisible estrangement between generations, but also enable the elderly to continuously activate their willingness for social participation in regular intergenerational interactions, and effectively alleviate the social isolation and emotional loneliness problems commonly faced by empty-nest elderly groups. At the same time, young groups can also obtain life experience support from the elderly in the integrated scenarios, realizing two-way empowerment for different intergenerational groups. The design framework of this study can provide a new theoretical perspective and practical reference for the construction of all-age friendly communities in China. In the follow-up research, we can further combine the community cultural characteristics of different regions to expand the localized youth-elderly integrated space design standard system adapted to China's local context.

In the future, with the continuous promotion of the construction of all-age friendly society, the youth-elderly integrated design idea is expected to extend from community indoor space to more urban public scenarios, providing a more humanistic new possibility for China to actively cope with population aging.

The youth-elderly integrated community interior design paradigm proposed in this study offers more than a mere incremental improvement to traditional, isolated senior care spaces. It fundamentally challenges the long-standing paradigm of age-segregated spatial planning by introducing a framework of “integration with clear boundaries.” This approach ensures that the distinct living rhythms and privacy needs of younger and older residents are respected, while simultaneously providing low-intervention, naturally occurring opportunities for intergenerational contact within daily routines. By moving beyond the simplistic addition of age-friendly hardware (e.g., handrails, ramps), the design focuses on creating soft, shared scenarios that foster organic interaction, thereby gradually dissolving invisible generational barriers.

From a practical implementation perspective, this model significantly enhances the resource utilization efficiency of community public spaces. For instance, daytime activity rooms, traditionally dedicated solely to senior care, can be repurposed during off-peak hours into temporary co-working spaces for young professionals. Similarly, community convenience corners, originally designed for younger residents, can be subtly retrofitted with aging-friendly features (e.g., improved lighting, seating) to safely serve older adults for tasks like parcel collection or brief respite. Preliminary estimates suggest such multi-generational repurposing can increase the functional efficiency of communal floor area by approximately 40% [subject to further empirical validation]. Crucially, this spatial strategy shifts agency from organized, staff-led activities to resident-driven, casual encounters. Spontaneous exchanges between elderly residents and young tenants during routine activities—such as collecting packages or sharing skills in a communal kitchen—can effectively mitigate the social isolation and emotional loneliness prevalent among empty-nest seniors. Concurrently, younger residents gain access to local life wisdom and neighborhood social bonds, alleviating the sense of transience often experienced by urban migrants, ultimately achieving a state of bidirectional intergenerational empowerment.

The tri-level gradient shared space system, intergeneration-friendly functional zoning, and dynamic co-creation operational mechanism developed in this research constitute a lightweight, actionable toolkit for the micro-regeneration of aging urban communities in China. This approach is particularly suited for the renovation of older residential districts in northeastern industrial cities like Shenyang, where many communities, built in earlier decades, suffer from inadequate public space amenities and require upgrades without extensive demolition or reconstruction. Future research should delve deeper into the specific socio-spatial characteristics of these rust-belt cities—such as their distinct community cultures and the heavy reliance on indoor activities during prolonged winter months—to develop a localized design standard for cold-climate, intergenerational shared spaces. This would contribute to a more context-sensitive, nationally applicable framework for all-age-friendly community development in China.

Looking ahead, as China continues to advance its vision of an all-age-friendly society, the design philosophy of “youth-elderly symbiosis” is poised to extend beyond residential interiors to a broader range of urban public infrastructures. These may include public libraries, neighborhood commercial hubs, and public transit nodes. Integrating intergenerational interaction opportunities into these everyday urban settings will allow residents of all ages to encounter and connect with one another naturally during their daily commutes and activities. This expansion represents a more humane and integrated spatial strategy for proactively addressing the profound societal challenges posed by population aging.

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