Design for well-being in older people’s residential environments
- Sustainable Design in Finland and Sweden

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Summary

In the ageing society the social and economical sustainability can be developed through promoting for old persons to stay in their own homes. The current policy in Sweden and in Finland is to decrease the number of institutionalized living places and help people to stay in their homes provided with home services. Good design in residential areas has an effect on the wellbeing and social relations of the residents as well as the sense of security.

A comparative study in Finland and Sweden focusing on the design and use of common multipurpose spaces in housing projects for elderly has been prepared. The aim in the first phase of the study is to compare the results achieved in both countries on the previous studies on elderly housing. The ongoing Finnish pilot study focuses on the entrances of the sheltered housing as well as interaction between indoor and outdoor spaces. The Swedish research has started with an intervention pilot study of common facilities added to an ordinary housing area.

This study is looking for responses to a need for housing in between of the assisted living complex and the totally ordinary housing areas.

Keywords: well-being, environment, experience, sense, usability, accessibility

1. Introduction

In the Nordic countries the population older than 65 years make up 29 per cent of the population between 20 and 64 years old and in 2030 the proportion will reach 42 per cent [1]. It is estimated that in 2030 more than 25 per cent of the whole population in Finland will be over 65 years old [2], while that situation will occur in Sweden in 2060 [3]. According to the population projection for the Nordic countries as a whole, the share of population above the age of 80 will reach approximately 8 per cent in 2040, as compared to the current 4–5 per cent [1]. The population ageing creates new requirements on residential housing areas. The main objective for the society is to promote independent living and to decrease the number of institutionalized living places for the elderly. The quality and usability of the environment becomes important especially for the frail elderly. Promoting for old persons to stay in their homes is one way of achieving social and economical sustainability.

Sometimes in order to maintain independence, people have to or they choose to move to sheltered
housing. They might move because the physical environment does not support their capacities or because the social environment or social relations have changed.

1.1. Elderly housing in Finland

Finland has for long been giving institutional care for the elderly. The structure of the housing services for older people has however changed during the past decade in Finland. The current policy is to provide services that enable the elderly to live in their own homes as long as possible. The aim is that in the future 91 to 92 per cent of the elderly (over 75 years old) live in their own homes [7]. People who can no longer manage to live at home independently are provided with housing services including different levels of care: home care, sheltered housing (assisted living) or institutional long term care.

The number and percentage of people in sheltered housing with 24-hour assistance has increased consistently. Care homes for older people and sheltered housing units with 24-hour assistance had at the end of the year 2009 a total number of 42 802 clients, which was 4.1 per cent more than in the previous year. Meanwhile, client numbers in residential homes (long term care) and ordinary sheltered housing (independent living) have declined [8]. The goal is that in the sheltered housing units live 5 to 6 per cent of the elderly population (+ 75) and only 3 per cent in long term care units [7].

The development of independent living facilities called ‘senior houses’ has been increasing in the last decade in Finland. Senior houses are apartments for residents who are 55 years of age or over and who can live independently and take care of themselves [9]. There are no common criteria for the design of the dwellings or the common facilities in senior houses.

The number of common-use areas in senior houses varies largely, because of the cost-effectiveness e.g. who covers the costs of these premises. Some senior houses have just one common area called a library or a club room. The highest quality senior houses may have a restaurant, a fitness room, a physical therapy area, or other amenities and services [10].

1.2 Elderly housing in Sweden

The Swedish population is expected to increase from 9.3 million in 2009 to 10.9 million in 2060 and the elderly population, 65 years or older, represents a major part of this increase, both in numbers and as a part of the total population [3]. The demographic development in Sweden will have a great impact on planning and economy in the municipal sector, which is responsible for the care of elderly. In Sweden approx. 6% of the people over 65 years are living in assisted living. The rest of the old persons live in ordinary housing and many have assistance from home-care, delivered by the municipal sector.

The seniors want to live in their own homes to maintain autonomy and their identity [11]. The elderly with low functioning capacity spend more time at home and most activities take place at home or in the immediate surroundings [12]. The loneliness and isolation are factors that can lead to depression and can decrease the functioning capacities of the elderly [13]. The emotional and social aspects of home are equally important for life satisfaction as the accessibility and usability [14]. Good design in residential areas promotes socially sustainable neighbourhoods, the wellbeing of the residents and the notion of “aging in place”.

According to Blakstad et al. [15] a building’s true purpose is to support and shelter its users, while they are performing their activities and living their lives. The usability of a building depends both on the physical environment and how the environment is used. Depending on how well a building supports the users’ activities, the physical surrounding can contribute to efficiency, effectiveness and satisfaction in the user organizations [15]. Usability is defined with the three components efficiency, effectiveness and satisfaction [16].
2. Methods

A comparative study focusing on Finnish and Swedish housing projects for elderly has been prepared. The focus is on the design and use of common multipurpose spaces. The knowledge gained in previous studies can be used to define the research questions. The housing projects will be analyzed through architectural plans, usability walk-through methods, observation of activities, use of space, interviews and questionnaires with users. The original plan and the actual occupation of the common facilities will be studied.

The first ongoing phase of the Finnish study focuses on the entrances of the sheltered housing. The entrances are places where people move from a public space to a semi-public space, and vice versa. The pilot cases are implemented in chosen sheltered houses in Helsinki metropolitan area. The residents are asked to give their opinions on different examples of colors, lighting, acoustics and atmosphere in the pilot entrances. The methods of art therapy will be adapted to usability studies and to collect the resident’s hopes and dreams about their housing. The views and interaction between indoor and outdoor spaces are reviewed as well. The measuring of acoustics, temperature and moving in the space will be used. The results will be analyzed and used as a basis of the comparative follow up study.

The Swedish research has started with an intervention pilot study of common facilities added to an ordinary housing area with a huge part of elderly tenants in Gothenburg. From the sector of sheltered housing, or assisted living, quite a lot of research has been performed by researchers as Jan Paulsson [4], and Jonas Andersson [5]. Doctoral student Morgan Andersson is now performing a large study of use and usability of common parts of facilities for assisted living, where results can be applied in this study. The first results show shortage in usability and conflicts in use of common areas [6].

3. Theme

This paper focuses on the quality and usability of common spaces in residential environments for the elderly. User-centric, residential environments that promote social and physical accessibility can be attained by means of spatial planning, acoustics and lighting as well as other architectural means.

Many elderly prefer to live in their own homes but at the same time they feel more physically and socially isolated. With aging the living environment becomes smaller and elderly spend most of their time indoors and in the immediate home environment [17]. The sheltered housing units and the services they offer will be open for other users than residents. They become service and information centers for the elderly population living in the surroundings. A variation of common facilities is needed in these residential environments since they are spaces to generate social interactions [18].

In order to promote aging in place new models for residential areas have to be developed. The buildings should be designed to extend the individual apartments to the common space and to facilitate social interactions with residents. The immediate surroundings, the entrances and common facilities should be stimulating and inviting for the residents and other users [19]. They have to be designed to occupy different activities. Special attention has to be put on elements that help orientation and way-finding.

Because aging changes sensory and place-learning mechanisms the quality of environmental cues may be especially important. Color, a specific aspect of visual cues, may be a critical cue property for place learning in aging [20], [21]. According to Faubert [22], older adults often have decreased visual acuity and contrast sensitivity. Architectural means, colors, lighting, contrasts and natural elements can be used as landmarks to help way-finding.

Way-finding ability typically declines with age; older people prefer familiar to novel places and are slower and less accurate at finding their way in new environments and more likely to get lost than
young people [23]. The fear of getting lost combined with reduced way finding abilities may lead to decreased exploration and social engagement. Thus, strategies to maintain or improve way finding abilities are important to preserve independence under conditions of normal and abnormal aging [24]. Good spatial planning increases the sense of security and independent coping.

Stimulating outdoor environment engages residents to their neighborhood and encourages communication. According to previous studies the outdoor place attachment differed due to age and urban settings. The housing-related identity and place attachment were scored highest in rich and most scenic neighborhoods [12]. The history and identity of the place make it unique and encourages place attachment. Halbwachs [25] illustrates the importance of the place as a collective group experience. The collective memory retained by the group by perpetuating practices allows the transmission of the meaning that they attribute to the relationship between their activity and the place. The stability of practices contributes to assuring the stability of meaning.

The elderly with reduced functioning capacities have tendencies to create control centers or living centers in their home where they feel to be in control of their living environment. These centers are important to feel independent and to maintain the personality. The common facilities can also provide these control centers that can extend the personal living space and create a feeling of belonging to the neighborhood. The good design of the acoustics and lighting in common facilities can encourage the communication and the views can bring the outside world inside. The scale of the space as well as comfort and visual quality can give identity and create personal meaning to the place. The accessibility and usability of the environment are important but cognitive and emotional aspects of meaning of home become particularly important for the frail elderly [12]. A recently finished research project in Sweden shows that there are conflicts concerning the responsibilities for accessibility in the common parts, such as entrances, of multifamily housing complex [26].

When decrements in vision and hearing exceed normal age-related changes that is due to eye pathology, they may begin to compromise an older person’s ability to carry out routine activities that define social roles and quality of life [27].

4. Results

The expected outcome of the pilot studies in both countries will be gain both the formulation of further research questions and the choices of research methods. We will be able to test aspects and factors to capture different values in the common spaces.

The residential buildings for elderly are often old and unfit for the elderly as they have not originally been designed for this user group. In general there are only few common spaces in the building or these spaces are not in use. Reason for this is often poor lighting, acoustics, temperature or indoor air. It is necessary, particularly for the elderly people, that common spaces are comfortable and support their well-being and coping in the everyday living.

In Helsinki area many sheltered houses are under renovation. In the near future for instance entrance halls and dining halls in sheltered houses will be opened and used by other people in the neighbourhood, as well. Due to the larger volume of the elderly population, the amount of common spaces has to be increased. This is why attention should be directed to entrances, which are the meeting and information areas as well as junctions in the building. These areas have to support orientation and give comfortable atmosphere in order to enhance well-being of the residents and the visitors, which may have hearing loss and poor sight.

The sheltered entrances can also operate as landmarks, when people come to the building. They should guide residents inside the building with colours and lighting. Nowadays the entrances are too often dull storage places for moving aids, which is a risk of fire.

In the pilot cases entrance halls are used as places where residents wait for getting in the dining hall before the lunch. Due to increase of the users the halls are too small, they are crowded with residents and mobility aids, and the atmosphere is uncomfortable. This study highlights the halls
and entrances as welcoming open spaces, which support orientation, social interaction and well-being in elderly people’s environment. In addition to the transformation of common spaces the culture of using the premises should be more open and active.

In Sweden a governmental delegation explored the conditions of housing for the elderly and presented their results in 2008 [28]. They identified a great need for housing in between of the assisted living complex and the totally ordinary housing areas, and suggested subsidies for the construction of such facilities. The main aspect of these facilities, called Trygghetsboenden, is that common space is needed for social activities and informal meetings among the elderly. At Chalmers University, the Department of Architecture has a huge experience of innovative thinking about housing for the elderly, with a design project in the master education since last 6 years.

The results of the study bring together Swedish and Finnish knowledge in order to support the design of the residential buildings for the elderly. The project will contribute to evidence-based knowledge concerning the design, use and experiences of common spaces in residential environments for elderly. The study findings should feed into policy on housing for older people which could enhance sustainability and the quality of living environments of this important section of our population.

5. Conclusion

This study is an opening in the collaboration of Finnish and Swedish research related to common spaces of residential environment in order to develop the usability and versatility of the common facilities in these housing areas.

The best practices found in this study, deriving from the implementation of an accessible, high quality and unique living environment can be easily adapted globally.

6. References


