Delft University of Technology

Document Version
Final published version

Licence
CC BY

Citation (APA)
Jürgenhake, B., & Oorschot, L. M. (2025). Opportunities, Dilemmas, and Limitations in Applying "Healthy Living" and "Aging in Place" in Designs for New Housing Concepts in Dutch Neighborhoods. *OBM Geriatrics*, *9*(4), 58-93. https://doi.org/10.21926/obm.geriatr.2504331

Important note
To cite this publication, please use the final published version (if applicable).
Please check the document version above.

Copyright
In case the licence states “Dutch Copyright Act (Article 25fa)”, this publication was made available Green Open Access via the TU Delft Institutional Repository pursuant to Dutch Copyright Act (Article 25fa, the Taverne amendment). This provision does not affect copyright ownership.
Unless copyright is transferred by contract or statute, it remains with the copyright holder.

Sharing and reuse
Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

Takedown policy
Please contact us and provide details if you believe this document breaches copyrights.
We will remove access to the work immediately and investigate your claim.

This work is downloaded from Delft University of Technology.

Open Access

OBM Geriatrics

LIDSEN Publishing Inc.

Research Article

Opportunities, Dilemmas, and Limitations in Applying "Healthy Living" and "Aging in Place" in Designs for New Housing Concepts in Dutch Neighborhoods

Birgit M. Jürgenhake *, Leo M. Oorschot

Delft University of Technology, Faculty Architecture and the Built Environment, Department Architecture, Group Dwelling, Netherlands; E-Mails: b.m.jurgenhake@tudelft.nl; l.m.oorschot@tudelft.nl

* **Correspondence:** Birgit M. Jürgenhake; E-Mail: b.m.jurgenhake@tudelft.nl

Academic Editor: Bo-Wei Zhu

Special Issue: Healthy Ageing and the Built Environment

OBM Geriatrics
2025, volume 9, issue 4
doi:10.21926/obm.geriatr.2504331

Received: March 23, 2025
Accepted: October 29, 2025
Published: November 19, 2025

Abstract

This article explores the ongoing work associated with the masterclasses "Towards an Inclusive Living Environment." It critically examines the concept of healthy living for all and aging in place by studying neighborhoods within Dutch cities. The article argues that creating inclusive, healthy environments fosters well-being and promotes a lifestyle of health and autonomy for all. Next to literature studies, we worked with our students in different neighborhoods of The Hague, conducting ethnographic research. Through this ethnography, the article identifies shortcomings in various neighborhoods, based on observations and interviews with residents. These insights and the insights of the theoretical background are used to inform discussions with municipal authorities, leading to the selection of design sites. The needs and desires of the community are then translated into design solutions, ranging from neighborhood-level interventions to the transformation of existing buildings or new architectural additions. The article raises critical questions about the consequences of neglecting these pressing needs and highlights successful case studies where improved environments have significantly enhanced the quality of life in Dutch neighborhoods. The

© 2025 by the author. This is an open access article distributed under the conditions of the Creative Commons by Attribution License, which permits unrestricted use, distribution, and reproduction in any medium or format, provided the original work is correctly cited.

students' design approach is presented, but not yet discussed or tested in the neighborhood. They are meant to foster discussions.

Keywords
Active aging; aging in place; new concepts for living, age friendly neighborhoods

1. Introduction

This article discusses the concepts of *Aging in Place* and *Healthy living* and delves into the ongoing efforts of the masterclasses titled *"Towards an Inclusive Living Environment"* at the faculty of architecture, Delft University of Technology in the Netherlands, to find solutions for neighborhoods in The Hague. It offers a critical analysis of the ideas of *healthy living* for everyone and *aging in place*, first theoretically and then focusing on neighborhoods within Dutch cities, showing some student research and design ideas. The discussion highlights how designing inclusive, health-oriented environments can enhance overall well-being and encourage a lifestyle that supports health and independence for all individuals.

The theoretical framework and governmental policy instruments are, as a rule, already well established - a point we address in this article. Nevertheless, the translation of these frameworks into tangible results within cities and villages remains exceedingly limited; policy implementation rarely progresses beyond the stage of formulation. At present, the Dutch housing crisis, with its multiple and interrelated causes, constitutes an important factor in this persistent impasse. Yet, in our view, the roots of the problem extend further. This lack of implementation can also be attributed to two interrelated deficiencies: (a) an insufficient recognition of the specific spatial qualities and local amenities of existing residential neighborhoods; and (b) a limited understanding of, and responsiveness to, the distinct needs and aspirations of their inhabitants. Older adults exhibit a strong attachment to their residential environments and express a clear desire to age in place. These preferences must first be systematically identified and assessed—through collaborative engagement with relevant stakeholders — before new construction projects are initiated indiscriminately. This crucial preparatory phase is, however, all too often overlooked in contemporary urban development practice.

In recent decades, Dutch government budget cuts have led to the separation of living and care services, which in former times were connected and financially supported by the government. This shift resulted in the phasing out of traditional retirement homes, which were a hallmark of the welfare state established after the Second World War. Consequently, older individuals have been encouraged to remain in their homes as long as possible. Today, 92% of all over-75s still live at home [1], which often is exactly what they always wanted themselves, but neglect, loneliness, and a heavy care load on the partners and family are the result. The nursing home is the last option, but it is only accessible with a high indication of care need.

Different challenges do appear now: 1. There is a significant gap in options between staying at home and moving to a nursing home. This shortage is evident in neighborhoods where many older people live alone. In other words, while remaining at home is not always the ideal solution, appealing and suitable alternatives are often lacking. 2. We are also confronted with a significant

shortage of caregivers, nurses, and other professionals. As a result, some of the tasks currently handled by nurses will need to be carried out informally by neighbors, volunteers, and family members. We will need each other more often. 3. Neighborhoods are often badly equipped to take on the responsibility of providing informal care and support for the older people living at home. Essential services such as access to groceries, doctors, pharmacies, and social gathering spaces are frequently lacking, making it challenging to support these needs locally. To truly ensure aging in place, our neighborhoods must transform into inclusive and healthy environments where people can grow old together, fostering connection and preventing loneliness.

This is the point of departure for our Masterclass *"Towards an Inclusive Living Environment"*. After discussing our topic with the municipality of The Hague, it was obvious that in lots of neighborhoods the need for changes is high. Especially in the post-World War II neighborhoods where people came in the 50th and 60th of the last century and still live there, the percentage of older people often is high, different cultures came in, and loneliness is a huge problem.

We decided that first, we would need a method to understand the place and its inhabitants, to really see the gaps and problems. We focus on one neighborhood at a time so that all students can work together and bundle information about this neighborhood. Next to this anthropologically oriented fieldwork method, students were asked to study literature about aging in place, healthy living environments, and inclusive living. After that, students start with a design proposal, arguing why their proposal is needed in a certain place. The design proposal can be everything from neighborhood level up to the design of a new building; what matters is that the intervention supports aging in place.

In the following, we will discuss the concepts of *aging in place* and *healthy living,* as we do this with the students as well, in discussion groups and often inviting externals like municipalities. Both concepts mean that the neighborhood would offer a place for everyone, and older people could stay where they live already, or move one last time to be sure to be able to stay there. We will discuss the shortcomings of neighborhoods that students found while doing fieldwork. We also discuss the possibility of aging in a *collective housing concept*, where people could support each other more easily. At the end, we show some of the students' design solutions on the neighborhood level and on the building level. The goal of the course is to give an answer to the question: how architecture can support a neighborhood so that aging in place is possible. The students' designs are meant to foster further discussions; they are not tested.

The central question of this research is how general and abstract concepts such as *healthy living for all* and *aging in place* are implemented in Dutch suburban contexts of neighborhoods in Den Haag. What does a *healing environment for all* entail for the physical living environment in the Netherlands? How is *aging in place* translated into spatial and architectural terms in the Dutch context? This study employs a research-by-design methodology. By critically examining these concepts and integrating them into the design process for a residential neighborhood in the Netherlands, the research reveals opportunities, dilemmas, and limitations. These insights enable policymakers to reflect on the feasibility and appropriateness of current policies aimed at making such neighborhoods more inclusive for older people. The *research by design* methodology employed in this study comprises several components.

1.1 Literature Study

At the outset, an extensive review of the literature was undertaken, through which the foundational notions of healthy living for all and aging were systematically explored and theoretically anchored. This inquiry provided not merely a descriptive overview, but rather the conceptual scaffolding upon which the subsequent phases of the research were carefully constructed.

1.2 Case Studies

Thereafter, a series of case studies was conducted, focusing on already realized projects that bore a meaningful resemblance to the context under investigation. These cases furnished not only empirical reference points but also served as both inspiration and critical touchstones against which the ensuing design explorations could be measured and refined.

1.3 Mapping

The research then proceeded with a meticulous mapping of the urban fabric of the selected neighborhoods. This exercise extended beyond a simple inventory of facilities and routes: it entailed a rigorous evaluation of their quantity, quality, and—crucially—the degree to which they offered genuine proximity and accessibility to residents within their immediate living environment.

1.4 Fieldwork

A fourth dimension of the study comprised anthropologically informed fieldwork, in which particular attention was directed towards the principal stakeholders within the neighborhood. The local population, however, proved elusive: low literacy rates, limited or absent command of Dutch, and a deeply ingrained distrust of governmental institutions rendered the conduct of interviews exceedingly difficult. Only a handful of professionals were both willing and able to participate. Consequently, observational research—supplemented by photographic documentation—assumed a central role within this phase of the inquiry.

1.5 Experience

In a fifth step, the research acquired an experiential dimension. Students subjected the neighborhood to accessibility tests by actively positioning themselves in the role of residents with physical or sensory impairments. Employing wheelchairs and simulation glasses that mimicked visual restrictions, they were able to render the everyday navigability and reachability of facilities both tangible and immediate, exposing barriers that might otherwise have remained obscured.

1.6 Feedback

Ultimately, the project culminated in an iterative design process. A diverse set of housing typologies was conceived by students, which were then discussed, critiqued, and refined in close collaboration with professionals—including the housing association Haag Wonen, the Center for Group Housing, and the Municipality of The Hague. Residents of existing group living arrangements also contributed, albeit partially, by offering invaluable experiential insights during reflection

sessions. Their perspectives were woven into the further elaboration of the designs. This cyclical exchange eventually produced a series of definitive proposals, which were presented not only to the involved institutions but also exhibited publicly in the local library. This exhibition, in turn, served as a catalyst for a municipality-led public debate, in which the student-generated designs invited broader reflection and dialogue with the community at large.

In this way, both the quantitative and qualitative dimensions of the neighborhood's physical environment were subjected to systematic investigation and evaluation. The process brought to light not only its strengths but also its intrinsic dilemmas and limitations. The insights thus generated furnish policymakers at the housing association, the municipality, and the Center for Group Housing with a nuanced framework for reflecting upon the possibilities and constraints of future policy aimed at fostering inclusivity and resilience in such urban environments.

The most frequently cited definition of health was articulated by the World Health Organization (WHO) in 1948, framing it as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. While influential, this definition has in recent decades been complemented — if not supplanted — by a broader and more dynamic understanding of health. In contemporary discourse, health is increasingly conceived as the capacity to adapt and to exercise agency in the face of the physical, emotional, and social challenges that life inevitably entails. It is this latter, process-oriented conception of health that provides the conceptual foundation for the present study. Illness and infirmity, by contrast, are set aside here, as the focus lies not on pathology but on the enabling conditions for resilience, self-determination, and well-being in the built environment.

2. The Concepts of Aging-in-Place and Healthy Living

2.1 World Health Organization on Aging and Urban Environments

The World Health Organization (WHO) has developed a comprehensive theoretical framework on aging and healthy living, which has been articulated through several key publications [2-6].

These publications collectively outline the principles and strategies necessary for fostering inclusive, supportive, and sustainable urban environments that enable older adults to maintain independence, social participation, and well-being as they age. WHO defines an age-friendly city or community as: "An age-friendly city or community is a good place to grow old. Age-friendly cities and communities foster healthy and active aging and thus enable well-being throughout life. They help people to remain independent for as long as possible, and provide care and protection when they are needed, respecting older people's autonomy and dignity." [7].

The definition of old age varies across institutions and contexts. The United Nations (UN) establishes the threshold at 60 years and older, categorizing individuals within this age group as older adults. The WHO further elaborates on this definition, stating that: "However, whatever age is used within different contexts, it is important to acknowledge that chronological age is not a precise marker for the changes that accompany aging. There are dramatic variations in health status, participation, and levels of independence among older people of the same age." [8]. These definitions serve as global benchmarks for aging-related policies, research, and healthcare planning. However, perceptions of aging are influenced by cultural, social, and economic factors, leading to variations in how different societies define and experience old age.

In the concept of *Active Aging*, the relationship with the spatial domain and specific spatial contexts has been only marginally explored. While the physical living environment is acknowledged as one of the key determinants, its role has not been comprehensively integrated into broader discussions on aging. Within the determinants related to the Physical Environment, a distinction is made between the physical living environment and safe housing. The WHO states that: "Physical environments that are age-friendly can make the difference between independence and dependence for all individuals, but are of particular importance for those growing older. For example, older people who live in an unsafe environment or areas with multiple physical barriers are less likely to get out and therefore more prone to isolation, depression, reduced fitness, and increased mobility problems." And "Safe, adequate housing and neighborhoods are essential to the well-being of young and old. For older people, location, including proximity to family members, services, and transportation, can mean the difference between positive social interaction and isolation." [9]. The most important insight is that "one that views older people as active participants in an age-integrated society and as active contributors as well as beneficiaries of development." [10].

Furthermore, the WHO states that: "An age-friendly city encourages active aging by optimizing opportunities for health, participation, and security to enhance quality of life as people age. In practical terms, an age-friendly city adapts its structures and services to be accessible to and inclusive of older people with varying needs and capacities." [11]. The framework identifies several determinants that support active aging, with the physical environment being one of the key factors (see Figure 1).

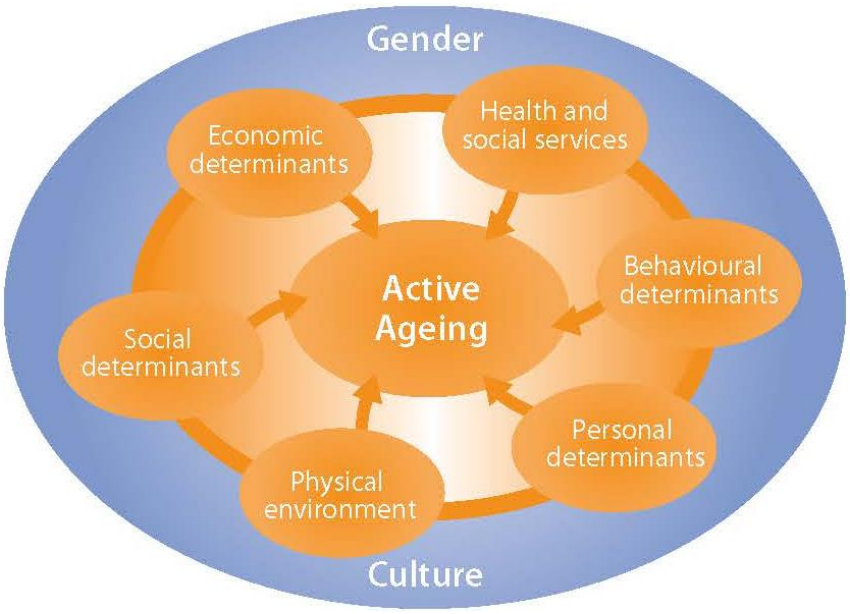


Figure 1 Determinants in relation to active aging according to the WHO [12].

Eight key features of a city's physical environment have been identified (Figure 2), with particular emphasis on three primary domains: Outdoor Spaces and Buildings, Transportation, and Housing. These domains contribute to age-friendly urban planning by ensuring accessibility, safety, and inclusivity for older adults. The remaining features fall within the social domain and focus on community engagement, social participation, and support services.

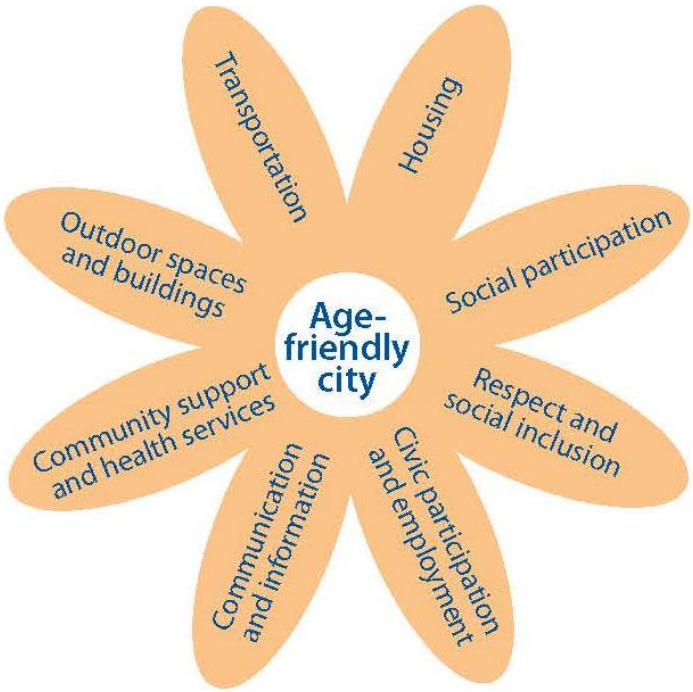


Figure 2 Eight aspects that belong to an Age-friendly City according to WHO [13].

2.1.1 Outdoor Spaces and Buildings

Crucial aspects include: environmental quality (pleasant and clean surroundings); green spaces (access to parks and nature); resting areas (sufficient benches and seating); age-friendly pavements (smooth, well-maintained sidewalks); safe pedestrian crossings (clearly marked and timed for slower walkers); accessibility (barrier-free entryways and pathways); secure environment: (adequate lighting and crime prevention measures); walkways and cycle paths: (safe routes for walking and cycling); age-friendly buildings (step-free entrances, elevators, and ramps); public facilities (adequate public toilets and seating areas); commercial spaces (stores and services catering to older customers).

2.1.2 Transportation

Key factors include: availability (Adequate public transport coverage); affordability (reasonable fare structures); reliability and frequency (regular and predictable services); travel destinations (connectivity to essential locations); age-friendly vehicles (low-floor buses, easy boarding options); specialized services (transport options for individuals with mobility limitations); priority seating (reserved seating for older passengers); transport personnel (trained drivers and courteous service); safety and comfort (well-maintained vehicles and infrastructure); transport stops and stations (accessibility and seating availability); taxis and community transport (alternatives for those unable to use public transit); information (clear and accessible transport schedules and guidance); driving conditions (road safety measures for older drivers); courtesy towards older drivers (awareness programs for road users); parking (sufficient and accessible parking spaces).

2.1.3 Housing

Essential elements include: affordability (housing costs should be manageable for older residents); essential services (access to utilities, healthcare, and community support); design (age-friendly layouts, including single-level living options); modifications (adaptability of homes for aging-in-place); maintenance (availability of home repair and upkeep services); access to services (proximity to healthcare, shopping, and social services); community and family connections (housing that supports social engagement); housing options (diverse living arrangements, including co-housing and assisted living); living environment (safe, inclusive, and comfortable residential settings).

The criteria of the WHO were important for our students. They took this framework into account when doing their research in the neighborhood.

2.2 Healthy Aging in Vital Neighborhoods: The Dutch Context

In the Netherlands, the Age-Friendly Community initiative plays a central role in collecting and disseminating knowledge on age-friendly living environments [14]. Aligned with the World Health Organization (WHO) framework, a Dutch-specific framework has been developed through a dynamic knowledge synthesis within this learning community. Organizations such as Leiden University Medical Center (LUMC) and the Leyden Academy on Vitality and Aging actively contribute to this initiative. Key figures involved include Marielle Schuurman, Dr. Barbara Groot, and Prof. Dr. Tineke Abma. The definitions of aging-in-place and healthy living in the Netherlands are derived from WHO frameworks and adapted to the national context.

Furthermore, platforms such as "Eenzaamheid" [15] and "Een tegen Eenzaamheid" [16] focus on the collection and dissemination of knowledge on loneliness, complementing the broader discussions on aging. Government agencies, including CBS (Statistics Netherlands) [17] and "De Staat van Volksgezondheid en Zorg" (The State of Public Health and Care), provide data on aging, loneliness, and public health trends, which inform national and municipal policies [18]. In the Dutch policy context, the practical implementation of aging-in-place and healthy living strategies is the responsibility of municipalities.

2.3 Healthy Living and Loneliness: The Role of the Built Environment

Recent research highlights the complex relationship between the built environment and loneliness. In a systematic literature review, Marlee Bower et al. argue that while the built environment can facilitate practices that mitigate loneliness, no single environmental factor alone is sufficient to prevent it entirely. They emphasize the need for greater specificity in research, stating:

“The built environment affords practices that prevent loneliness, but no single built-environment aspect is capable of fully preventing loneliness. This key conclusion supports existing calls for researchers to develop more detailed understandings of how specific built environments support or inhibit loneliness among specific populations and at specific times. Such specificity would represent an important advancement upon current research designs that broadly examine the impact of built environments on experiences of loneliness.” [19].

This finding underscores the importance of context-sensitive approaches in studying the built environment's role in reducing loneliness. Future research should focus on how specific spatial and

social design elements interact with demographic and temporal factors, ensuring that interventions are tailored to the needs of different populations.

Loneliness among older people in the Netherlands has become a significant societal issue, particularly due to its strong association with an increased risk of depression. Loneliness is broadly defined as a subjective experience of disconnection, characterized by either a lack of close emotional bonds or insufficient social interaction relative to personal desires. Importantly, being alone and feeling lonely are not synonymous, as loneliness is more about the quality of relationships than physical isolation.

Several socio-demographic and spatial factors have exacerbated loneliness among older adults in the Netherlands: (a) Increased Individualization of Housing – A growing trend toward independent living arrangements has reduced opportunities for communal interaction. (b) Higher Mobility Among Younger Generations – While the general population has become more mobile, older adults tend to experience reduced mobility, making them more dependent on their immediate residential environment and local amenities. (c) Demographic Aging – The proportion of older adults in the population has increased, shifting the overall age structure and contributing to increased social isolation.

Additionally, the COVID-19 pandemic, with its associated lockdowns and increased remote work, has further intensified feelings of loneliness, particularly from the 2020s onward. As a result, loneliness has become a prevalent issue in residential s and rural villages, affecting individuals across different living situations [20, 21].

Loneliness can be classified into two primary forms: *Emotional loneliness*, experienced when an individual lacks a close personal relationship, such as a partner. *Social loneliness* arises when an individual has limited contact with broader social networks, such as colleagues, community groups, or family members. Addressing these challenges requires a comprehensive approach that considers both spatial planning and social interventions to foster stronger community ties and improve the well-being of older adults.

For our students, it was important to understand that architectural solutions can never be a hundred percent solution against loneliness, but can support places to encounter, and in that sense, perhaps limit the social loneliness in a neighborhood. It is worth asking the inhabitants of a neighborhood where and how often they meet others outside their house. Are there places where older people encounter others?

The cycle of loneliness, depression, and dependency in aging populations. Loneliness often leads individuals to withdraw from social interactions, which in turn exacerbates their sense of isolation. This self-reinforcing cycle is particularly concerning, as research indicates that depression not only increases loneliness but also heightens the risk of dementia. Furthermore, as cognitive decline progresses, individuals may isolate themselves even further, intensifying both loneliness and depressive symptoms. Given these overlapping factors, distinguishing between cause and effect remains challenging [22].

In the Netherlands, policy changes in elder care have further influenced these dynamics. The traditional retirement home, where older adults could reside without a formal care indication, has largely disappeared. As a result, older individuals in need of care are required to live at home for longer periods, increasing their reliance on their residential environment and social support networks [23].

Compounding this issue is the declining number of caregivers, a consequence of an aging population and workforce shortages. The limited number of available caregivers is now expected to take on an increasingly broad range of responsibilities, including housekeeping, social interaction, and companionship. This growing demand on caregivers further underscores the need for innovative housing models and community/-based support systems to ensure the well-being of aging individuals.

Distinctions and Interrelationships Between Social and Emotional Loneliness. The literature distinguishes between social loneliness, which primarily concerns the quantity of social connections, and emotional loneliness, which pertains to the quality of these relationships. However, as research indicates, the relationship between these two forms of loneliness is complex, with significant interconnections [24].

Studies demonstrate that emotional and social loneliness are strongly linked. Network analyses highlight the distinct influence of social anxiety versus general anxiety on loneliness. The findings indicate that Social loneliness is most strongly explained by social isolation, suggesting that a lack of social connections plays a key role. Emotional loneliness is more closely associated with social anxiety and depression, emphasizing the importance of psychological well-being in forming meaningful relationships.

General anxiety is exclusively related to loneliness through its connection to depression. Furthermore, mental health does not moderate the relationship between social isolation and loneliness. The analyses reveal that general anxiety, social anxiety, and depression do not moderate this relationship, indicating that loneliness due to social isolation operates independently of these psychological factors.

Risk Factors Associated with Social and Emotional Loneliness. Social and emotional loneliness are distinct yet interrelated constructs, each influenced by various risk factors [25]. Loneliness is commonly defined as an individual's subjective experience of an unpleasant or unacceptable lack of certain relationships, whether in quantity or quality. While social and emotional loneliness share some overlapping characteristics, they differ in their underlying causes and effects. Research indicates that poorer psychosocial health is a significant risk factor for both types of loneliness. However, distinct factors are more strongly associated with each type. (a) Social loneliness, which arises from the absence of a broader social network, is more strongly linked to gender, age, education level, and smoking habits. (b) Emotional loneliness, characterized by the lack of an intimate relationship, is associated with body mass index (BMI), unmarried status or living alone, employment status, and psychosocial health. Additionally, employment and BMI have been correlated explicitly with emotional loneliness, suggesting that lifestyle and socioeconomic conditions play a role in shaping individuals' experiences of loneliness.

Understanding these risk factors is crucial for developing targeted physical interventions aimed at reducing loneliness and promoting social well-being.

2.4 Healthier Aging in Vital Neighborhoods: The Importance of Belonging

"Sociologists and psychologists now agree on the significance of belonging to the experience of loneliness. Yet to date, this is unevenly reflected in both survey instruments and qualitative inquiry, where the focus is mostly on belongingness attributed to social connectivity, social support, intimate social bonds, and interpersonal relationships. While these are very important, recent work on

belonging itself has stressed the significance of much wider bases of belonging, including place, temporality, memory, mobilities, generation, culture, labor processes, kinship systems, residential arrangements, settlement patterns, the public sphere, and more-than-human factors." was claimed by scientists Franklin and Tanter in 2021.

They concluded furthermore that: "the reckoning of belongingness needs is directedly related to core aspects of culture and ethnicity – notably through widely divergent kinship systems that identify the normative scale and composition of core groups, as well as the normative expectations and obligations associated with residence, settlement and social support." and "through indicative sketches of our complex relationships with "place", it was shown how and why place connects to an important sense of belonging, yet how, at the same time, it has remained in a continuous state of tension (and contradiction) with social structural, political and economic dependency on mobilities of many kinds, over ever-greater distances." [26].

The discussion on belonging in urban regions is not a recent phenomenon; its roots can be traced back to classical sociological theories. Ferdinand Tönnies, in his seminal work *Gemeinschaft und Gesellschaft* (1887), contrasts traditional close-knit village communities (Gemeinschaft) with the modern urban environment (Gesellschaft), where it is assumed that interpersonal relationships are structured differently as a result of the dynamics of metropolitan life.

According to Abma, and in alignment with the World Health Organization's (WHO) framework for healthy aging, the foundation of vital neighborhoods lies in the fundamental human need to belong—to be seen and heard by others [27]. Only by fostering this sense of belonging can a neighborhood thrive and sustain vitality among its residents. Abma reinforces this perspective by quoting Bishop Desmond Tutu: "We are, because we belong." Beyond vitality, social connectedness is essential. Without meaningful social bonds, individuals struggle to maintain a sense of well-being. In the Netherlands, 75% of individuals aged 80 and older report feelings of loneliness, yet this issue is not exclusive to older people — 60% of young people also experience loneliness. This highlights that social connectedness is a critical issue for residents of all ages.

In advocating for an age-friendly society, Abma builds on the WHO's framework (2007) and employs a structured tool (Figure 3) that defines three essential aspects:

1. Built Environment or physical living environment - Housing, Transport and Public spaces and buildings encompasses housing; transportation and mobility; public spaces and green; amenities; type and accessibility of public buildings.
2. Social Environment - Social Participation, Active Citizenship and Respect & Inclusion refers to the relationships, networks, and social interactions that shape a community's cohesion and inclusivity.
3. (Neighborhood) Care and Well-being - Attention to Well-being and Communication & Information addresses healthcare, social services, and well-being initiatives that support aging-in-place and enhance residents' quality of life.

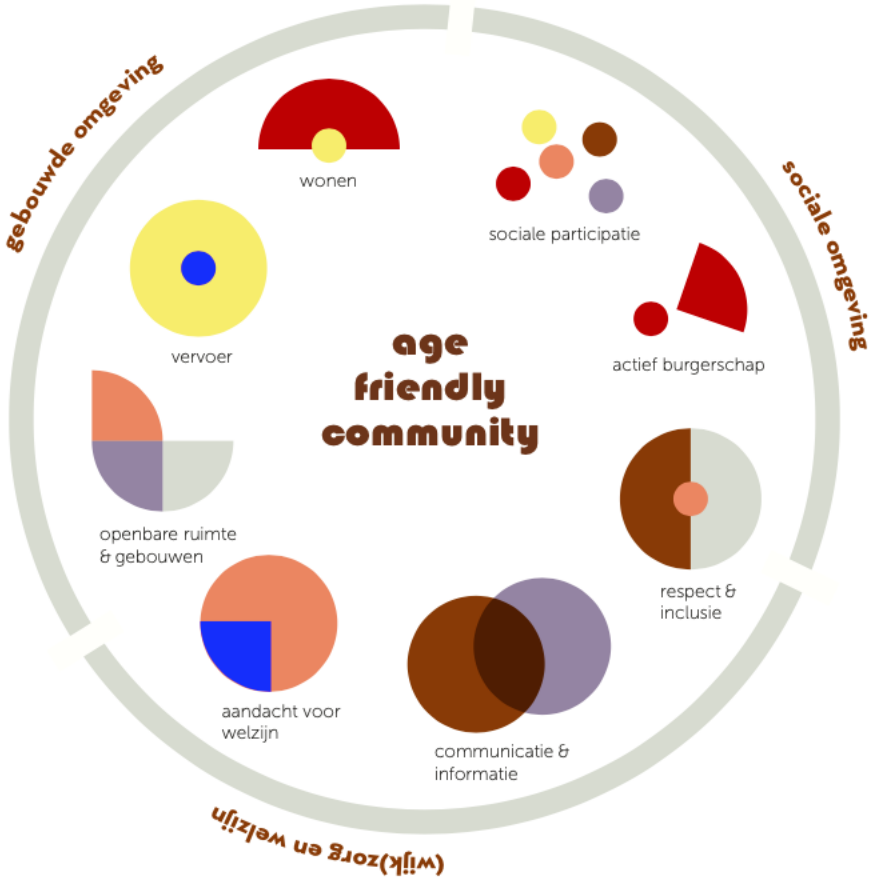


Figure 3 Age-friendly society as a tool consists of three aspects and eight domains [28].

By integrating these dimensions, Abma underscores the necessity of a holistic, community-centered approach to aging in place—one that acknowledges both the physical and social environments in fostering a sense of belonging and well-being.

Abma outlines three key principles that contribute to an age-friendly society and foster social connectedness. First, environmental factors are interconnected and play a crucial role in shaping individuals' sense of social connection. Second, both personal and environmental factors evolve, influencing social dynamics. Third, specific "leverage points"—whether within individuals or their surroundings—are critical in shaping perceived social connectedness.

Abma's overarching goal is to conceptualize an age-friendly community as an ecosystem. She explores the question of what kind of collaborative organization people aspire to create. To illustrate this, she employs the metaphor of a forest, emphasizing the complexity of its networked relationships. Just as a forest requires a forester to manage and sustain its ecosystem, an age-friendly community benefits from strategic facilitation. However, unlike a managed system, a forest lacks coordination, a unified mission, a vision, or explicit objectives. Instead, its sustainability depends on fundamental conditions such as fertile soil and access to daylight. Similarly, fostering an age-friendly community requires a shift in perspective—one that prioritizes organic, adaptive cooperation rather than rigid structural coordination.

2.5 Opportunities for Aging-in-Place in a Healthy Living Environment

The concepts of aging in place and healthy living are interconnected and essential to the well-being of older people. In essence, fostering a sense of belonging within the living environment is crucial for successful aging-in-place. Vibrant residential areas actively engage their inhabitants in neighborhood matters, including aspects related to the built environment and lifestyle.

Loneliness is not an inevitable consequence of aging. By designing resilient neighborhoods and clustered housing models, urban planners and architects can enhance social sustainability. Social interactions and networks can be fostered and reinforced within the built environment, contributing to a socially resilient ecosystem. Thoughtful spatial interventions can subtly encourage social engagement and physical activity, thereby reducing the risk of loneliness and strengthening the sense of belonging. This, in turn, serves as a preventative measure, potentially delaying the need for formal care.

To fully grasp the implications of aging-in-place and healthy living, it is essential to analyze the local ecosystem and the characteristics of the residential neighborhoods where older individuals reside. Understanding the genius loci — the unique spirit and identity of a place — along with the specific needs of its inhabitants, is fundamental to creating an environment that supports aging-in-place.

The Gehl Institute provides a framework and guidelines for designing Inclusive Healthy Places [29]. However, while such frameworks offer valuable insights, they may overlook the specific needs of individuals in particular locations. The most effective approach to designing a healthy living environment for aging in place is direct engagement with residents. By conducting human-centered research, such as the studies carried out by master's students in The Hague, designers can better understand the lived experiences of older individuals and create environments that truly support their well-being.

3. The "Towards an Inclusive Living Environment"

The topic of this studio touches the very urgent question of our aging society. The Master Studio is structured into distinct phases and runs for only ten weeks, which is way too short to dive into deep research, but enough to let students become aware of the problems in a specific neighborhood. Each course is prepared together with the municipality of The Hague, targeting areas with a significant older people population. Our primary interest lies in understanding where and how older residents currently live, as well as the nature and locations of their social networks.

As this course is short, the literature on the theoretical background (chapter 2) and especially the Dutch situation is offered to students in the first week, a week in which we foster discussions and neighborhood visits together with the municipality. This brings the students immediately into the problems of the neighborhoods, often missing services, adequate housing, and places to encounter. After this introduction phase, the research starts (starting in week 2 of the course) and focuses on human-centered fieldwork, using techniques from ethnography and anthropology to gather insights into residents, with a particular emphasis on older people. We argue that older people need to be heard and seen to be truly understood.

Students go into the neighborhood and do observational studies and interviews to understand the needs of the people living there. Our main questions are:

- How do people want to live when they get old and more vulnerable?

- What kind of home do they want?
- What do they need to stay involved in their environment?
- What are they missing in the neighborhood?
- What do they appreciate in the neighborhood?
- What could they do themselves to improve their living environment?
- How do different age groups see the neighborhood and its inclusivity?
- Would the older people be willing to share spaces?

In addition to the interviews, the students undertake a thorough study of the neighborhood to understand its shortcomings. They do this by using the criteria for an *age-friendly city* (WHO), which were developed in the first week (see chapter 2.1).

We know that care will be very scarce in the future and that we will need each other. The desire to live in compounds where more older people and others willing to help each other live is growing in the Netherlands. The relatively new Dutch concept of almshouses for older people (also called courtyard houses or in Dutch: Knarrenhof) already has a waiting list of more than 50.000 people in the Netherlands [30]. But how do the older inhabitants, living in a neighborhood within the city of The Hague, feel about this concept of living together? To get a grip on the idea of sharing and helping each other, we also discuss this with the neighborhood's older residents. Can we create a living environment where older adults live among others, are informally supported, and are empowered to maintain a sense of purpose in life? To what extent are neighbors willing to help each other? Are the older people living here willing to live collectively, and if so, where and how could we realize collective housing? Or lies the answer more in a place to meet and come together so that asking for help becomes more natural? The students will speak with people in the neighborhood, search critically for places to redesign, look at the existing houses that could be transformed, as well as the new spots to create a new concept for living together. Alternatives are minimal at this moment, let alone close by.

3.1 Neighborhood Research and Results – Shortcomings of the Neighborhood

Our criteria for studying the neighborhood's shortcomings were based on several studies (Table 1). Due to our theoretical input, the main criteria came from the WHO and the Dutch additions, done by Abma. Her three-component framework helped the students focus during fieldwork. Students also made some additions while they were visiting the neighborhood. Below you can see the main topics for the neighborhood research:

Table 1 Criteria for the neighborhood research.

1. The Built Environment	2. The Social Environment	3. Care and Welfare
● the entire physical living environment ● accessibility; walkability; safety ● age-friendly housing (and its maintenance) ● public buildings (and accessibility), community facilities ● urban spaces ● green spaces and water elements ● mobility infrastructure ● use of space	● social ties ● networks ● social interactions ● spaces where people meet ● spaces that people avoid	● healthcare ● safety ● social services ● well-being initiatives that support aging in place and enhance residents' quality of life

We conducted research in the following neighborhoods in The Hague: *Moerwijk South* (2022), *Loosduinen Waldeck* (2023), and *Schilderswijk* (2024). All these neighborhoods feature housing stock built after World War II. Some residents have lived there since the beginning, while others reflect the arrival of diverse people and cultures over time. The housing requires sustainability upgrades, and it is also timely to consider the future needs of older people residents. The housing corporation Haag Wonen, which owns many of these properties, collaborates with us on this research. Below, we summarize the most notable findings regarding aging in place that emerged during our study.

Age-friendly housing and *diverse housing options* are shared preferences. However, before building new housing stock, it's essential to ask residents what they genuinely want. For instance, in the Moerwijk Zuid, residents expressed a strong desire to stay in their current homes due to the high level of social cohesion. Their main request was for adjustments to their portico flats, which currently lack elevators. Additionally, students discovered that residents wished for more opportunities to meet others, as there were no spaces for social interaction in the neighborhood. Suggestions included creating a pavilion in the garden or converting available space - such as a vacated apartment on the ground floor - into a collective room. However, no one was interested in moving out of their home, nor in shared apartment arrangements.

Accessibility, walkability, and safety are essential factors in any neighborhood. *Physical accessibility* refers to how easily older adults can move through the neighborhood. In contrast, *social accessibility* is less visible and requires conversations with residents to determine whether they feel socially included. Additionally, high prices can act as a barrier to accessing certain places. A*ccessibility*, w*alkability*, and *safety* in relation to local services emerged as significant concerns across all the neighborhoods we studied. Poorly maintained paving poses challenges for older people residents, making it difficult to walk safely, and these challenges are even more pronounced for those using wheelchairs. In the *Schilderswijk*, streets are filled with parked cars, which is a significant concern for older people using a wheelchair or walker on the sidewalk. This is likely due to the neighborhood's high population density. Bicycles are also occasionally seen on the streets, typically parked neatly in designated areas on the sidewalk. In *Waldeck*, students conducted a "wheelchair test" (Figure 4) spending an afternoon navigating the neighborhood in a wheelchair.

The exercise clearly demonstrated the significant accessibility challenges faced by residents with mobility needs.



Figure 4 Research booklet 2023 made by the whole group – The wheelchair test in Waldeck [31].

The issue of *safety* is two-fold, as safety is not only *physical safety*, for example, a good pavement of the sidewalk, but also *emotional and psychological safety*. In *Moerwijk Zuid* and Waldeck, some older people told us they do not feel safe walking outside in the evening (Figure 5). Feeling emotionally safe is difficult to measure; people just have ideas about a path at night or a group of youngsters hanging around, which may not even be true. In comparison, the fear of falling onto a sidewalk threshold is visible and measurable.

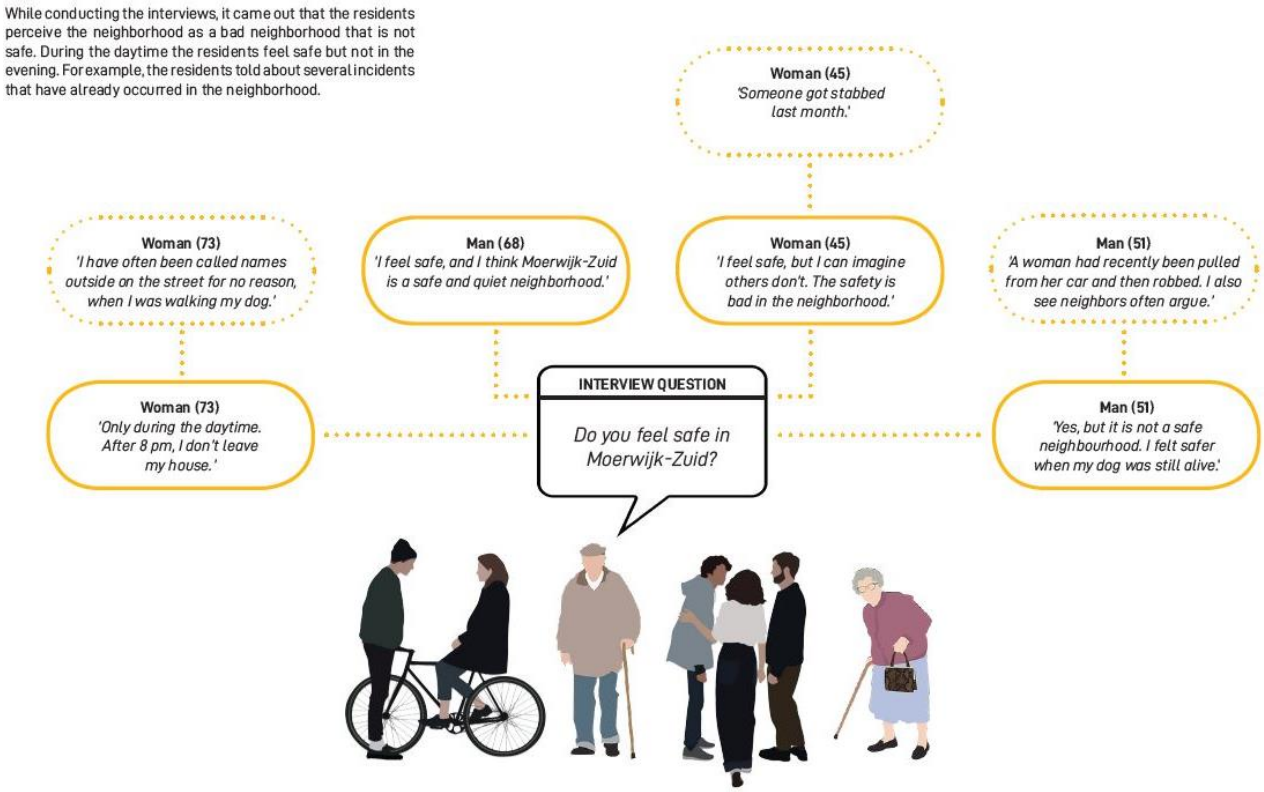


Figure 5 Moerwijk Zuid interviews about feeling safe [31].

Students asked the inhabitants of the neighborhoods about *places to encounter for social participation*. In *Moerwijk Zuid,* the people felt very comfortable with the meeting points they had. Only some older residents asked for more affordable areas. The students walked with the older adults and found that the supermarket in the neighborhood was the most commonly used goal for walks (*Moerwijk Zuid*). In *Waldeck*, the shopping center was where the older people went most. We did not collect much information about c*ommunity support* and *health services*. Each neighborhood has a health service; however, how far the community supports the older people is often not clearly communicated.

Outdoor spaces seem essential to all inhabitants: children need space to play, youth need space to meet, and older people need a place to walk and sit. However, if too many groups use the outdoor space and it becomes too buzzy and loud, older adults retreat, which might bring them back into isolation. This was the situation in the *Schilderswijk*, where a vast park, the Oranjeplein, surrounds the neighborhood with greenery, a playground, a football field, and a small community center. It was too loud, and older people did not visit this place. In this neighbourhood as well as in the others it was obvious that benches to rest are often offered in parks, however the streets are lacking these facilities, therefore limiting the mobility range of more neighborhood, as well as in the others, it was obvious that benches for resting are often available in parks; however, the streets lack these facilities, thereby limiting the mobility range of more vulnerable older people.

The *accessibility of public buildings* seems complicated as well. In *Moerwijk Zuid*, for instance, many public buildings are not adequately accessible for wheelchair users. Most neighborhoods have a good public transportation network of buses and trams. We did not hear complaints here.

Resuming the research done by Mercador, Moyano and others wrote: “Regarding the built environment, lack of access to basic services or isolation caused by urban constraints strongly affect the physical and emotional well-being of older people.” [32]. Our students experienced the same, a lack of access to basic services and loneliness were very striking points in all three neighborhoods we visited.

To get a grip on the idea of sharing spaces and living together, with co-housing for older people in mind (see chapter 4), students asked if the older people would like to share spaces. It was obvious that shared spaces are interesting, but as an extra, not in exchange for square meters of one's own apartment. They also discussed the idea of living together and supporting each other, an idea behind the Co-housing for older people. It was clear that people did not have enough information about this concept of living together and could not really give their opinion. But in general, students concluded that most older people were willing to help each other.

4. Co-Housing - A Solution for Seniors

4.1 The Role of Social Networks in Older People's Well-Being and Aging-in-Place

The presence of a strong social network among older people within a neighborhood, as well as their sense of belonging regarding neighborhood issues, plays a more significant role in mitigating loneliness than mere physical proximity in clustered housing within a residential building (chapter 2). However, establishing a clear relationship among aging in place, loneliness, and cohousing remains complex.

Conversely, the development of physical social infrastructure — such as community centers, libraries, or communal vegetable gardens - along with an awareness of gradual transitions between

private and public spaces, can foster and strengthen social networks while enhancing residents' sense of belonging.

Additionally, the shared use of resources, including caregiving services, communal kitchens, gardens, vehicles, and other home-related amenities, can further reinforce social connections. Importantly, individuals retain the freedom to choose between solitude and communal living, thereby benefiting from both. This raises a critical question: Which form of living best supports aging in place? Can co-housing serve as a viable solution for older people?

A distinction exists between "co-housing" and "collaborative housing." The latter is not a specific type of housing but rather an umbrella term encompassing a diverse range of collectively self-organized and self-managed housing projects. According to Darinka Czischke, in an interview with the author Leo Oorschot, collaborative housing is a conceptual framework rather than a specific residential building type or a legally defined entity such as a housing cooperative [33].

Various models of collaborative housing exist, with each country adopting its own terminology to categorize these initiatives. Examples include residents' cooperatives, community-led housing initiatives (CPO), self-help and self-build projects, and experimental or ecological housing communities. Notable cases include the *Groene Mient* in The Hague, *Geworteld Wonen* in Rijswijk, and the older *Centraal Wonen* in the Netherlands, which emerged in the 1970s. In such models as *Centraal Wonen*, housing associations lease residential buildings to cooperatives. Additionally, professional developers may organize residential buildings and neighborhoods for individuals with shared values and interests, such as *Geworteld Wonen* by INBO. Co-housing represents one specific form within the broader framework of collaborative housing.

According to Czischke, co-housing represents a distinct and more narrowly defined housing model characterized by strong social connections among its residents [34]. It constitutes an intentional community that emphasizes collective living arrangements. This model is closely linked to the Danish concept of "bofællesskab", exemplified by Fristaden Christiania in Copenhagen, a communal settlement founded in 1970 by squatters.

The initiators of such projects were often critical of mainstream society and sought an alternative to individualized living in detached family homes. Instead, they embraced a communal lifestyle, prioritizing shared spaces, non-hierarchical decision-making processes, and collective social interactions. Residents in co-housing developments form intentional communities that emphasize cooperation and social participation in both the design and management of their living environment. A defining feature of co-housing is the social contract among residents, which entails a high level of involvement in decision-making and daily communal activities. For instance, regular shared meals are a common practice in many co-housing communities. Typically, residents collaborate with architects to co-design their residential buildings or dwellings, ensuring that the physical space aligns with their communal ethos. As a result, co-housing has contributed to the emergence of a new architectural typology in which the social aspects of living serve as the foundation for design and development.

According to Czischke, the term "co-housing" was coined by a Californian couple of architects, Kathryn McCamant and Charles Durrett. In the 1980s, they visited Danish examples of this new housing model and translated the Danish term "bofællesskab" into the English word "co-housing". Consequently, the contemporary concept of co-housing, as it is known globally today, was directly inspired by European models, particularly the Danish bofællesskab. McCamant and Durrett argue that co-housing represents not merely a housing typology but a lifestyle [35].

According to McCamant and Durrett, co-housing communities share several defining characteristics:

1. Participatory Process: Residents actively engage in the planning and design of the housing development and collectively make all final decisions.
2. Intentional Design: The physical layout is specifically designed to foster a strong sense of community.
3. Extensive Common Facilities: Shared spaces are integral to the community and designed for daily use, complementing private living areas.
4. Complete Resident Management: The residents collectively manage the community, making decisions on matters of common concern through democratic processes.

A contemporary comparison can be made between Trudeslund and modern Dutch co-housing communities such as *Groene Mient* in The Hague and *Geworteld Wonen* in Rijswijk. These communities also emphasize shared spaces, including houses surrounding a communal vegetable garden and a shared common facility with a kitchen, reinforcing the social and ecological principles of co-housing.

The English scholar Helen Jarvis, in her 2015 article, defined intentional communities with their distinctive social architecture as a living arrangement that represents more than merely an alternative housing system [36]. Instead, the social dimensions of these communities reveal a structure and system that actively cultivates an intentionally negotiated ethos of sharing. In her article, Jarvis emphasizes the significance of micro-social practices that self-organizing resident groups engage in over time. According to Czischke, these practices are essential to the long-term development and sustainability of a thriving cohousing community.

4.2 Collaborative Living

Co-housing has the potential to mitigate loneliness and foster a supportive community. However, for this to be effective, co-housing must be integrated into the broader social network of the residential area, where a sense of belonging is crucial. The strength of social connections and a sense of community often have a more significant impact on reducing loneliness than mere physical proximity in clustered housing or co-housing arrangements. Establishing a direct relationship between co-housing and reduced loneliness remains complex, as the diversity of housing models is vast, and cohabitation does not necessarily imply shared values or strong interpersonal bonds among residents. Of particular interest is the conceptualization of “belonging” and the “ecosystem” within the living environment, which Czischke et al. describe as "collaborative living." [34]. In this model, social networks and interpersonal interactions serve as the foundation for fostering a sense of community and collective well-being.

They stated that: “Imagine a residents discuss how they want to live. They meet regularly to exchange their views on things like how to make best use of the scarce space to provide new homes for those who need them; ways to live more sustainably, to reduce their environmental footprint; and how to make housing more affordable for people of different income levels. But they also think about the future, about how they can stay in their homes when their children fly the nest, and they grow old. Many of those living on their own feel a bit lonely, both young and old. They realize that they can actually benefit from pooling their resources to achieve common goals; they can share

more and own less. They can collaborate to build not only a home, but also a community. This is what we call collaborative living." [37].

4.3 Challenges of Senior Co-Housing in the Dutch Context

The first challenge in the Dutch housing system is its conventional structure, which has been subject to criticism. Typically, housing developments are initiated by real estate developers or housing associations, often with municipal support. In urban regions, the high cost of land further complicates housing accessibility. The role of the individual residential consumer in the decision-making process is minimal; at most, residents near the construction site may be invited to participate. Only those with sufficient financial resources can design and build their own homes.

The second challenge concerns the evolving dynamics among residents over time and the allocation of housing to new members. At the initial stage of development, a co-housing project is typically driven by a group of like-minded individuals collaborating toward a shared vision, united by similar intentions. However, as time passes, residents may relocate, and new members join the community. The process for selecting and integrating new residents is not always transparent or explicitly defined. Additionally, the original ideals and social relationships within the community may shift. Over time, subgroups often emerge within the community, and in some cases, particular residents may experience social exclusion. Thus, the internal social dynamics of collaborative living arrangements can pose significant challenges.

The third challenge is specific to the target group: older adults. The question remains whether collaborative living or co-housing is a suitable housing solution for older people. What shared intentions unify older residents in such communities? Is it loneliness? Furthermore, are older adults willing and able to engage in the self-organization and long-term participation required for the design and construction of their new living environment?

4.4 Senior Co-housing, Benefits and Drawbacks

Is co-housing a solution for older people? Rusinovic, Van Bochove, and Van de Sande conducted research examining the benefits and drawbacks of senior co-housing in the Netherlands [38]. According to the authors, *senior co-housing communities* provide an intermediate housing solution for older adults who wish to avoid institutional living while enjoying the company of peers. In these communities, residents maintain independent apartments while engaging in shared activities and offering mutual support. The motivations for joining a co-housing community may vary among residents—for instance, some seek to alleviate loneliness—yet they all share common characteristics such as advanced age and different degrees of dependence on care services. The authors outlined the benefits and drawbacks of senior co-housing as follows (Table 2):

Table 2 Overview benefits and drawback of co-housing.

Benefits	Drawbacks
Social contacts and shared activities.	Social exclusion: adjustment challenges for newcomers.
Social control: looking out for one another.	Limited freedom due to strict rules and norms; paternalism.
Instrumental and emotional support: easing the burden of family caregivers.	Boundaries based on frequency and intensity of support; distinctions between deserving/undeserving residents.
Diminishing social loneliness and alleviating emotional loneliness.	Experience of boundaries in sharing feelings of emptiness.

The authors concluded that the primary benefit of such co-housing communities is the social connections they foster. Residents reported that they were more than "just neighbors." The co-housing community provides a variety of social activities, as well as emotional and instrumental support, fostering a sense of belonging among its members. Consequently, living in a co-housing community can help reduce social loneliness among residents and enhance feelings of social and personal safety.

However, the authors also noted that conflicts, disagreements, and processes of social exclusion are inherent aspects of community life. Additionally, while co-housing can alleviate emotional loneliness to some extent, it offers limited benefits in this regard and is not suitable for individuals with severe care needs.

4.5 Senior Co-Housing, Six Building Types

Specifically for seniors and individuals with care needs, the organization ZorgSaamWonen has published a catalog outlining six housing models designed for older adults [39].

Informal Care Home (Mantelzorgwoning) – A residence located near or attached to another home, facilitating the exchange of support and care.

1. Small-Scale Living (Kleinschalig wonen) – A group home providing care in a domestic setting for 8–12 residents requiring assistance or support.
2. Residential Group (Woongroep) – A building comprising 4–20 rooms or small dwellings with shared living spaces, where (single) older people form a community.
3. Residential Community (Woongemeenschap) – A complex of 12–40 independent homes with shared facilities, where residents engage in communal activities.
4. Modern Courtyard (Modern hofje) – A housing arrangement featuring 16–45 ground-level or stacked homes surrounding a courtyard garden, fostering new forms of neighborly interaction.
5. Residential Building (Wooncomplex) – A complex containing 20–300 apartments with communal spaces, care services, and support packages.

An inventory of existing built examples illustrates the extensive variety of housing options available for older adults across different financial categories, including social rental, mid-market rental, and high-end housing. While seniors could choose their preferred living environment, the extent of choice available to those with limited financial resources remains uncertain. This largely depends on the agreements between municipalities and housing associations regarding housing provisions in specific neighborhoods.

An important aspect not addressed in this study, yet crucial to consider, is the availability of facilities in proximity to older people's housing, as well as the quality of the routes connecting residences to these amenities. To evaluate this, both the quality and quantity of amenities (public and commercial) and pedestrian routes within the neighborhood must be examined. For the student course, this is a critical assignment (Chapter 3). Essential facilities may include a neighborhood community center featuring shops, a library, healthcare services, and other relevant amenities. The routes linking residences to the community center should incorporate green and blue infrastructure, ensure safety and accessibility, feature wayfinding elements to facilitate navigation, and provide rest areas and (semi-)public restrooms.

Co-housing can be a viable solution for older people, particularly when they live in independent housing while sharing communal facilities. The nature of these facilities is context-dependent, as each residential area has distinct characteristics, requiring housing designs and amenities that align with its specific needs. When care requirements become more intensive, specialized provisions must be implemented. Aging in place and maintaining a healthy lifestyle are feasible when residents are familiar with their neighborhoods and fellow inhabitants, and feel a sense of belonging.

4.6 New Forms of Senior Co-Housing in the Netherlands

The LivInn concept has been introduced by Habion, a foundation specializing in housing for older adults. Habion manages approximately 11,000 residential units across 120 locations throughout the Netherlands. This new housing model has been the subject of academic study by students, who conducted fieldwork, stayed on site, and received support from residents during their research. Key Characteristics of the LivInn Concept

- Residential setting and community
  The LivInn concept comprises residential complexes that foster an innovative, active community for older adults living independently. It seeks to achieve an optimal balance between collective engagement and individual privacy.
- Deinstitutionalization of care
  Care is not bound to the residential building itself; instead, it follows the residents. Support is provided only upon request and is tailored to individual needs. A single care provider serves the community, ensuring both continuity and accessibility.
- Resident ownership and community involvement
  A sense of ownership among residents strengthens the community. Residents are actively involved in the management of the building and in the organization of communal life. The concept is explicitly designed to connect with surrounding communities and to promote active participation in the broader neighborhood.
- Diversity of residents
  LivInn intentionally combines a heterogeneous mix of residents across age, gender, and housing categories, including both social and mid-range rental units. The resident population is not limited to older adults with care needs; instead, it encourages an intergenerational environment in which older people can remain active in diverse ways.
- Shared amenities
  Communal facilities form a central component of the concept. Examples include shared kitchens, car-sharing schemes, guest accommodation, cleaning services, gardens, culture, and

sports facilities. These amenities enhance opportunities for social interaction while providing practical convenience.

- Healthy living environment
  The architectural and spatial design promotes a healthy lifestyle by encouraging natural physical movement within the building and by re-establishing connections with nature. This is achieved through the integration of urban landscapes, greenery, and water features.
- Location and accessibility
  LivInn complexes are strategically located near urban amenities, enabling residents to engage in daily activities independently. Such amenities may include local centers with shops and communal meeting places. Safe, accessible walking routes link the residences to these facilities, thereby fostering both mobility and social interaction.

5. Students' Design Solutions on Neighborhood Level

During fieldwork, especially during interviews with residents, the students found that residents miss informal places to meet and connect near their homes (Figure 6). The urban and suburban neighborhoods are often too big to reach the one café, let alone the fact that it is too expensive. The *Schilderswijk* in The Hague, for example, needs to be divided into quarters accessible to older people. Think about a distance of 500-1000 meters, accessible to walkers and wheelchair users. There should be a place to sit, to rest, and encounter others. We discussed the possibility of little rest points with a toilet, seating, and perhaps a cup of coffee. Student Willisa Ypenga went to this neighborhood. Discovering a neighbourhood garden in one corner of the neighbourhood (The Spinozahof) where older people and others were very active, she started to discover the secrets of this garden, why was it that neighborhood garden in one corner of the neighborhood (The Spinozahof), where older people and others were very active, she started to discover the secrets of this garden. Why was it so popular? First of all, it was clear that it was very much for the direct neighbors, who were able to reach this place easily and frequently. This strengthened the cohesion among the people who visited the garden. Willisa did street interviews. Those people living nearby came to this garden every day. Others who needed to walk farther to reach it would like a resting place along the way, as it was just too far for them.



Figure 6 Results of the street interviews [40].

Student Willisa decided to offer another concept which could be implemented in different areas, without the need for a significant area for a huge garden. She called this the *harvest homes* (Figure 7). Little houses —possibly even prefabricated and built at locations with relatively well-paved sidewalks in the neighborhood —people could appropriate and use for greenery spots, little library spots, coffee corners, and more. Offering small, medium, and large units and connecting them with colored street tiles as signposts could lead to a system of nodes in the neighborhood (Figure 8).

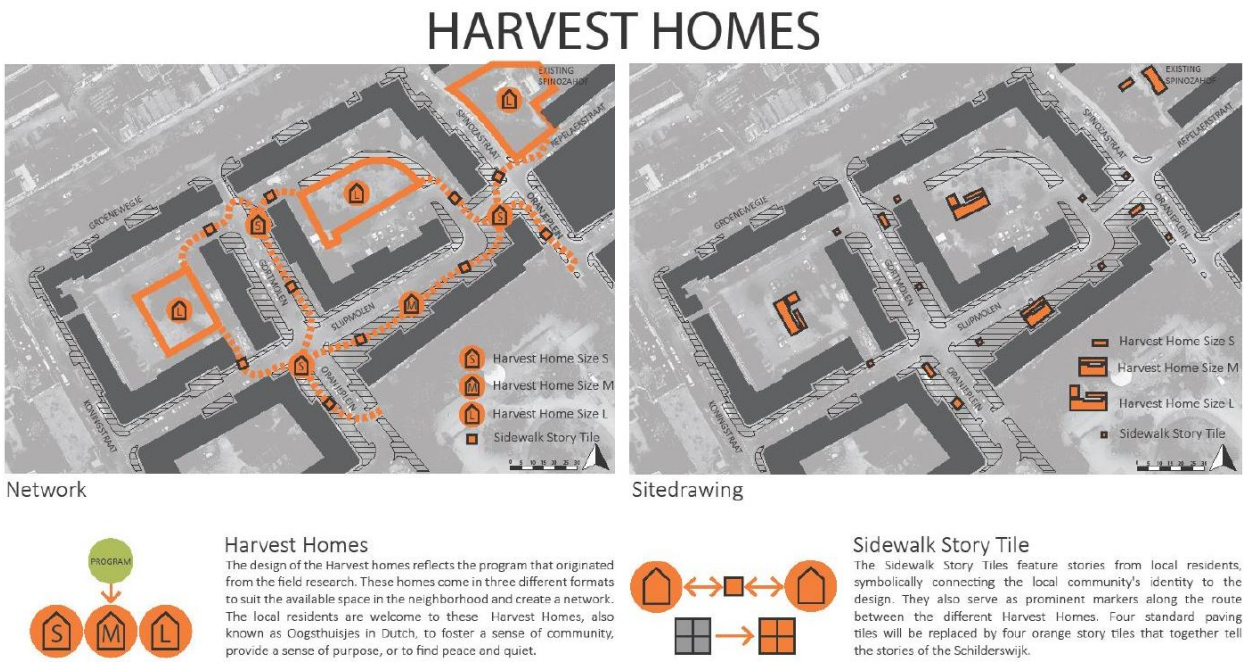


Figure 7 The concept of Harvest Homes [40].



Figure 8 The concept of the Harvest Homes, small, medium and large [40].

Another conceptual idea at the neighborhood level deserves discussion. In 2023, we did studies in the neighborhood of *Loosduinen Waldeck* in The Hague. The area had lots of housing blocks built after WWII (Figure 9). Today, the housing blocks are outdated; they have no elevators, tiny balconies, and the relatively huge courtyard garden is not reachable for the older people without an elevator, thus transforming it into visual greenery. We discussed this with the housing association, and they told us that the transformation and addition of elevators are planned. But these gardens have high potential as meeting points for the neighborhood, only that some hedges should be opened, and some paths need to be created. In the following, we show an idea to open the three courtyards and transform the gardens.



Figure 9 Typical housing blocks built in the 50th, four stories high and no elevator [41].

Student Elbrich van Stralen realized, after talking to older people in this region, that loneliness is a significant problem. So her motto was: “A talk a day keeps loneliness away” (Figure 10). She studied the residential building blocks and suggested opening them up and offering them to the entire neighborhood. Within 500 meters, everybody could reach a garden. Then, small pavilions, little ‘older people hubs’, sport areas or children’s playgrounds, benches, and toilets could be added step by step.



Figure 10 Elbrich van Stralen: "A talk a day keeps loneliness away". She introduces open gardens to the neighborhood with pavilions and places for activities [41].

6. Students' Design Solutions on Building Level by Transformation and New Additions

In this chapter, we want to elaborate on two transformation designs of the same block, mentioned in Chapter 5 (Figure 11). One transformation is designed by student Aster Wellerdiek and one by student Eline Koes. The location was chosen by four students who were all interested in transforming this block in a way that 'living together' could develop (step by step). Aster Wellerdiek was intrigued by the vast gardens, not used but very spacious. She realized that residents cannot easily enter the garden; they must first walk around the whole building, a situation we found in different kinds of WWII blocks. Aster suggests a step-by-step strategy to introduce three changes (Figure 12): 1. In general, bathrooms and kitchens need a transformation to make the apartment more suitable for older people, and a small elevator is added to the staircase. 2. The balconies on the ground floor are exchanged and a big terrace is offered in front of the whole South-façade. 3. The ground floor should offer accessibility for all residents of the portico to the terras and the garden. At the moment, the apartment on the right of the ground floor becomes free, and a breakthrough to the garden is possible. If the apartment to the left becomes free, even a collective living room with a kitchen could be offered to this community. Additionally, there is a guest room with a small toilet (could be for a nurse). In this step-by-step approach, the entrances are changed into "go through" ways to the collective living and the garden. Each resident can easily enter the garden without needing to go around the whole building. On the ground floor, with direct access, the garden will be much more reachable. Gardening, play, and staying will be much easier.

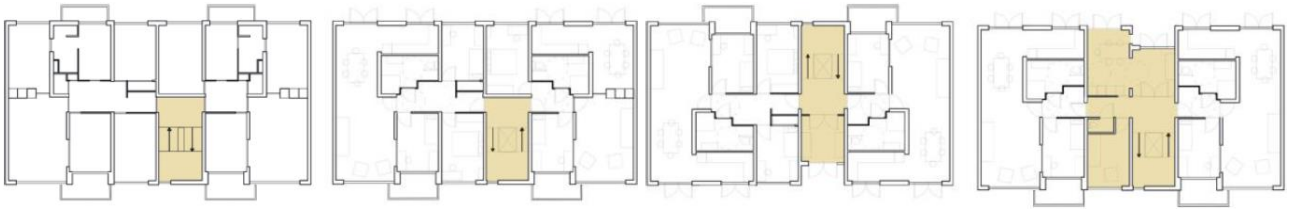


Figure 11 The transformation of a dwelling block [42].



Figure 12 The transformation of a dwelling block, floorplan details, and fragment of the facade [42].

Eline Koes noticed the large inner garden of the blocks, which was rarely used. The garden inspired her to add some apartments connected to the block, with direct access to the garden and to a collective kitchen and living room in the existing block. After several talks with the inhabitants, she realized that not all older people are willing to share spaces, but many would, as long as it does not influence their own apartment. This led her to the idea of introducing a collective living type in the garden, for those who like gardening, sharing, and living in smaller apartments. This addition would activate the inner courtyard and offer new homes for the older people (Figure 13 and Figure 14).



Figure 13 The transformation of a dwelling block [43].

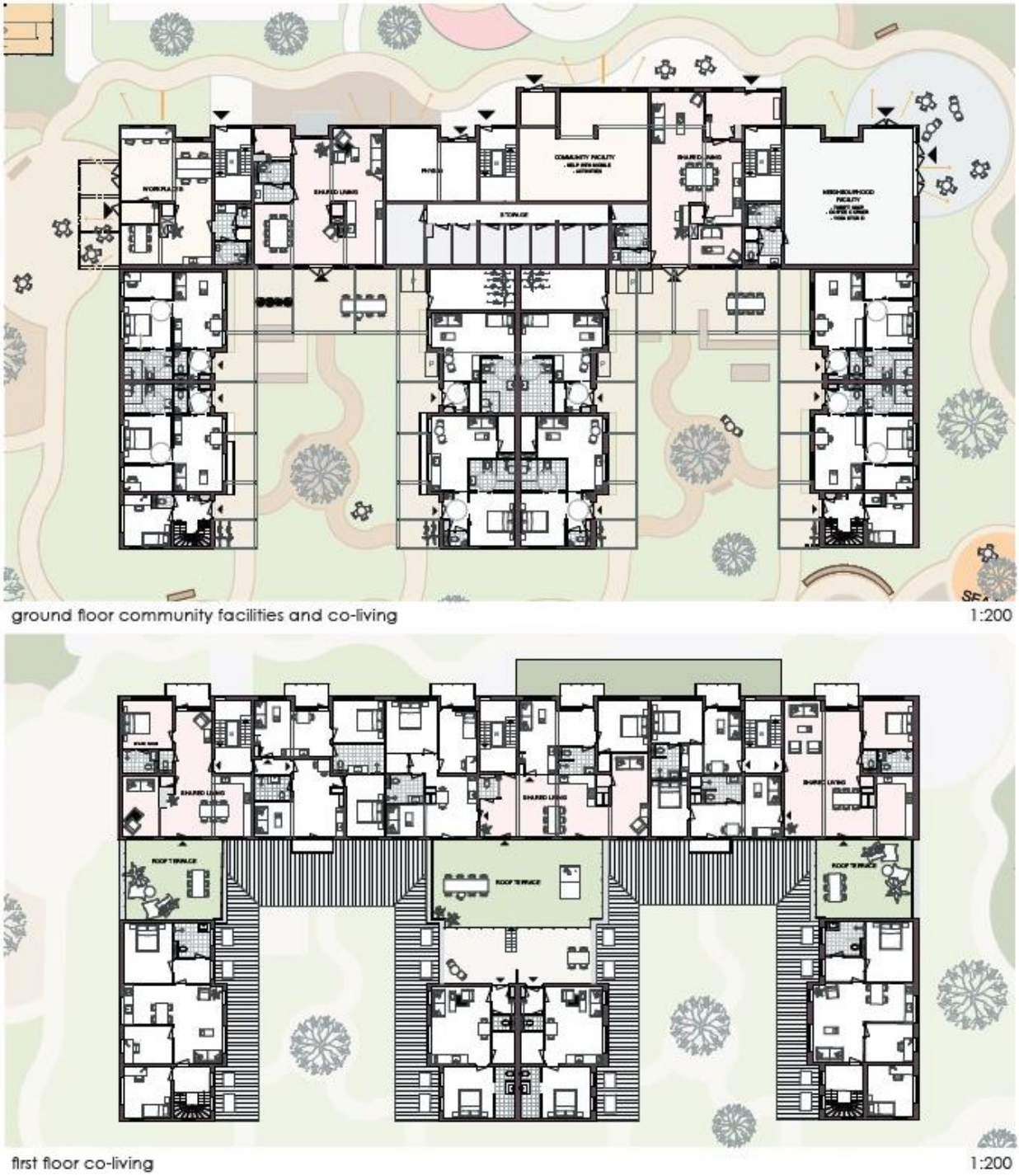


Figure 14 The transformation of a dwelling block [43].

Another transformation deserves to be shown, within the *Schilderswijk* student ChuYu Zhou suggested to open the façade of a residential building block that had balconies towards the street, where people could only stand for a while as they were too small (Figure 15 left part). Due to the very broad sidewalk, she realized that the older people living inside have no chance to step out for some visual contact with people in the street. Her projects eliminate the existing inner portico staircase and transform it into an open green light shaft between two apartments (Figure 16), whereas the access system will be totally transformed, thus integrated into the new façade spaces with stairs, elevator, small encounter spaces, and terraces on the way home (Figure 17).

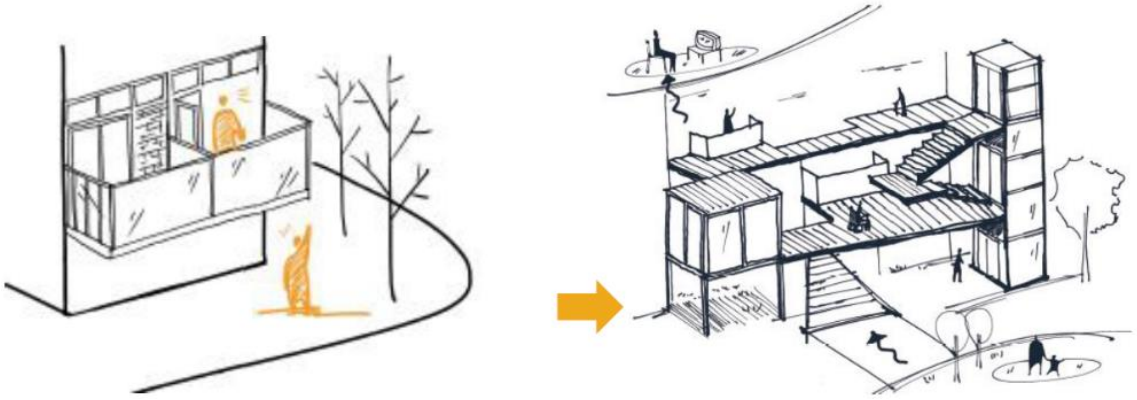


Figure 15 The Elcony, left side is the existing small balcony, right side the first idea of transformation with a sketch of a new type of balcony designed for older people [44].

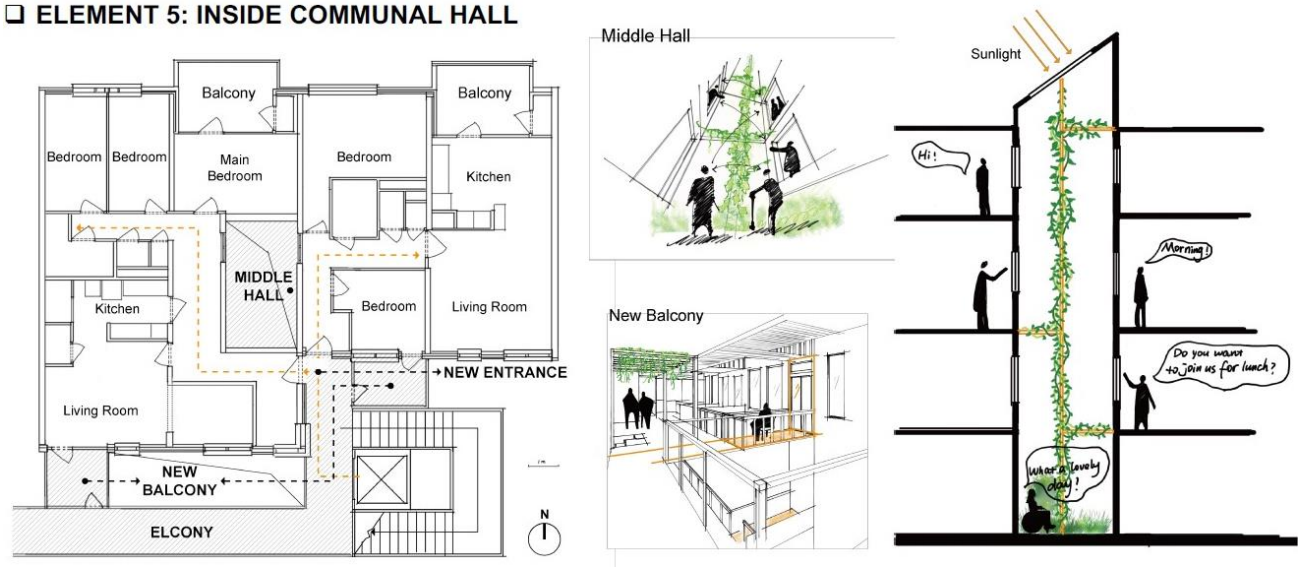


Figure 16 The Elcony and the transformation of the floorplan [44].

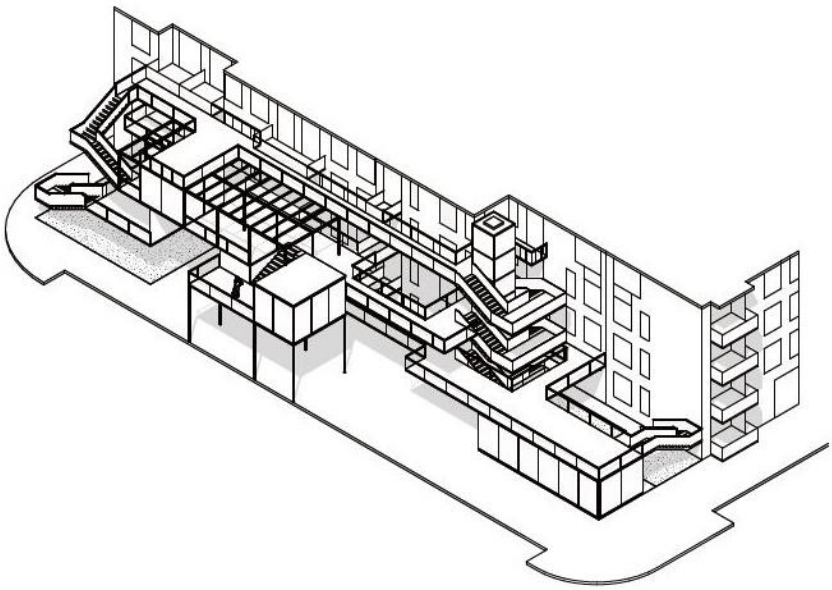


Figure 17 The Elcony, a new type of balcony designed for older people [44].

7. Discussion

In the Netherlands, the development of collective housing arrangements for older adults within the social rental sector remains a persistent challenge. This difficulty is shaped by two structural dilemmas previously outlined, which together create conditions of *policy fragmentation* and limited institutional coherence. Local housing associations attempt to navigate these constraints by experimenting with their own allocation practices — Habion's current approach serving as a salient example. Such efforts, however, fall under the category of *experimental governance*: context-specific initiatives that provide valuable insights but lack formal embedding in either national legislation or municipal frameworks. As a result, they remain isolated interventions rather than components of a coherent strategy. This *lack of institutionalization* not only restricts the scalability of promising practices but also perpetuates a situation in which collective housing for older adults is the exception rather than the norm in the Dutch welfare and housing regime.

Housing Policy for Older Adults in the Netherlands is Marked by Structural Contradictions that Manifest Most Clearly in the Allocation of Social Rental Dwelling. The regional allocation system—regulated partly by national frameworks and partly by municipal discretion—embodies a classic policy trade-off. On the one hand, granting priority access to designated target groups enhances distributive fairness and inclusivity. On the other hand, the resulting heterogeneity of resident populations creates a persistent *deficit i*n *social cohesion,* as individuals with markedly different social, cultural, and economic backgrounds are clustered within the same complexes. The case of The Hague, where applicants must register through *Woonnet Haaglanden*, illustrates this tension: while procedural equity is safeguarded, the scope for forming like-minded, self-sustaining communities is significantly constrained.

A second, Equally Consequential Dilemma Concerns the Typological Bifurcation of the Social Rental Sector. Independent social rental units—typically compact apartments of approximately 30 square meters with private entrance, kitchen, and bathroom—are financially supported through eligibility for housing allowances, rendering them relatively affordable. Yet, despite the presence of nominally shared facilities such as care facilities, common space, cleaning, gardens, or terraces, these dwellings rarely succeed in fostering substantive forms of collective life. Non-independent housing, by contrast, is organized around shared facilities and communal spaces, thereby holding greater potential for social interaction and community building. However, the absence of eligibility for individual housing allowances creates a structural disincentive, paradoxically making this ostensibly collective housing model more expensive than its independent counterpart. This financial asymmetry has led to the near disappearance of non-independent housing from the Dutch housing supply, thereby reinforcing a policy bias toward individualized rather than communal living arrangements.

8. Conclusion

After several years of practicing this course, we can state that the design of appropriate housing is only one issue to be solved. Our existing housing stock is not offering houses in which the older people can grow even older; they often miss important attributes (elevator, bigger bathrooms, enough space for wheelchair use). However, if we do not look critically at our neighborhoods, we may mismatch the goal of aging in place and thus invest wrongly. Older people need an appropriate home, and there should be choice in this, but if the neighborhood is not equipped with the facilities

needed, with spaces to meet each other within a short distance, loneliness will be one of the most common problems, which is already a fact today. If neighbors do not know each other, the courage to ask for help is minimal, and the chance that neighbors help each other is minimal as well. Belonging to society is important for everybody. Older people have the time that young people do not have; we could help each other. The student designs show answers on different levels. Transforming the existing housing stock will be an important contribution, but adding senior- or intergenerational hubs will support the possibility for the older people to have a meeting spot nearby, which now often is not the case.

We have seen that co-housing can be a solution for older people, as new building design or transformation of the existing houses. But the most important conclusion for us was: Listen to the people themselves, as otherwise you invest into a mismatch as well.

For urban developers, housing associations, and officials working within municipal and housing departments, several considerations are particularly pertinent. (a) First, it is essential to undertake a careful and context-sensitive selection of locations within existing neighborhoods — sites that genuinely correspond to the needs and everyday practices of the intended target groups. (b) Second, the allocation of social housing should be organised differently from prevailing practices. As demonstrated by Habion, a more flexible approach can enable a meaningful mix of housing types and age groups, thereby enhancing social diversity and cohesion. (c) Third, sustained attention must be given to the reciprocal relationship between a specific neighborhood and its residents. A large building situated at the periphery of a district, composed of independed units (zelfstandige wooneenheden) placed side by side — much like student housing complexes developed by Duo — does not constitute a community. In such settings, shared spaces often remain unused and social interaction is minimal. For older residents in particular, the creation of a genuine community of peers — anchored in the right location within their familiar residential environment — is of decisive importance.

The idea may not be new—indeed, it has largely faded from view—but it remains a crucial principle: *"building for the neighborhood"* and *"building with the neighborhood."* Only through such an approach can a sense of community within a specific residential area acquires genuine meaning. In this way, *aging in place* becomes more than a hollow promise. In our educational program, students engage critically with the theoretical framework and the relevant policy documents produced by municipalities, housing associations, and the Centre for Group Living (*Centrum Groepswonen*). Yet their work does not end there. Students are confronted with the lived reality of existing neighborhoods and their residents. Equally important is the ongoing dialogue with municipalities, housing associations, residents, and other stakeholders. Student proposals have therefore been presented and discussed on several occasions with these actors. Ultimately, the research itself was carried out in close collaboration with the Municipality of The Hague, the housing association *Haag Wonen*, and the *Centrum Groepswonen*.

Acknowledgments

The Research Reports Msc2 2022/23/24 were elaborated by the whole group of each Msc2 course of the University of Technology Delft, Faculty of Architecture and the Built Environment, group Dwelling. For this article we used material from the last two years, 2023 and 2024.

Author Contributions

Birgit M. Jürgenhake is responsible for chapters 3, 5, and 6. Leo M. Oorschot is responsible for chapters 2, 4, and 7. Chapter 1 and 8 were written by both authors.

Competing Interests

The authors have declared that no competing interests exist.

References

1. RIVM, Ministerie van Volksgezondheid en Milieu. Actielijn 3 | Indicator 28 (in Dutch) [Internet]. Bilthoven, The Netherlands: RIVM. Available from: https://www.rivm.nl/monitor-langer-thuis/resultaten/resultaten-actielijn-3-wonen/percentage-75-plussers-dat-aangeeft-dat-hun-huidige-woning-geschikt-is#:~:text=De%20laatste%20decennia.
2. World Health Organization. Active Ageing: A Policy Framework (which introduced the concept of active aging and its determinants) [Internet]. Geneva, Switzerland: World Health Organization; 2002. Available from: https://extranet.who.int/agefriendlyworld/wp-content/uploads/2014/06/WHO-Active-Ageing-Framework.pdf.
3. World Health Organization. Global Age-friendly Cities: A Guide (expanding on age-friendly urban environments) [Internet]. Geneva, Switzerland: World Health Organization; 2007. Available from: https://www.who.int/publications/i/item/9789241547307.
4. World Health Organization. Global Action Plan on the Public Health Response to Dementia (2017–2025) (addressing aging-related cognitive decline) [Internet]. Geneva, Switzerland: World Health Organization; 2017. Available from: https://www.who.int/publications/i/item/global-action-plan-on-the-public-health-response-to-dementia-2017---2025.
5. World Health Organization. Age-friendly Environments in Europe: A Handbook of Domains for Policy Action (providing regional insights for policy development) [Internet]. Geneva, Switzerland: World Health Organization; 2017. Available from: https://www.who.int/publications/i/item/9789289052887.
6. World Health Organization. The Global Network for Age-friendly Cities and Communities: Looking Back Over the Last Decade, Looking Forward to the Next (evaluating progress and future directions in global age-friendly initiatives) [Internet]. Geneva, Switzerland: World Health Organization; 2018. Available from: https://www.who.int/publications/i/item/WHO-FWC-ALC-18.4.
7. World Health Organization. Introduction. Aim and objectives of the AFEE project. In: Age-friendly Environments in Europe: A Handbook of Domains for Policy Action [Internet]. Geneva, Switzerland: World Health Organization; 2017. p. 3. Available from: https://www.who.int/publications/i/item/9789289052887.
8. World Health Organization. How Old is Older? In: Active Ageing: A Policy Framework [Internet]. Geneva, Switzerland: World Health Organization; 2002. p. 4. Available from: https://extranet.who.int/agefriendlyworld/wp-content/uploads/2014/06/WHO-Active-Ageing-Framework.pdf.

9. World Health Organization. Domain 2: Transport and mobility. Introduction. In: Age-friendly Environments in Europe: A Handbook of Domains for Policy Action [Internet]. Geneva, Switzerland: World Health Organization; 2017. p. 27. Available from: https://www.who.int/publications/i/item/9789289052887.
10. World Health Organization. Domain 3: Housing. Setting and enforcing standards for newly built houses. In: Age-friendly Environments in Europe: A Handbook of Domains for Policy Action [Internet]. Geneva, Switzerland: World Health Organization; 2017. p. 43. Available from: https://www.who.int/publications/i/item/9789289052887.
11. World Health Organization. Introduction: About this Guide. In: Global Age-friendly Cities: A Guide [Internet]. Geneva, Switzerland: World Health Organization; 2007. p. 1. Available from: https://www.who.int/publications/i/item/9789241547307.
12. World Health Organization. Part 2. Active ageing: A framework for age-friendly cities. In: Global Age-friendly Cities: A Guide (expanding on age-friendly urban environments) [Internet]. Geneva, Switzerland: World Health Organization; 2007. p. 5. Available from: https://www.who.int/publications/i/item/9789241547307.
13. World Health Organization. Part 2. Active ageing: A framework for age-friendly cities. In: Global Age-friendly Cities: A Guide (expanding on age-friendly urban environments) [Internet]. Geneva, Switzerland: World Health Organization; 2007. p. 9. Available from: https://www.who.int/publications/i/item/9789241547307.
14. Age Friendly Community. Home Page [Internet]. Age Friendly Community; 2025 [cited date 2025 January]. Available from: https://agefriendlycommunity.org.
15. Eenzaamheid. Home Page [Internet]. Gennep, Netherlands: Eenzaamheid; 2025 [cited date 2025 January]. Available from: https://eenzaamheid.info/.
16. Een tegen eenzaamheid. Home Page [Internet]. Een tegen eenzaamheid; 2025 [cited date 2025 January]. Available from: https://www.eentegeneenzaamheid.nl.
17. Centraal Bureau voor de Statistiek. Home Page [Internet]. Centraal Bureau voor de Statistiek; 2025 [cited date 2025 January]. Available from: https://www.cbs.nl/nl-nl/cijfers/detail/85766NED.
18. De Staat van Volksgezondheid en Zorg. Home Page [Internet]. De Staat van Volksgezondheid en Zorg; 2025 [cited date 2025 January]. Available from: https://www.staatvenz.nl.
19. Bower M, Kent J, Patulny R, Green O, McGrath L, Teesson L, et al. The impact of the built environment on loneliness: A systematic review and narrative synthesis. Health Place. 2023; 79: 102962.
20. Centraal Bureau voor de Statistiek. 1 op de 10 mensen sterk eenzaam in 2023 (in Dutch) [Internet]. Centraal Bureau Voor De Statistiek; 2024. Available from: https://www.cbs.nl/nl-nl/nieuws/2024/39/1-op-de-10-mensen-sterk-eenzaam-in-2023.
21. Centraal Bureau voor de Statistiek. Ouderen (in Dutch) [Internet]. Centraal Bureau Voor De Statistiek; 2025. Available from: https://www.cbs.nl/nl-nl/visualisaties/dashboard-bevolking/leeftijd/ouderen.
22. Freak-Poli R, Wagemaker N, Wang R, Lysen TS, Ikram MA, Vernooij MW,et al. Loneliness, not social support, is associated with cognitive decline and dementia across two longitudinal population-based cohorts. J Alzheimers Dis. 2022; 85: 295-308.

23. Van der Poel R. Eenzaamheid kost 2 miljard euro aan extra zorgkosten (in Dutch) [Internet]. NRC; 2021. Available from: https://www.nrc.nl/nieuws/2021/02/07/eenzaam-heid-kost-2-miljard-euro-aan-extra-zorgkosten-a4030906.
24. Wolters NE, Mobach L, Wuthrich VM, Vonk P, Van der Heijde CM, Wiers RW, et al. Emotional and social loneliness and their unique links with social isolation, depression and anxiety. J Affect Disord. 2023; 329: 207-217.
25. Hofman A, Overberg RI, Schoenmakers EC, Adriaanse MC. Social and emotional loneliness in a large sample of Dutch adults aged 19-65: Associations with risk factors. Psychiatry Res. 2022; 313: 114602.
26. Franklin A, Tranter B. Loneliness and the cultural, spatial, temporal and generational bases of belonging. Aust J Psychol. 2021; 73: 57-69.
27. Abma T. Keynote lecture Prof. Dr. Tineke Abma, Professor Kunst en Zorg of the Erasmus School of Health Policy & Management Rotterdam. Proceedings of the ZorgSaamWonen Congress 2024; 2024 October 2-3; The Hague, Netherlands.
28. Abma T. Presentation of Prof. Dr. Tineke Abma on the congress Zorgzaam Wonen of October 3e 2024 [Internet]. The Hague, Netherlands: Age-friendly Community; 2024. Available from: https://agefriendlycommunity.org/lokale-netwerken.
29. Gardner J, Marpillero-Colomina A, Begault L. Inclusive Healthy Places [Internet]. New York, NY: Gehl Institute; 2018. Available from: http://ihp.gehlpeople.com/wp-content/uploads/2022/08/Inclusive-Healthy-Places_Gehl-Institute.pdf.
30. Senioren Journaal. Home Page [Internet]. Senioren Journaal; 2025 [cited date 2025 January]. Available from: https://seniorenjournaal.nl/wonen/knarrenhof-niet-meer-te-stuiten/.
31. Student work. Research booklet 2023. Faculty of Architecture and the Built Environment, chair of Housing & design; 2023.
32. Mercader-Moyano P, Flores-García M, Serrano-Jiménez A. Housing and neighborhood diagnosis for ageing in place: Multidimensional Assessment System of the Built Environment (MASBE). Sustain Cities Soc. 2020; 62: 102422.
33. Oorschot LM. Nederland kantelpunt: Darinka Czischke about the freedom to choose your way of living in collaborative housing [Internet]. 1M Homes initiative; 2021. Available from: https://research.tudelft.nl/en/publications/nederland-kantelpunt-darinka-czischke-about-the-freedom-to-choose/.
34. Czischke D, Peute M, Brysch S. Together: Towards collaborative living. Delft, Netherlands: TU Delft OPEN Publishing; 2023. doi: 10.59490/mg.80.
35. McCamant K, Durrett C, Hertzman E. Cohousing: A contemporary approach to housing ourselves. Berkley, CA: Ten Speed Press; 1994.
36. Jarvis H. Towards a deeper understanding of the social architecture of co-housing: Evidence from the UK, USA and Australia. Urban Res Pract. 2015; 8: 93-105.
37. Czischke D, Peute M, Brysch S. Together: Towards collaborative living. Delft, Netherlands: TU Delft OPEN Publishing; 2023. p. 17.
38. Rusinovic K, Bochove MV, Sande JV. Senior co-housing in the Netherlands: Benefits and drawbacks for its residents. Int J Environ Res Public Health. 2019; 16: 3776.
39. ZorgSaamWonen. Catalogus woonvormen voor senioren (in Dutch) [Internet]. Zwolle, Netherlands: ZorgSaamWonen. Available from:

https://www.zorgsaamwonen.nl/sites/default/files/users/user119/Catalogus%20woonvormen%20voor%20senioren%20V2.pdf.

40. Ypenga W. Student work by Willisa Ypenga. Research and design booklet 2024. Faculty of Architecture and the Built Environment, chair of Housing & design; 2024.
41. van Stralen E. Student work by Elbrich van Stralen. Research and design booklet 2023. Faculty of Architecture and the Built Environment, chair of Housing & design; 2023.
42. Wellerdiek A. Student work by Aster Wellerdiek. Research and design booklet 2024. Faculty of Architecture and the Built Environment, chair of Housing & design; 2024.
43. Koes E. Student work by Eline Koes. Research and design booklet 2023. Faculty of Architecture and the Built Environment, chair of Housing & design; 2023.
44. Zhou C. Student work by Chuyu Zhou. Research and design booklet 2024. Faculty of Architecture and the Built Environment, chair of Housing & design; 2024.