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# Can Intergenerational Cohousing Be a Possible Living Option for Aging-in-Place: Cohousing Case Studies in the UK

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# Can intergenerational cohousing be a possible living option for aging-in-place: cohousing case studies in the UK

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## ABSTRACT

The older population is rapidly increasing worldwide, becoming a global concern. Due to the aging of the population alongside a constant increase in life expectancy, aging in place has emerged as a necessary and valuable guiding strategy in addressing and meeting the needs of the elderly. In this social context, a collaborative living model (cohousing) has attracted the attention of many scholars and social workers. Increasing numbers of researchers and professionals have proposed that cohousing communities have great potential to achieve aging in place via its special co-design procedure and supportive social interactions. This paper aims to investigate whether the intergenerational cohousing model can be a possible and supportive living option for aging in place. The paper demonstrates the advantages and limitations of cohousing communities for aging in place from two aspects: built environment features; and social interactions. This study involved seven cohousing communities in England, accounting for 24 participants. Semi-structured interviews were conducted with project architects and cohousing residents. Focused site observations were carried out in two cohousing communities. The data was collected and analyzed through a qualitative approach to represent cohousers' neighborhood design process, built residential environment and living experience. The findings of this paper highlight fundamental design principles related to aging in place, such as housing adaptability, accessibility and mutual support neighborhoods, and concludes with design recommendations that could guide future neighborhood design and management in order to enable the older population to age-in-place in an age-friendly community setting.

**Keywords:** aging-in-place, old population, cohousing community, neighborhood design, residential environment.

## 1 Introduction

The older population is rapidly increasing worldwide, becoming a global concern (World Health Organization, 2015). Research by the European Commission shows that the percentage of people aged 65 and over is increasing at an unprecedented speed and is expected to account for over 30 per cent of the European population by 2060 (European Commission, 2015). Therefore, it is fundamental to develop new concepts, systems, and programs to fulfil not only the expectations of older populations, but also for service providers, local governments, and decision makers (Lecovich, 2014). Recently, increasing numbers of scholars are paying attention to the living needs of older people, especially those needs related to their housing environment and social lives. Due to the aging of the population and a constant increase in life expectancy, 'aging in place' has emerged as a necessary and valuable guiding strategy in addressing and meeting the needs of elderly people. The term aging in place is defined as "remaining living in the community, with some level of independence, rather than residential care" (Davey, et al., 2004). To this end, a collaborative residential model named 'cohousing' has drawn great public attention and is seen as a possible living option to age in place because of the nature of collaborative living and its co-design procedure.

The aim of this study is to investigate whether the intergenerational cohousing model (mixed age cohousing) can be a possible and supportive living option for aging in place. A more thorough understanding of aging in place in a cohousing environment could provide knowledge not only for increasing the home-environment adaptation of older residents, but more importantly, the findings of this study are able to enrich the meaning of 'ageing in place' and provide more explanations for cohousing community living. Therefore, this study was guided by the following research question:

- How can intergenerational cohousing be a positive living option to support aging in place for older people?

## 2 Literature Review

The literature review comprises three parts. First, it introduces the background context of cohousing. Second, it discusses the concepts of ageing in place and age-friendly environment. Third, the literature review outlines the use of the Lifetime Home design standard.

### *2.1 Background of cohousing*

The concept of communal living has existed for millennia (Newsham, 2018). For most of human history, people were hunter-gatherers who lived in large camps and depended on one another for food, child and elder care, and everything else (Strauss, 2016). The form of intentional living based on sharing can be traced back to agricultural times when senior farmers lived in units now called Accessory Dwelling Units (ADUs) or "granny flats" in the United States (Anacker & Niedt, 2019).The term 'cohousing' (synonymous with 'CoHousing' or 'co-housing') is a generic European term for "collaboratively designed and built housing spaces for multiple households that develop 'self-managed social architectures' to share activities and experience" (Nelson, 2018, p.xii). Nowadays, traditional forms of housing no longer address the needs of many people and a lot of people are mis-housed, ill-housed or unhoused due to a lack of adequate housing options (McCamant & Durrett, 1994). Therefore, cohousing has emerged as a new collaborative housing concept, designed to foster meaningful relationships, social interactions, and energy efficiency concepts. Once a cohousing community is established, it is maintained by its residents and functions as a community through shared amenities, facilities, and spaces.

Through cohousing, residents are committed to living together as a community that, in turn, gains the benefits of a supportive social network (Garciano, 2011; Hagbert, et al., 2020). Typically, a cohousing community is a group of between 15 and 40 households (15-35 families, approximately 50-100 people) who come together and share facilities and belongings (Lietaert, 2009; Hagbert, et al., 2020). As stated by UK Cohousing Network (n.d.), cohousing communities have a common house, with shared facilities such as cooking and dining spaces, meeting and playing areas, laundries, and guest rooms. Sargisson (2012) indicated that cohousing communities are established based on a concept of sharing, not only of physical spaces and resources, but also community management, mutual support, and life experiences. An additional aim of cohousing communities is to minimize living costs, including rent, car ownership, and energy consumption (Thorne, 2015). Community living may enable residents to reduce living costs via shared resources, education, cars, workshops, caring for children and older people, tutoring and training (Priest, 2015; Garciano, 2011).

### *2.2 Aging in Place and age-friendly environment*

The statistics around ageing population are widely known and represented. Nowadays, the UK's population is ageing, According to Agediscrimination.info (2020), 15.2% of the UK population is aged over 70. At the same time, the demands of older people are receiving more

attention. Additionally, for older people, their lives not only require sufficient material comfort but also self-value and a sense of belonging. As Wealleans (2015, p.166) stated: "A needs focused view of ageing populations underestimates the value of older people and the contribution they make to society. Obviously, it is a good thing that we are living longer but we need to ensure that people are living stronger for longer and with purpose and a sense of belonging". There are two types of cohousing strongly related to older people: intergenerational cohousing; and senior cohousing. This study mainly focuses on intergenerational cohousing. When discussing older people's needs and their current living status, it is important to understand the term 'aging in place'. As stated on the Senior Resource website, the term has been defined as "living where you have lived for many years, or to living in a non-healthcare environment, and using products, services and conveniences to enable you not to have to move as circumstances change."

When talking about which type of housing design in cohousing community can lead to a healthier and independent lifestyle, it is necessary to define the daily tasks, environmental barriers, functional limitations, and housing preference among the residents, especially for older people. The home environment is a vital consideration and determinant for daily activities and participation for the older generation. Specifically, the physical settings of housing can support independent living, and it is the critical indicator for older people who hope to continue to live a normal life at home as long as possible (Iwarsson & Wilson, 2006). Danziger and Chaudhury (2009) proposed that physical frailty can be delayed if the environmental factors matched the individual's capabilities. Further, it would provide more opportunities to maintain their independence; failure to match the environment would increase their vulnerability and risk for injuries.

Based on this foundation, the key element to meeting the needs of older people and creating supportive housing environments is the physical environment of the home (Hwang, 2011). In other words, the living environment could foster healthy living and subjective well-being (Iwarsson &Wilson, 2006). In this study, the research paid extra attention to the permanent features in the interior spaces or immediate outdoor home environment (e.g. installation of lifts; door widening) to increase accessibility of the home environment. The primary purpose of this section is to explain the home environment barriers and functional limitations in housing among older people,in order to provide foundational knowledge of difficulties and accessibility issues from a long-term perspective. According to Iwarsson & Wilson (2006, p.63), the environmental barriers can be found in the following places: narrow paths; narrow door openings; poor illumination of walking surface; slippery bathroom surface; no grab bars at shower/ bath and/or toilet; and no level area in front of entrance doors. At the same time, other concerns have been addressed by different researchers, such as the shower tub is too high, the cupboard is too high or too low in the kitchen, lacking storage space in the bedroom, and, the balcony ramp is too small and steep. (Danziger & Chaudhury, 2009).

*2.3 Lifetime Homes Standards (LHS)*

Lifetime Home Standards (LHS) were established in the mid-1990s to incorporate a set of principles that should be implicit in good housing design (Goodman, 2011). They include 16 design criteria under five categories (Inclusivity, Accessibility, Adaptability, Sustainability and Good Value) that can be widely applied to new build and housing retrofit. These criteria were targeted to improve the property to be flexible for a wide range of people and also introduce adaptability into the housing layout and design. Lifetime homes can provide benefits especially to older people, disabled people, and anyone with physical impairments to make their home more accessible and inclusive.

In the cohousing context, LHS can be applied to benefit both types of cohousing models. Therefore, Lifetime cohousing could become an effective housing model to maximize the opportunities and potentials of housing and neighborhood design for cohousing members and promote better neighborhood sustainability. In addition, LHS also influences social interactions and common activities. As Kelly (2001, p.72) suggested, "flexible, usable and adaptive building design of lifetime home is able to influence social patterns and processes. It will encourage neighborhoods to evolve and flourish […] they represent the best way to achieve community sustainability". Although this study acknowledges the advantages of LHS, some limitations must also be considered. On the one hand, within the 16 design criteria, LHS do not incorporate sensory factors including room temperature, humidity, air quality, sound, and lighting control. On the other hand, the design criteria may not be fully applied to intergenerational families because they exclude children from consideration and explain the life course period from adulthood to old age (Allen et al., 2002; Imrie, 2006).

## 3 Methodology

Taking into consideration the research questions mentioned earlier, the position of this study falls firmly within the interpretivist paradigm and is guided by the concepts of environment psychology. As such, it was decided that the inductive approach should be applied in this study using case studies. The methods of this research were divided into data collection and data analysis categories using multiple qualitative methods.

In this research, the term 'older people' is defined as someone over the age of 60. Seven cohousing communities were examined in England (located in Lancaster, Leeds, Sheffield, and Cambridge). In total, 24 participants were involved in this study. Semi-structured interviews were conducted with project architects and cohousing residents (aged from 49-73). Focused site observations were carried out in two cohousing communities: LILAC; and Lancaster cohousing. The observations aimed to capture intergenerational social activities (e.g. common meals), and the design and application of common facilities and community daily routines. Based on the collaborative design process, the study included both parties (architects and building users) of the design process into the research and paid special attention to the future building occupants (future cohousing residents). Specifically, this was accomplished by interviewing architects, current cohousing residents, and future cohousing residents, investigating their expected needs in various areas of the cohousing community, how the common space (e.g. common house) was to be divided and used to support aging in place and whether any special requirements existed among them (e.g. different building design standards applied for supporting older residents).

In this study, the data were analyzed using Interpretative Phenomenological Analysis (IPA) and a process of Qualitative Content Analysis (QCA), using thematic coding techniques. IPA was applied to analyze the observation date set (Smith & Osborn, 2007; Smith & Shinebourne, 2012). QCA was used to analyze the interviews and secondary data (Mayring, 2014). IPA was carried out through exploring the deeper meaning behind the physical environment (design aspects, quality of community space) and the social environment (social connections, social distance, work relationship, mutual support, and environment for raising children) in the selected cohousing communities. QCA was carried out through various types of coding techniques (Saldaña, 2015). These coding techniques were used to define the main themes and to identify the relationships between the themes.

## 4 Results

Based on the interview and observation results, all research participants acknowledged that the cohousing living model has a great potential to provide a healthy-aging option for older people. The shared features with the benefits of mutual support from different generations could strongly form social bonding and sense of belonging. However, difficulties remained. In terms of the built environment of the cohousing community, the study found that the criteria of aging in place and older people's living needs (e.g. mobility difficulties and visual impairment) were not fully considered in the process of community design and construction; very few communities considered the needs of the disabled, and the rest of the communities participating in this research did not have corresponding facilities to meet the needs of older residents. Moreover, the flexibility and adaptability of private dwellings in the intergenerational cohousing communities were relatively low. Specifically, the results of this study will be explained in the following two parts:

- Social aspects: mutual support and financial choices.
- Built environment features: adaptability, flexibility, and LHS.

The overall result of this study is illustrated in Figure 1 below:

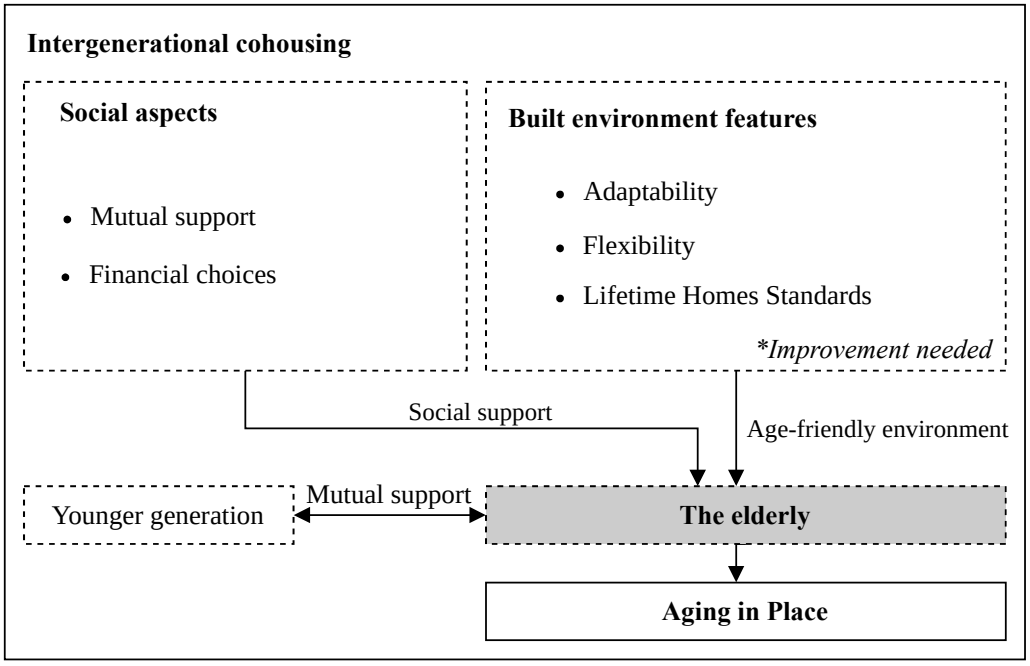


*Figure 1: Intergenerational cohousing and the elderly*

*4.1 Social aspects: older people and cohousing communities*

Why did this research pay close attention to older people as a very special cohousing audience group? The reason for this was based on the investigation of demographic information of the cohousing projects in the UK, older people became the special and biggest audience group of selected cases in this study. Taking Lancaster cohousing as an example, even through the community named itself as an intergenerational group, the majority of residents were older people. When taking senior cohousing into consideration, older people become the largest audience group of the cohousing model in the UK. The interview results showed that all participants (architects, current residents, and pre-residents) agreed with the concept that "cohousing can be a great housing option for older people". However, the explanations which participants provided for this concept differed. Two aspects were highlighted in the interviews when discussing the housing options for older people: intergenerational living with mutual

support; and financial choice. Among these aspects, this study found that intergenerational living and mutual support provided the driving aspect for older people to choose cohousing. The following subsections will introduce how participants perceived the importance of these two aspects when making a housing decision.

*Intergenerational living with mutual support*

Intergenerational living with mutual support was the driving aspect when discussing cohousing as a housing option for older people. Almost every participant mentioned this point, highlighting that intergenerational living not only benefited older people but also children and young families. Some participants, especially older group members, when comparing intergenerational and senior cohousing, valued the following two viewpoints. First, if people choose to live in a senior cohousing, when people are getting older with declining physical capacities, the interactions in the neighborhood will be reduced, people will have more health difficulties to look after and support each other (Architect AS6, resident RF4, resident RK6). Residents may still rely on services (e.g. too old to drive, unable to carry heavy stuff, thus considered using food delivery services) and care provided from outside of community. Second, living in an age-mixed community, older residents not only could receive 'peer support', but also benefit from the younger generations, such as intergenerational learning. In addition, older people could help out and feel useful when other families needed them, for example, to baby-sit for a short period of time. If the social aspect was the dominant reason for people to choose a cohousing scheme, then the benefits of mixed age groups and mutual support from different generations were the main reasons why older people choose an intergenerational cohousing. As group members stated:

> *"I think it is much better being around young people, not just with older people there is more energy there, there is more that different generations to help each other. You know…ignore everyone is physically frail, some people can go and do the shopping and carry the heavy stuff, the older people can be virtual grandparents, then babysit for the kids, which they like the kids a lot" (Resident, RK6).*

> *"You can contribute and feel useful. And you got something to give as well as you receive a lot help and support. So I think for older people is really helpful. I know some cohousing projects are just for older people, I understand why those people want to live just with over 50s. But for me, I prefer multigenerational, I like the mix. It keeps me young and keeps me busy" (Resident, RL13).*

*Financial Choices*

The cohousing model has the potential to bring financial benefits to the group members by developing a financial scheme or benefiting from community sharing. However, cohousing still faces a lot of financial difficulties, for example, the initial costs for developing the community are far too expensive for all group members (sharing the costs of communal areas and investing in some design standards) and a lack of financial support from local authorities and financial organizations. However, the financial situations of living in a cohousing community can be very different when discussing the housing choices for older people. Some older group members highlighted in the interview conversation that they were aiming for an intergenerational group, but young people/ families were having financial difficulties in accessing cohousing. This makes it almost impossible to diversify the population within the group (many intergenerational cohousing groups have little or no young residents). In other words, many mixed age cohousing groups evidenced a pattern similar to the senior cohousing, and in consequence the multigenerational social interactions were largely reduced. From the

group members' perspective, because of the developmental procedure of cohousing community (self-funded, collectively buy the land and manage the construction), they have less flexibility to select young people as future residents because the older generations might be the 'only group' able to afford this type of living. This also answered why older people were seen as the largest audience group of the cohousing model:

> *"I prefer multigenerational. Lancaster cohousing is a group already mainly older people, quite a few retire people here, so we are halfway being senior already. I think it is nice to have intergenerational, but that makes very difficult, because it is not the cheap community to buy, it is difficult for young people to come here, you got less space for your money use, still quite expensive to come and live" (Resident, RL9).*

> *"I think our difficulty here as much we would want to have people are wide range of ages. The physical process is turning these houses (very old English houses) into homes, means they are end up being quite expensive homes. Which means somebody like yourself (less than 30 years), really like the idea of cohousing, want to be part of it, unless you got a lot of money, or your parents got a lot of money, or won the lottery. It is very difficult to join" (Resident, RO18).*

Some of the cohousing groups (such as 'On The Brink' cohousing in Sheffield) maintained rental dwellings on site for young people or families to increase the possibilities of involving young people in the group. However, the rental units or flats would not be the final solution to the problem. Key for the developers, decision-makers, and future groups, then, is how to make this type of living more accessible and affordable to a wider range of social groups.

*4.2 Physical cohousing design: Lifetime Homes, adaptability, and flexibility for aging in place*
This section mainly discusses the advantages and disadvantage of cohousing's built-environment and physical design for aging in place. This is divided into two parts: Lifetime homes; and, adaptability and flexibility.

*Lifetime Homes*
The collective design process (co-design) in cohousing communities makes easier for cohousing communities to be well integrated into the design standards which are suitable for the older people. LHS is the most widely considered and accepted design standard in many cohousing communities in the UK. It allows a great deal of flexibility for older residents to age in place. During the interviews, LHS attracted most attention and it was highly valued by the group members. Five participants pointed out the LHS and provided detailed examples to explain the importance of applying this standard. They stated:

> *"Why we would build houses, that could only fit one particular way of living?... I think, it (applying Lifetime home standard, or build the houses to meet future needs) is just common sense, I never thought about it before. When I saw it, I thought of course this make sense! I thought you have to have the rooms for the person who walking with stick or a wheelchair, or a ramp, we don't have much land, so we got to build things like this. It will make sense. It makes more expensive, of course, but it worth doing in the long run" (Resident, RF2).*

> *"I think… to think about all of these things right to the beginning, because none of us know what is going to happen, we could be absolutely healthy, and suddenly we fall*

*down or have an accident or something. We don't want that to happen, but it is better to think about and it is better to be aware of and better to be planning for it, so I think this design standard is very useful and necessary" (Resident, RF4).*

As mentioned above, using this design standard could make buildings more expensive. During the interview, the group members also made suggestions on how to apply this design standard into the community when funds were insufficient:

*"We discussed within the group, maybe have one or two dwellings well-equipped, they could specifically meet these kinds of criteria, if somebody needs to go into that… but it is not compulsory for every unit to have something" (Resident, RF5).*

In addition, some cohousing communities were considering adopting the LHS for different housing types (e.g., only apply it to three-bedroom houses because the staircase was wide enough), whilst other cohousing communities only applied certain design provisions/ terms instead of using the full standard. These examples provided a practical and more affordable way of adopting design standards in the neighborhood design. At the same time, this study found that even though some of the group members could not accurately identify the name of the design standards, or their specific terms, they were able to describe many items related to the design standards that could be very important to their lives, such as the space for ceiling hoists, wet rooms, stair lifts, ramps, and circulation space for wheelchair users. These design items were explained in the LHS. This indicated that group members built an awareness of housing adaptability and started to pay attention to the 'future-proof' design features.

*Adaptability and Flexibility of the cohousing design in the UK*

Intergenerational cohousing is one of a number of cohousing types found in the UK. However, the study found that the living needs of older generation were not fully reflected and addressed in the cohousing design. Due to that fact that all selected cases in this study represented intergenerational cohousing communities, accommodating the living needs of various age groups became extremely important regarding neighborhood design. As mentioned previously, the flexibility and adaptability of private dwellings and special needs of different age groups were neglected in the design. Further, the corresponding future-proof strategies for older residents were not taken into account in the community management. Only one selected case (Five Rivers group) considered and fully addressed the details of intergenerational design principles in the design process. This section will use this case as an example to explain the design principles and elements for older generation.

The study argues that the adaptability and accessibility considerations for older generation should be applied to both communal and private areas in the community rather than just for the private area. The design principles considered by the group fall into the following three categories (Five Rivers Cohousing workbook, 2019):

1) Groups with specific design requirements: older people, various family types (e.g. couple no children, single-parent family, disabled people in the family, family with children of different ages) and young people (teenagers, young kids).
2) Housing types: adaptable houses and purpose-built houses.
3) Areas to consider (both communal and private areas): bedroom and communal spaces, bathroom, kitchen, and accessibility measures for people with mobility difficulties (e.g. wheelchair and walking frame users).

Guided by these principles, this study found that there existed different design priorities for various age groups when selecting the design elements. For example, when designing spaces for families with young children, it focused on adaptable areas that promoted privacy and social interaction with the family via using open layout kitchens, kitchen islands with stools, and sufficient room with non-slippery surfaces. When designing spaces for older residents, health and safety became the priority. Architects considered wider and less steep staircases with handrails, walk-in showers with a built-in seat, non-slip surfaces, wheelchair ramps, suitable heights of kitchen equipment, door levers instead of doorknobs and disabled toilets in the common houses. In order to increase the flexibility of the living space to cope with the changes in family circumstances change, open plan spatial layouts, flexible walls, sliding doors and multifunctional furniture were also considered. These design elements should also be applied to common spaces, including the common house, community workshop and outdoor paths. Design that is specialized and personalized can provide convenience for the residents. At the same time, it may also challenge community decision-making and financial schemes (e.g. a financial plan to pay off the community mortgage, see Lilac cohousing), which could make the design process longer. Accordingly, the balance between simplified and specialized dwellings should be highlighted to assist the architects and group members for future cohousing design.

## 5 Contribution to Knowledge

This research demonstrated the great potential of the cohousing model for aging in place. At the same time, it pointed out the difficulties and limitations of current community living for the cohousing model in the UK. More importantly, the study highlighted a community-based possible aging option for older population by summarizing valuable design principles and age-friendly concepts. The research findings could largely benefit cohousing residents, project architects, policy makers and other related stakeholders for better future cohousing design. Moreover, the results of this study can be applied to other older-people orientated residential settings, such as retirement villages, care homes and home share systems.

## 6 Conclusion

To conclude, this paper provides an in-depth analysis of cohousing community living for aging in place. The findings suggest that intergenerational cohousing can be a valuable aging option for a broader older population in the UK. Specifically, the research found that social factors have become the biggest advantage for elderly people to choose the cohousing model, However, there exist significant deficiencies in both the aging-related common facilities (e.g. wheelchair ramp) and community management. This suggests that a large amount work is still required in terms of improving the built environment and aging friendly facilities for the living needs of elderly residents. Meanwhile, the cohousing model also requires understanding and support from society, including local government, housing associations, financial institutions, and social workers.

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