

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Personal information	
Name	Desiré Verlaan
Student number	5944694

Studio		
Name / Theme	AR3AD110 Dwelling Graduation Studio: Designing for Health and Care in an Inclusive Environment / Health & Care	
Main mentor	Birgit Jürgehake	Field of health and care; focused on the living situation of the elderly people in need of care.
Second mentor	Jasmina Campochiaro	Specializing in building technology, large-scale construction, and biomimicry as a construction manager for sustainable solutions.
Third mentor	Leo Oorschot	Architect, urbanist, and researcher focusing on modern cityscapes shaped by societal and political conflicts.
Argumentation of choice of the studio	I chose this studio for two main reasons. First, I believe architecture often overlooks the fact that designs are ultimately meant for people, leading to a loss of belonging within the built environment. Second, the growing individualism in society fosters loneliness and weakens our sense of community. I believe small gestures can have a profound impact on people's lives, and architecture should play a greater role in encouraging these social interactions.	

Graduation project	
Title of the graduation project	A new kind of neighbor: building a multigenerational housing communities to improve social cohesion
Goal	
Location:	Tarwewijk in Rotterdam, The Netherlands
The posed problem,	The rise of individualism has weakened social cohesion and mutual support, particularly in cities like Rotterdam, where nearly half of households are single-person. As meaningful connections become harder to form, isolation and division increase, making simple acts of neighborly help less common.
research questions and	<p>Main question: Can a multigenerational housing community concept promote social cohesion, in for example the Tarwewijk?</p> <p>Sub-questions:</p> <ol style="list-style-type: none"> 1. What architectural features and shared spaces encourage social interaction between different generations in multigenerational housing?

	<ol style="list-style-type: none"> 2. How can a housing community balance privacy with communal spaces, and how does this affect residents' well-being? 3. What housing types and amenities can meet the diverse social needs of multigenerational residents while fostering understanding between generations? 4. What design insights from projects focused on community building can be used to improve social cohesion in future housing developments?
design assignment in which these result.	The development of a multigenerational housing community concept that promotes social cohesion.
<p>The output of the research will be <i>design guidelines</i> for shaping a multigenerational housing community concept in Tarwewijk, Rotterdam. These guidelines will address various spatial scales—neighborhood, building design, and individual homes— and are connected to four themes: social connectivity, tarwewijk context, livability, and privacy.</p>	
Process	
Method description	
<p>Literature Research</p> <p>Analyze existing studies to identify architectural features and shared spaces that foster intergenerational interaction, as well as explore theories on balancing privacy with communal areas and their impact on residents' well-being. Additionally, it will provide insights into housing and amenities that meet the diverse social needs of multigenerational residents and promote intergenerational understanding.</p> <p>Site Analysis and Mapping</p> <p>Site analysis and mapping of the Tarwewijk will delve into the neighborhood's current demographics, social cohesion, and available amenities. This localized focus will help to identify existing opportunities and challenges within the area. Beyond Tarwewijk, the mapping will take a more general approach, examining physical layouts and key architectural features of existing projects to identify potential locations for interaction.</p> <p>Quantitative Research</p> <p>Through interviews, fieldwork, and observations, the research will explore the impact of architectural features and shared spaces on intergenerational interaction. Feedback from residents will assess how the balance between privacy and communal areas influences their well-being. It will also help identify how housing and amenities best meet the needs of multigenerational residents while promoting understanding.</p> <p>Case Studies</p> <p>Analyze real-world projects, focusing on practical examples of how architectural features and shared spaces encourage interaction, providing insights for future design strategies.</p>	

Literature and general practical references

THEORETICAL FRAMEWORK

The study incorporates three theories and four key sources to construct its theoretical framework. These sources provided the foundation for the research and guided the development of the bibliography and overall research.

1. Inclusive Healthy Places Framework by The Gehl Institute (2018)

Creating public spaces that promote health equity and inclusive design.

Integrate into the fabric of daily life and transform shared living environments into places of interaction and support.

- Arentshorst, M. E., Kloet, R. R., & Peine, A. (2019). Intergenerational Housing: the case of Humanitas Netherlands. *Journal of Housing for the Elderly*, 33(3), 244–256.
<https://doi.org/10.1080/02763893.2018.1561592>

2. Together Towards Collaborative Living by Czischke et al. (2023) & The social capital of cohousing communities by Ruiu (2015)

Co-housing models generate social capital, promoting collaboration, strong social ties, and the integration of residents into the broader community.

- Czischke, D., Peute, M., & Brysch, S. (2023). *Together: towards collaborative living*. <https://doi.org/10.59490/mg.80>
- Ruiu, M. L. (2015). The social capital of cohousing communities. *Sociology*, 50(2), 400–415. <https://doi.org/10.1177/0038038515573473>

3. Intergenerational Housing: The Case of Humanitas Netherlands by Arentshorst et al. (2019)

The significance of intergenerational housing as a solution to the challenges of aging populations. Illustrates how relationships between diverse generations help reduce social isolation and enhance the quality of life.

- Arentshorst, M. E., Kloet, R. R., & Peine, A. (2019). Intergenerational Housing: the case of Humanitas Netherlands. *Journal of Housing for the Elderly*, 33(3), 244–256.
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<https://psychology.org.au/for-members/publications/inpsych/2019/june/making-sense-of-belonging>

Altman, I. (1975). The Environment and Social Behavior: Privacy, Personal Space, Territory, Crowding. In *Internet Archive*. Brooks/ Cole Publishing Company / A Division of Wadsworth, Inc.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529. <https://doi.org/10.1037/0033-2909.117.3.497>

Brown, C., & Henkin, N. (2014). Building Communities for All Ages: Lessons Learned from an Intergenerational Community-building Initiative. *Journal of Community & Applied Social Psychology*, 24(1), 63–68. <https://doi.org/10.1002/casp.2172>

Cherry, K. (2024, May 2). *Erikson's Stages of Development*. Verywell Mind. <https://www.verywellmind.com/erik-eriksons-stages-of-psychosocial-development-2795740>

Ewen, C., Warner, E., & Andrews, F. J. (2022). Communal spaces in apartment complexes in Melbourne, Australia: designs to foster social connectedness. *Cities & Health*, 7(3), 363–377. <https://doi.org/10.1080/23748834.2022.2141376>

Gehl, J. (2011). *Life between buildings: Using Public Space* (6th ed.). Island Press.

Hertzberger, H. (1991). *Ruimte maken, ruimte laten: Lessen in Architectuur*. nai010.

Kleeman, A., Giles-Corti, B., Gunn, L., Hooper, P., & Foster, S. (2022). Exploring the design, quality and use of communal areas in apartment developments. *Cities & Health*, 6(3), 480–494. <https://doi.org/10.1080/23748834.2021.2001169>

Kleeman, A., Giles-Corti, B., Gunn, L., Hooper, P., & Foster, S. (2023). The impact of the design and quality of communal areas in apartment buildings on residents' neighbouring and loneliness. *Cities*, 133(1):104126. <https://doi.org/10.1016/j.cities.2022.104126>

Knight, T., Skouteris, H., Townsend, M., & Hooley, M. (2014). The Act of Giving: A Systematic Review of Nonfamilial Intergenerational interaction. *Journal of Intergenerational Relationships*, 12(3), 257–278. <https://doi.org/10.1080/15350770.2014.929913>

Leupen, B., Mooij, H., Jürgehake, B., Nottrot, R., Uytenhaak, R., & Zondag, J. (2011). *Housing Design: A Manual*. NAI Publishers.

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Madanipour, A. (2003). *Public and Private Spaces of the City* (1st ed.). Routledge Taylor & Francis.

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Roe, J., & Mccay, L. (2021). *Restorative Cities*. Bloomsbury Visual Arts.

Sim, D. (2019). *Soft City*. Island Press.

Thompson, S., & Kent, J. (2014). Connecting and strengthening communities in places for health and well-being. *Australian Planner*, 51(3), 260–271.

<https://doi.org/10.1080/07293682.2013.837832>

Vermeer, L., & Verlaan, D. (2024). *Fieldwork Booklet t' Kampje*. Delft: TU Delft.

Wates, N., & Knevitt, C. (2013). Community Architecture (Routledge Revivals). In *Routledge eBooks*. <https://doi.org/10.4324/9781315885957>

Zhang, K., & Yan, D. (2023). Enhancing the community environment in populous residential districts: neighborhood amenities and residents' daily needs. *Sustainability*, 15(17), 13255. <https://doi.org/10.3390/su151713255>

CASE STUDIES

The study incorporates five case studies of projects that focus on community building and integrate independent housing units with communal spaces to encourage social interaction across age groups and balance independence and social support.

1. Grønne Eng Cohousing, Copenhagen in Denmark.

A co-housing community comprising 75 homes offering a variety of sizes and flexible floor plans. The development is constructed in 2-6 stories and features a combination of townhouses and apartments. The communal house of 1.053m², hosts an array of shared facilities such as guest rooms, youth space, rehearsal room, communal laundry utilizing rainwater reuse, shared office space, bicycle workshop, rooftop greenhouse, and fitness room. The courtyard serves as a central element of the community, incorporating a nature playground and space for vegetable gardens, fruit trees, and other green features.

- Vandkunsten Architects. (n.d.). *Grønne Eng Cohousing in Ørestad*. Retrieved December 19, 2024, from <https://vandkunsten.com/en/projects/miljoerigtigt-bofaellesskab>

2. Groene Mient, The Hague in The Netherlands.

A resident-led initiative featuring 33 privately owned sustainable homes. The project combines a cohesive architectural design with individual customization, allowing each household to tailor their home to their specific needs. The homes are arranged around a shared ecological garden, with each home featuring a private garden that transitions into the inner communal garden, creating a harmonious connection between personal and shared outdoor spaces. This garden includes a pavilion designed as a meeting space for residents.

- Ballemans, M. (2022, September 22). *Woongemeenschap De Groene Mient Den Haag - puur permacultuur*. Puur Permacultuur. <https://puurpermacultuur.nl/woongemeenschap-de-groene-mient-den-haag/>
- Fillié Verhoeven Architecten. (n.d.). *CPO Groene Mient*. Francoisverhoeven. Retrieved December 19, 2024, from <https://francoisverhoeven.com/groene-mient-nl>
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- Muis, R. (2017, October 24). *Groene Mient is zelfgebouwde en energieneutrale gemeenschap*. Architectenweb. Retrieved December 19, 2024, from <https://architectenweb.nl/nieuws/artikel.aspx?id=41486>

3. De Warren, Amsterdam in The Netherlands

A cooperative housing project with 36 apartments for social and affordable rental housing. The core idea is collective living, therefore 30% of the building consists of collective spaces. This creates approximately 800m² of communal functions. The collective spaces are arranged along the so-called 'Machu Picchu' staircase that connects all floors. By placing the collective spaces centrally, they become part of everyone's daily route, and contact between residents is maximized.

- Natrufied Architecture. (2024, November 20). *Wooncoöperatie De Warren*. Natrufied. <https://www.natrufied.nl/portfolio/de-warren/>
- Koshta, H. A. (2024, May 31). *Housing Coöperation de Warren / Natrufied Architecture*. ArchDaily. Retrieved December 18, 2024, from <https://www.archdaily.com/1001864/housing-cooperation-de-warren-natrufied-architecture>
- Wooncoöperatie De Warren. (n.d.). *Wooncoöperatie De Warren*. De Warren. Retrieved December 18, 2024, from <https://dewarren.co/>

4. OurDomain, Amsterdam in The Netherlands

Comprising of 1.559 apartments spread across three distinct buildings: East House, North House, and West House. These buildings are interconnected through a central inner park designed to foster a sense of community. The emphasis in the park is on openness, with water and greenery thoughtfully transformed into connecting elements rather than dividers. The housing complex accommodates a wide range of target groups, including students, young professionals, couples, families, and shared living arrangements.

- Caballero, P. (2024, July 3). *OurDomain Student Housing / OZ Architects*. ArchDaily. Retrieved December 19, 2024, from https://www.archdaily.com/951607/ourdomain-student-housing-oz-architects?ad_source=search&ad_medium=projects_tab
- OurDomain. (2023). *Een appartement huren in Amsterdam / OurDomain Amsterdam South Eeast. Amsterdam South East*. Retrieved December 19, 2024, from <https://www.thisisourdomain.nl/nl/amsterdam-south-east-zuidoost/home>
- OZ Architect. (2024, December 4). *OurDomain / Amsterdam Southeast*. Retrieved December 19, 2024, from <https://ozarchitect.nl/ourdomain-amsterdam-southeast/>

5. The House of Generations, Aarhus in Denmark

Integrates a diverse range of housing and facilities, including elderly homes, nursing homes, family homes, youth housing, and daycare institutions, to foster intergenerational living and meaningful relationships. The building is divided into eight distinct houses, each with its own identity and architectural expression. This design approach enables residents to form a connection with their specific house and cluster, creating a sense of belonging. Semi-private gathering spaces are situated on every floor, close to individual homes. They are designed to maximize the use of circulation spaces, encouraging interaction and connection among residents, while fostering a sense of community across all generations.

- H O M E. (2018, August 21). *Meeting: Generations house*. Retrieved December 20, 2024, from <https://housingourmatureelders.wordpress.com/2018/08/31/meeting-generations-house/>
- Ibler, M. (2021, October 11). *The House of Generations: A new housing experiment in the welfare state's Denmark - Giornale Dell'Architettura*. Giornale Dell'Architettura. <https://ilgiornaledellarchitettura.com/2021/10/11/the-house-of-generations-a-new-housing-experiment-in-the-welfare-states-denmark/>
- RUM. (2023, July 4). *The House of Generations*. Retrieved December 20, 2024, from <https://www.rum.as/projekter/english-project-2>

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

In a society increasingly characterized by individualism, fostering environments where people look out for one another can profoundly enhance daily life. The rising occurrence of loneliness affects all generations, with significant implications for personal well-being and social cohesion. My graduation project aims to address these pressing societal issues by designing a multigenerational housing community. This approach seeks to counteract the isolating tendencies of modern living, offering a model that encourages meaningful interactions and mutual support across different age groups, ultimately improving societal well-being.

A key aspect of this design is the incorporation of shared spaces that foster social interaction, not only among the community's residents but also with the surrounding neighborhood, promoting a sense of connection and inclusion.

This project aligns with the human-focused approach of the studio, which emphasizes architecture as a tool for fostering positive change within the discipline. Too often, architectural design prioritizes abstract aesthetics or technical efficiency, sidelining the needs of its users. By placing the user at the center of design considerations, this studio challenges conventional practices, pushing for solutions that actively address social issues through design.

The emphasis on a user-centered approach, combined with a shift in workflow and methodology, has provided me with an opportunity to evolve my skills and way of thinking. This developmental potential is a key reason I chose to pursue the MSc Architecture, Urbanism, and Building Sciences program. The master's track equips me with the knowledge and tools to explore innovative solutions to contemporary challenges, such as those tackled in my project, while broadening my perspective on architecture's role in society. Through this integrated approach, I aim to contribute to a built environment that not only responds to functional requirements but also fosters stronger communities.

2. What is the relevance of your graduation work in the larger social, professional, and scientific framework?

The relevance of the graduation project lies in its potential impact on social, professional, and scientific frameworks by addressing the pressing societal challenge of increasing loneliness and social fragmentation. By proposing a multigenerational housing community, the work explores innovative ways to bridge generational divides and foster stronger social connections. This approach contributes to the broader goal of creating inclusive, resilient communities that prioritize well-being and human interaction.

From a professional perspective, the project challenges traditional architectural practices by emphasizing user-centered design and the role of the built environment in promoting social cohesion. It demonstrates how architects can contribute to solving societal issues through thoughtful spatial planning and design, inspiring other professionals to adopt this more socially conscious approach.

Scientifically, the project adds to the growing body of research on the relationship between architecture and social interaction. It investigates how spatial configurations, shared amenities, and opportunities for interaction can influence social dynamics and improve well-being. The research has the potential to inform future developments, providing strategies for creating environments that combat social isolation and foster community-building.

Overall, the graduation work seeks to integrate social, professional, and scientific perspectives, demonstrating how architecture can play a transformative role in addressing contemporary societal challenges.