



The Dreams and Needs of Housing for the Elderly – Findings from a user study on two sheltered housing schemes in Finland

As highlighted in the inquiry report for the All Party Parliamentary Report on Housing and Care for Older People, 'Housing our Ageing Population: Plan for Implementation', quality of housing is particularly important for the frail elderly who spend most of their time indoors. Outdoor spaces and stimulating communal areas play an important role in supporting social contacts, and the possibility for older people to participate in the design of their own living environment provides them with greater choice and control, making it more acceptable and personal for the residents.

In a multidisciplinary study coordinated by the Sotera Institute in the Department of Architecture, Aalto University, in Finland, several user-oriented research methods were applied to learn more about the use of semi-private communal areas in two sheltered housing schemes in the environs of Helsinki. Evidence on the use of communal areas and the hopes and dreams of the older residents was collated and tested, providing insights into the use of light, as well as visual elements and sound in the residents' perception of the space.

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Summary

As highlighted in the inquiry report for the All Party Parliamentary Report on Housing and Care for Older People, '*Housing our Ageing Population: Plan for Implementation*', quality of housing is particularly important for the frail elderly who spend most of their time indoors. The decline of their functional abilities has the potential to reduce the way they use living areas and maintain or develop social relations. However, the nature and the immediate surroundings of a sheltered housing or extra care housing scheme has an important role in the maintenance of their functioning capabilities. The design of stimulating and age-friendly semi-private spaces is therefore vital in facilitating social contacts with other residents as well as the delivery of care and support services.

In a multidisciplinary study coordinated by the Sotera Institute in the Department of Architecture, Aalto University, in Finland, several user-oriented research methods were applied to learn more about the use of semi-private communal areas in two sheltered housing schemes in the environs of Helsinki. *The walk-through method* was used to gain a holistic view and collate the evidence associated on the use of communal areas. *Methods used in art therapy* were applied to achieve in-depth knowledge concerning the hopes and dreams of the older residents in the selected sheltered housing schemes. *Small scale pilots* were developed in the sheltered accommodation to test the findings. As a result, knowledge about the use of light, as well as the visual elements and sound in the perception of the space was achieved. The outdoor spaces and stimulating communal areas play an important role in supporting social contacts for the elderly. And the possibility for older people to participate in the design of their own living environment provides them with greater choice and control, making it more acceptable and personal for the residents.

Introduction

The population of Finland is ageing rapidly. By the year 2040 the proportion of persons aged over 65 is estimated to be approximately 27% (Official Statistics Finland, 2009). The aim is to promote "ageing in place" and the target is that 91-92% of the elderly over 75 years live in their own homes or in accommodation such as sheltered housing (STM, 2008).

The accessibility and usability of residential buildings and their immediate surroundings become more important, especially for the elderly over 85 years as their daily action radius gets smaller. Older residents require small-scale and easily accessible surroundings. As a result, any new housing areas should be designed and the existing accommodation should be refurbished to support the independent living of older people and to promote life span dwelling (HAPPI in a UK context). Furthermore, the nature and the services nearby (whether on-site or inreach), as well as older people's social networks, help them to live well in a community even though their functioning capacities may be on the decline. It was found that "ageing in place" and the maintenance of the social environment offers a sense of security, supports independent living and helps reduce isolation.

Indeed, loneliness is one of the main causes of depression and affects the quality of life amongst older people. The communal space in sheltered housing schemes is generally minimized to economize on building costs. The design of the courtyard and landscaping are often neglected or postponed for the same reasons. These spaces, however, are important for social networking within the schemes and within the wider neighborhood. The semi-private communal areas should be designed to be attractive and invite the residents to go out from their individual units of accommodation and interact with other people.

Spatial planning, interior design - furnishing, colour and material choices - as well as natural elements influence people's well-being. Stimulating the environment with natural elements and building details provide landmarks and signs that help older residents to create a cognitive map of the place and help them to orientate in different spaces (Van der Voordt, 2001). Architecture and the spatial planning can therefore support daily activities and have a positive impact on older people's behaviour. By architectural means, with an open plan, the use of colours and lighting, the perception of space and ease in way-finding can be vastly improved. Moreover, an accessible, safe and stimulating living environment can activate and encourage older residents to actively participate in the community.

Background

It is widely recognized that environment and architectural design have an emotional impact on people, such as creating a desire or aspiration to live in a particular place. However, at present - apart from a few exceptions - those associated with commissioning, designing and building housing for older people often neglect the factors that produce these emotions, and therefore dampen any aspiration or dreams. Indeed, the specific exterior and interior design quality of sheltered housing (or extra care housing) can be lost and there is a danger that the units of accommodation can begin to resemble each other. The aim of this research was therefore to study the environmental factors at a scheme level that give satisfaction and a positive experience as well as in the immediate surroundings to older residents, and how these support their independence.

Previous studies by Aalto University have been focused mainly on the accessibility and functionality of specialist accommodation for older people. These found that accessibility is the basis for coping with independent living. However, in order to be able to participate fully in society, a resident has to be able to go out, meet other people and be able to access services. The semi-private space in sheltered housing provides the opportunity for such interaction, a place for daily exchange. It is assumed that creating stimulating spaces where people like to stay for a while, i.e. to rest, gather, engage with others, increases the possibility and frequency for social intercourse. Gehl (Gehl, 1987) suggests that the quality of environment has an effect on people's social activities. According to him, optional recreational activities take place more often in a good quality environment. Consequently, the frequency of interaction grows and the social activities occur when people meet and are in the same place.

Previous studies have suggested that environment and nature have an impact on people's wellbeing as well as on their behaviour and ability to cope with daily life. Van den Berg (2011) has studied the stress-relieving effects of gardening and Wells & Evans (2003) have studied the effect of nature on rural children. Ulrich (1984) has studied the effect of natural views on patients recovering from illness. These studies conclude that nature and natural elements (planting) seem to have a positive and therapeutic impact on people. It is probable that these results and best practices could be useful in the way we plan, locate and design preventive measures in housing for the elderly.

The accessibility also has to be seen in a wider perspective. As the problems in hearing and vision tend to increase as people age, the visual and hearing environment becomes more important. A sense of security in the physical and social environment is related to the perception of the space. The comprehensive experience of the space is formed not only by sight and hearing but also through sense of touch and smell (Stenros & Aura, 1984). Contrasting colours can be used to support the depth and spatial perception of the space. The colours draw attention to cues and landmarks in the environment (Wijk, 2003). Colours can also be used in

way-finding and orientation in a space. Matteo (2004) points out that colour and light are of the same radiant spectrum, and that one does not exist without the other.

Davis & Al (2009) suggest that most people navigate based on a series of landmarks. According to them, distinctive landmarks or cues are important in developing a cognitive map, especially in ageing. The cognitive processes of way-finding and the perception of space was studied in a virtual context. The place learning and way-finding were poor in the environment with cognitively poor cues. They suggest that, especially for older residents, a lack of environmental knowledge can lead to immobility and a lack of social interaction.

Methods

In this study, a multidisciplinary research team applied several user driven methods to explore the hopes and needs of older people with regard to their living environment in two selected sheltered housing schemes near Helsinki. In addition to traditional study methods like observation, questionnaires and interviews, the *methods of art therapy* were adapted for this user study. Further, the *walk-through method* was applied to assess the means that older people with a visual impairment use to find their way and orientate in sheltered accommodation. To study the importance of the lighting in the use of common spaces, a lighting *pilot* was applied in the living room of a sheltered housing scheme.

A student in visual arts, Aalto University, School of Art and Design, established a voluntary resident panel (N=29 participants) and helped form a smaller focus team (N=8 participants) from the larger resident panel. Using appreciative learning techniques, the resident panel assessed the living environment of the older residents, drawing out the unpleasant and the pleasant things about living in a sheltered housing scheme, as well as their dreams and hopes concerning their daily environment. The key findings were projected onto a board, providing 'a landscape of life'. By using these *art-based* methods, the residents could express themselves across differences of physical and verbal abilities and felt confident to take part fully in the group work (Knill, P. & al, 2004). The participants were also asked to present their dream space in a painting (figurative or abstract). The colours, shapes and atmosphere of the paintings were discussed and verbalized in the focus group as well as personally with each participant.

The focus group met five times in total. The meetings were organized in familiar surroundings and the atmosphere was kept deliberately cosy so that the residents could stay relaxed. The resultant trust gained between the residents and the facilitator of the focus group was the main condition to the success of the user study. A focus group discussion was important as, according to Kitzinger (1995) and Krueger (1994), the group discussion reveals themes that do not appear in a personal interview.



Fig. 1 and 2. Visual methods and a simple three dimensional model were used to develop the immediate surroundings of the sheltered house together with the residents (Sara Ikävalko, Aalto University)

The focus group worked on a three dimensional model of the sheltered housing scheme to deepen and firm up the themes raised in the resident panel. The model seemed to facilitate an understanding of the buildings and the immediate surroundings as an entity. Those older residents with difficulties in verbal expression found the model tactile. Furthermore, the natural materials like sawdust, sand and moss, which were used on the model, were pleasant to touch and raised memories from the residents' past. The participants were also given a toolkit with, for example, a diary to write down and illustrate their daily life and a disposable camera to take pictures of the meaningful things in their environment.

The *walk-through* method was applied by a student in cognitive sciences at Helsinki University's Department of Psychology, to assess the influence of the environment on the independence and comfort of residents. The individual walk-through method was carried out in two separate phases and residents in two sheltered schemes participated in the study (N=24). The target of the first phase was to identify the possible shortcomings felt by the elderly in the built environment and immediate surroundings.



Fig. 3. A tour in the common used places was preliminarily planned (Christian Sannemann, University of Helsinki & Leena Aalto, Aalto University)

The main target group in the second phase were those older people with a visual impairment, who were not diagnosed with a memory loss (N=6). The comparison group (N=4) had no diagnosed visual impairment. Most of those with a visual impairment had hearing difficulties. The average age of the residents with a visual impairment was higher and they had been living longer in the sheltered housing scheme than those with normal vision. The *way-finding and orientation* strategies of the residents were studied through specific questions and observation. Comfort, temperature, lighting, colours and acoustics were assessed with the residents. Pairs of adjectives, for example “moist – dry”, “fresh – stuffy”, “fragrant – smelly”, were used to collect the residents' impressions in stopping points that were chosen in advance. The *walk-through* was preceded by a personal interview.

Elderly	with visual impairment	with normal vision
Number	6	4
Male	1	-
Female	5	4
Hard of hearing	5	1
Average age (years)	89.9	77
Average length of stay (years)	4.2	2

Table 1. Profile of persons interviewed in the study

A *lighting pilot* was organized by a student in the Architectural Lighting Design programme, (KTH Royal Institute of Technology). The pilot was in two similar communal areas on different floors in one of the sheltered housing schemes. The aim was to monitor the frequency of use of the space and the impact of lighting on its use. The lighting in one floor was improved while in the other was left as it was. The residents were interviewed on the lighting levels and solutions. In the pilot area, the space was lit with indirect lighting on the walls and ceiling. The tables and functional areas of the room were lit with direct lighting to activate the residents and to encourage use of the room.



Fig. 4 and 5. The plan and the realization of the lighting pilot (Reetta Maila, KTH, Aalto)

Results

The findings from the study threw up a mix of results. Although the number of participants in the study was relatively small, and any statistical or universal conclusions cannot be made, the findings do contribute to a deeper knowledge of residents in sheltered housing and about how they make best use of their living environment. In addition, the study came up with some practical findings. These include:

Outdoor area

According to the focus group discussions, the garden and the view from inside to the garden were important sources of wellbeing to the residents. The outdoor area / greenspace also played an important role in social contacts with other residents. The residents liked following activities in the garden from the privacy of their rooms. Moreover, activities in the garden also encouraged residents to go out. Most notably, the residents who had their room facing the communal garden space took part more frequently in social activities, whereas residents who had their rooms facing other buildings expressed that they were abandoned and not aware of all the activities that took place spontaneously in the garden. Interestingly, the residents also felt that the outdoor area was a neutral zone to socialize in and that contact with neighbours was therefore natural and easy. As a result, they desired to have more sheltered sitting places, more activities and plays in the garden. The gardening and the outdoor games were enjoyable social activities and the residents desired tools and equipment in sight, free to use, for their activities.

During the interviews and questionnaires, the residents were also asked about the use of their immediate surroundings. Surprisingly, some of the residents who had moved to the schemes from other parts of the town had not yet explored the immediate surroundings and did not know

the neighbouring areas, except the primary care health centre located next door. They stated that they felt unsafe in an unfamiliar neighborhood. Because they felt socially and physically insecure, the residents did not want to go far from the building. In one of the sheltered housing schemes, a small commercial centre in the vicinity of the scheme had a shop, a pharmacy, a library and a church. However, these were not familiar to some of the residents although they had lived in the scheme for nearly two years. Furthermore other residents, familiar with the immediate surroundings but with declining functioning capacities, were reluctant to go out alone. They preferred to go out with a visiting relative or member of staff.

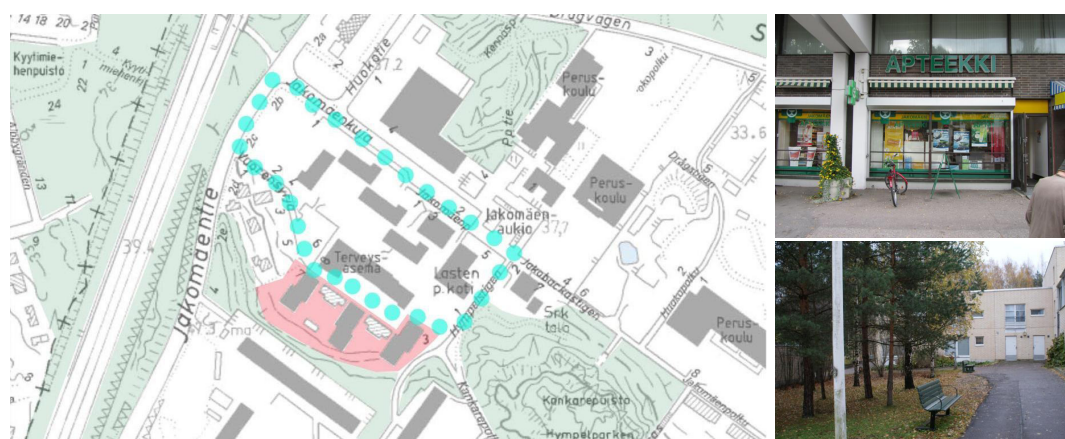


Fig. 6. The immediate surroundings have not been fully exploited in supporting the elderly living at the sheltered house (Johanna Hätönen, Aalto)

The main worries of residents related to going outdoors were i) the loss of strength while having a walk and ii) the fear of getting lost. Some residents also mentioned the problem of incontinence as a reason for not travelling far from the scheme. During the interviews, residents answered that they had enough exercise outdoors but, at the same time, they remarked that they would like more walks and outings. They pointed out that more age-friendly benches, and safe and even walking paths in the neighbourhood would encourage the residents to go out. In particular, they stated that the paths should be clearly indicated and visual maps and guides to support way-finding should be provided to all new residents. It was also suggested that those residents with good knowledge of the locality could act as ‘guides’ for the new residents.

The sheltered housing scheme analyzed in this study constituted three buildings that framed two courtyards of different characteristics. One of the courtyards used natural elements (planting), several sitting benches and a patio. The other courtyard had a pavement and greater attention was put on accessibility. However, as there was no shade in the yard it was felt too warm at summer time. As a result, the latter courtyard was hardly ever used and most of the activity took place in the one with greenspace.

Common used spaces

The residents expressed a desire to have more informal meeting places for social contacts between themselves or with relatives in the scheme. In addition to spaces for structured activity, it was felt that intimate spaces, for chatting and for spontaneous meetings, was missing. Furthermore, some of the residents also dreamt of having a wooden sauna built in the courtyard.

Reason for coming to the common used spaces	Ground floor	Upper floors
Dining	10	-
Meeting people	7	6
Meeting staff members	7	4
Information	7	1
Entertainment (radio / tv)	3	0

Table 2. The use of common use spaces (residents N=10)

The residents make full use of the communal space at mealtimes and to meet other residents, relatives or a member of staff, whereas they preferred to watch television or listen to music in their own room. Mealtimes are important and give a rhythm to the daily routine. Some of the residents arrive an hour before their meal to wait in front of the dining hall. As food is contracted externally and also prepared off-site, the doors of the dining room are kept shut between meals. As a result, it was noted that the dining room is not used in an efficient and economical way and stays empty for most of the day. Meanwhile, the space outside the dining room becomes an important place for socializing. However, the layout and furniture outside the dining room, near the entrance, do not encourage this.

The residents also considered that the large dining area is too noisy and uncomfortable. In particular, mealtime conversation and the room layout presented difficulties for people using mobility aids, especially in the dining area where the tables were placed in long rows. The dining area in the other sheltered housing scheme, with small tables for four persons, was felt more comfortable.

While renovation work was being undertaken in one of the scheme's dining hall, the dining tables were placed in each floor. The residents felt this pragmatic solution more convenient and would prefer to dine in smaller groups on their own floor.



Fig. 7 and 8. Small scale pilot was realized in the sheltered house Vuorensyrjä (Päivi Aro, Sotera)

The residents also desired more informal spaces and rooms for private discussion with friends and with other residents. This came up in the focus group meetings and, during the course of this research, a comfortable sitting alcove was co-designed with the residents in the entrance hall of one of the sheltered housing schemes. The designs for this area took into account the preferences of the residents, and the final plan was chosen together with them. The acoustics and the visual aspects of the space were also chosen to minimise background noise and to

encourage social intercourse. And finally, use of the space was monitored through a camera with an activity sensor, and the level of noise and quality of indoor air were measured.

The residents were asked questions about the *lighting pilot* in the communal space as well. The results were incomplete but what was learned was that the residents felt that the new lighting-levels were much better than the original. However, the existing furniture was still uncomfortable and the time residents spent in the communal areas showed no marked increase even with the better illumination.

The results of the qualitative study with the residents with a visual impairment indicate that the things that have the most impact are those things that aid someone's navigational ability, help with orientation and/or enhance familiarisation of the space. Those residents who had lost their sight whilst living in the sheltered housing scheme navigated with ease using their memory and previous experience. Those residents who had lost their vision before moving to the scheme had learned quite rapidly how to orientate themselves and find their way inside the house. However, some residents with a visual impairment also said that they used perceptible clues to find their way inside the sheltered housing scheme and would benefit from colour-contrasted décor and better natural (daytime) and artificial (nighttime) lighting. The study revealed that they had difficulties in navigating corridors with low lighting and, for example, missed turning into a corridor with poor lighting or large pools of shadow.

In order to cope with the environment, their personalities, social skills and positive attitude towards life helped the residents. Most of those with a visual impairment in this study accepted assistance from other residents when offered. What they found hardest was unexpected changes, such as doors that opened onto the corridor and furniture that had been moved from its previous location or not put back in the right place. These were considered to be the main obstacles.

Contrary to other residents, those with a visual impairment felt the open view from the communal areas to the entrance and outdoor area undesirable. Unlike other residents who enjoyed the view outside, they expressed concern about being watched from outside. Interestingly, some also expressed a desire to share the sheltered housing scheme exclusively with other visually impaired persons.

Discussion

The communal areas in sheltered housing schemes should be designed to encourage social contacts and to create possibilities for communication and networking. The size and attractiveness of communal space is important in supporting independent living amongst older people. Above all, sheltered housing and other forms of housing for older people, such as extra care, should be close to services and safe outdoor activity areas. The study found that "ageing in place" is important to maintain social contacts.

However, it should be noted that older people are a heterogenic group of individuals who have their own desires and hopes. Often they attribute problems with their environment to their personal functioning capacities. According to them, for example, the reason for not seeing or hearing is the loss of sight or hearing. This is only partially true. The analysis of the sheltered housing schemes also found that the schemes themselves have many deficits in the lighting and acoustics in their immediate environment. These deficiencies in sight or hearing could be partially compensated by an appropriate level of lighting and better acoustics. Jokiniemi (2007) proposes that when the environment offers 'affordances to several senses', the person can perform in the environment even if one of the senses declines.

The physical form, the aesthetic and the atmospheric qualities of communal spaces can promote social relations and should be built into the design of specialist housing for the elderly. Andersson (Andersson, 2005) proposes that the architectural solution of purpose-built schemes for older people can be described as hotel, or home-like. The association to any type of solution is about the choice of materials on the walls, ceilings and floors as well as the furnishings. Environmental cues and clear landmarks help the residents to navigate the space and to form a cognitive map of their living environment. The familiarity of the place gives a sense of security and supports the activity of residents.

In conclusion, older people are experts on their own needs and are able to contribute to their own living environment. The residents participating in this study showed that they know their living environment and its potential very well. Furthermore, participating in this study has made the residents think actively about ways they would like to see improvements in their living environment. One of the main outcomes of the study was that the residents got inspired to get involved and, instead of being passive receivers, they became active producers, thus preventing a premature move to a more institutional setting. And finally, residents' relatives were invited to a 'craft show' showing the artwork produced by the schemes' residents to celebrate their creativity.

Note

The views expressed in this paper are those of the author, and not necessarily those of the Housing Learning and Improvement Network. If having read this case study you would like to know more about the connections between sheltered housing, older people and art, visit Elderly Accommodation Counsel Art Awards at: www.eacartawards.org.uk

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Previously responsible for managing the Department of Health's Extra Care Housing Fund, the Housing Learning and Improvement Network (LIN) is the leading 'learning lab' for a growing network of housing, health and social care professionals in England involved in planning, commissioning, designing, funding, building and managing housing, care and support services for older people and vulnerable adults with long term conditions.

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