

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Personal information	
Name	Lisa Vermeer
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Studio		
Name / Theme	AR3AD110 Dwelling graduation studio: Designing for Health and Care in an Inclusive Environment/ Health and Care	
Main mentor	Kobe Macco	Working at the intersection of urban planning, architecture and landscape design with the focus on green infrastructure and urban ecosystems.
Second mentor	Paddy Tomesen	An architect and process- and projectmanager, with expertise in esthetically integrating traditional and modern architecture.
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 because I've seen firsthand how my grandmother copes with loneliness and the challenges of living alone. Architecture often overlooks the social and human aspects needed by vulnerable groups, such as the elderly or people living alone. Through this studio, I aim to gain a deeper understanding of how to address these needs meaningfully in design.	

Graduation project	
Title of the graduation project	"Building belonging: Balancing privacy, connection, and design in addressing loneliness in the Built Environment
Goal	
Location:	De Tarwewijk in Rotterdam, The Netherlands
The posed problem,	Loneliness is a growing problem affecting all ages, worsened by economic and social pressures. In the Netherlands, 39% of households consist of single-person homes, often leading to isolation. Addressing this issue requires not only social programs but also architectural solutions. By designing spaces that encourage connection—like co-housing and multigenerational living—we can help create a more inclusive, supportive society.
Research questions and	How can the living environment reduce loneliness and social isolation while enhancing social connectivity across all age groups in the built environment, for example in the Tarwewijk in Rotterdam?

	<p>Sub questions:</p> <p>How can the layout and configuration of (green) shared spaces around, for example Tarwewijk's residential buildings, be crafted to enhance social interaction and mitigate social isolation?</p> <p>How can the design of mixed-use residential buildings and their transition zones between private and communal areas support social connectivity</p> <p>How can the spatial layout and architectural features of homes be tailored to encourage social interaction and inclusivity across generations?</p>
Design assignment in which these result.	The development of a housing complex that alleviates loneliness for the Tarwewijk, Rotterdam
<p>The research findings will be organized into <i>design guidelines</i>, arranged from large-scale to small-scale, and prioritized based on their importance for the design in 4 categories. These guidelines will then be further implemented and adapted for the design of a residential complex in the Tarwewijk neighbourhood of Rotterdam.</p>	
Process	
Method description	
<p>Research Aim</p> <p>This study will use a mixed-methods approach to explore how the living environment in Tarwewijk, Rotterdam, can be designed to reduce loneliness and foster social connectivity among different age groups in a housing complex.</p>	
<p>Data Collection Methods</p> <p>Literature Review</p> <ul style="list-style-type: none"> • Objective: To build a theoretical foundation by exploring existing research on loneliness, social isolation, and architectural design, identifying effective strategies for fostering social connectivity. • Keywords: Loneliness – Social connectivity – Architectural design – Social isolation – Belonging • Approach: Use databases like Google Scholar and JSTOR to locate studies, organize findings by relevance and importance, summarize key insights, and identify gaps in the literature. 	
<p>Qualitative Data: Interviews</p> <ul style="list-style-type: none"> • Objective: To gather personal insights from residents on social interactions and the influence of their living environment. • Approach: Develop open-ended questions, recruit participants through flyers and housing associations, conduct and record interviews, and analyze themes like communal space use. 	
Quantitative Data: Observational Studies	

- **Objective:** To observe how residents use private and communal spaces to assess patterns of social interaction.
- **Approach:** Observe gathering spots at various times, record interactions and durations, and analyze patterns with charts highlighting active and inactive areas.

Site Analysis and Mapping

- **Objective:** To evaluate the spatial layout and social interaction potential within Tarwewijk's housing complex.
- **Approach:** Obtain maps and building plans, observe space use on-site, create a custom map marking private, public, and semi-public areas, and propose improvements like seating and lighting.

Case Study Analysis

- **Objective:** To learn from successful housing projects focused on reducing loneliness and promoting connectivity.
- **Approach:** Analyze cohousing and age-friendly neighborhoods, focusing on shared spaces and their social impact, and adapt these lessons for Tarwewijk.

Anthropological Research

- **Objective:** To understand how residents' interactions are shaped by their built environment.
- **Approach:** Review anthropological studies on community behavior, interpret findings in Tarwewijk's context, and suggest designs that align with social habits.

Ethical Considerations

Informed consent will be obtained from all participants, confidentiality maintained, and ethical approval sought from the relevant review board.

Limitations

Study limitations include sample size, response bias, and challenges in generalizing results beyond Tarwewijk. External social factors may also affect residents' experiences of loneliness and connectivity.

Literature and general practical references

Framework – Books

Bauman, Z. (1992). *Intimimations of Postmodernity*. Routledge.

Alison and Peter Smithson: Modern architecture prioritized individualism over community, deeming self-contained communities impractical, resulting in anonymous urban designs.

Cassis Heu, L., & Brennecke, T. (2023). *By yourself, yet not alone: Making space for loneliness*. Retrieved from

<https://journalssagepubcom.tudelft.idm.oclc.org/doi/10.1177/00420980231169669>

Not all loneliness can be solved through design. Dutch resistance to forced designs highlights the need for privacy and individuality alongside communal spaces.

Franklin, A., & Tranter, B. (2021). *Loneliness and the cultural, spatial, temporal and generational bases of belonging*. Retrieved 2024, from <https://www-tandfonline-com.tudelft.idm.oclc.org/doi/full/10.1080/00049530.2020.1837007#abstract>

Loneliness stems from a perceived absence of belonging, influenced by culture, place, generation, and residential arrangements. Modern urban design has shifted focus from community to individualism, exacerbating loneliness.

Roe, J., & McCay, L. (2021). *Restorative Cities, Urban design for Mental Health and Wellbeing*. Bloomsbury Publishing.

Jenny Roe and Layla McCay (Restorative Cities): Urban design can mitigate loneliness by creating restorative environments that balance connection, privacy, and inclusivity, promoting mental and emotional well-being.

Mellor, D., Stokes, M., Firth, L., Hayashi, Y., & Cummins, R. (2008). Need for belonging, relationship satisfaction, loneliness, and life satisfaction. *Personality and individual differences*, 213-2018.

Loneliness is subjective and influenced by personality, culture, and psychotropic factors. Social needs vary, and not all cultures equate belonging with close relationships.

Case studies

Bass, H. (2022, December 22). *Gardening for rainwater: creating a rain garden*. Retrieved from Save Tarrant Water: <https://savetarrantwater.com/creating-a-rain-garden/>

Landezine International Landscape Award. (2023). *Friedlander Place by Arcadia Landscape Architecture*. Retrieved from Landezine Award: <https://landezine-award.com/friedlander-place/>

Presură, A., Kuiper, B., Van der Veen, B., Simson, D., Verlaan, D., Vermeulen, E., . . . Heslen, Z. (2024). *Health and care in tarwewijk- a neighbourhood analysis*. Delft: TU Delft.

Schulze+Grassov. (2019, December). *A waterway channel in Middelfart, Denmark, adds a natural element to the streetscape*. Retrieved from 'Blue' space: Access to water features

can boost city dwellers' mental health: <https://theconversation.com/blue-space-access-to-water-features-can-boost-city-dwellers-mental-health-122995>

Vandkunsten Architects. (2012-2018). *Modern living in Diakonissestiftelsen*. Retrieved from Diakonissestiftelsen - Masterplan and housing for seniors: <https://vandkunsten.com/en/projects/seniorfaelleskab-diaconissestiftelsen>

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

Woonforte. (2023). *Wonen in De Zaagmolen*. Retrieved from Woonforte Brochure de Zaagmolen: <chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://website-prod.woonforte.nl/media/2351/woonforte-brochure-de-zaagmolenweg-def.pdf>

Literature

Astell-Burt, T., Hartig, T., Ngurah Edi Putra, I., Walsan, R., Dendup, T., & Feng, X. (2022, May 21). Green space and loneliness: A systematic review with theoretical and methodological guidance for future research. *Science of the total Environment*. Retrieved from <https://pdf.sciencedirectassets.com/craft/capi/cfts/init?s=1800&p=%2F271800%2F1-s2.0-S0048969722X00375%2F1-s2.0-S0048969722046198%2Fmain.pdf&q=X-Amz-Security-Token%3DIQoJb3JpZ2luX2VjEAQaCXVzLWVhc3QtMSJHMEUCIQCmaaUUFV1itYh6mSNWfdTXPGcqIbb%252Bj7nXuie7DXVN6v>

Bauman, Z. (1992). *Intiminations of Postmodernity*. Routledge

Bower, M., Kent, J., Patulny, R., Green, O., McGrath, L., Teesson, L., . . . Rugel, E. (2023, January). The impact of the built environment on loneliness: A systematic review and narrative synthesis. *Health & Place*, 79. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1353829222002234>

Chen, J., & Gong, L. (2021). Loneliness in urbanising China. *Health & Social Care in the Community*, 812-822.

Devnmini Bandara, W., Rathnayake, R., Mahanama, P., & Wickramaarachchi, N. (2020). An investigation on community spaces in condominiums and their impact on social interactions among apartment dwellers concerning the city of Colombo. *Social sciences & Humanities Open*, 2.

Duivenvoorden, A., & Mantingh, I. (2021). *Ontwerpen voor ontmoeten*. Platform 31. Retrieved from <https://www.platform31.nl/artikelen/ontwerp-voor-ontmoeten/>

Evans, G. W. (2003, December). The Built Environment and Mental Health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 80(4).

Gehl, J. (2010). *Cities for People*. Washington: Island Press.

Gehl, J. (2011). *Life between Buildings*. Retrieved 2024

Holt-Lunstad, J. (2020). *Social Isolation And Health*. Robert Wood Johnson Foundation.

Jackson, J. (2001). *Classic Readings in Urban Planning*.

Kalina, M. (2021, January 15). "A neighbourhood of necessity": creating home and neighbourhood within subsidised aged housing in Durban, South Africa. *Journal of housing and the Built Environment*, 36, 1671-1697.

Kleeman, A., Giles-Corti, B., Gunn, L., Hooper, P., & Foster, S. (2023, February). The impact of the design and quality of communal areas in apartment buildings on residents' neighbouring and loneliness. *Cities*, 133. Retrieved from https://www.sciencedirect.com/tudelft.idm.oclc.org/science/article/pii/S0264275122005650?casa_token=Z4rCvD9i1XAAAAAA:fMUHaBv0ZCdM_pr98phh7LdkJKLkx7kItJkJI-Me62s_MKCNevc4nNDH2BbgvvjKA5FFEfE7xQ#bb0280

Maas, J., van Dillen, S. M., Verheij, R. A., & Groenewegen, P. P. (2009, June). Social contacts as a possible mechanism behind the relation between green space and health. *Health & Place*, 15(2), 586-595. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1353829208001172#tbl1>

Morgan, T., Wiles, J., Park, H.-J., Moeke-Maxwell, T., Dewes, O., Black, S., . . . Gott, M. (2019, November 18). Social connectedness: what matters to older people? *Ageing & Society*. Retrieved from <https://www.cambridge.org/core/journals/ageing-and-society/article/social-connectedness-what-matters-to-older-people/E9ADAFE610F6401C6C1598C65EC429DF>

Morris, A., Mitchell, E., Wilson, S., Ramia, G., & Hastings, C. (2021, December 1). Loneliness within the Home among International Students in the Private Rental Sector in Sydney and Melbourne. *Urban Policy and research*, 40(1). Retrieved from https://www.tandfonline.com/doi/full/10.1080/08111146.2021.2005017?casa_token=o26pyQ1b4HgAAAAA%3A5QgZm5T-xZg6KIeFLPx1rQ4gb70-L1hpUrX1kR8ZTF-LXhzP-cq12HeSG1K0hn4JnlH6QHjzDh_

Peters, R., Ee, N., A.Ward, S., Kenning, G., Radford, K., Goldwater, M., . . . Rockwood, K. (2021, January 28). Intergenerational Programmes bringing together community dwelling non-familial older adults and children: A Systematic Review. *National Library of Medicine*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8439135/>

Pojani, D., & Buka, M. (2015, December). From camaraderie to detachment: The effect of changing built environment forms on neighborhood relations in a post-communist context. *Cities*, 66-75.

Sim, D. (2019). *Soft City: Building Density for Everyday Life*. Island Press.

U.S. Centers for Disease Control and prevention. (2024). Social connection. Retrieved from CDC:

Reflection

1. Relation Between Graduation Topic, Studio Topic, Master Track, and MSc Programme

Focusing on loneliness, social belonging, and the role of architecture I made sure this aligns closely with the studio topic, which emphasizes the intersection of social well-being and spatial design. This topic fits seamlessly within the **Architecture** track of the MSc AUBS (Architecture, Urbanism, and Building Sciences) program. The studio's academic approach highlights interdisciplinary collaboration, which resonates with the focus on integrating insights from sociology, caregiving, and architecture to address loneliness through design.

The MSc program's emphasis on innovative, research-driven, and socially relevant design solutions provides the ideal framework for exploring how architectural elements can foster connection and mitigate isolation.

2. Relevance of Graduation Work in Social, Professional, and Scientific Framework

Social Relevance:

My research addresses the pressing issue of loneliness, a growing concern in modern societies. By exploring how architecture can foster social belonging, my work contributes to improving mental health, community cohesion, and overall quality of life. It also responds to the unique needs of vulnerable groups, such as the elderly, aligning with global efforts to create inclusive and supportive environments.

Professional Relevance:

The findings offer actionable insights for architects, urban planners, and policymakers, providing strategies for designing spaces that balance privacy and interaction. The research has the potential to influence real-world projects and encourage broader adoption of socially conscious design practices.

Scientific Relevance:

My research fills a gap in existing literature by exploring the intersection of architecture and loneliness, a subject often overlooked in depth. By identifying specific architectural elements that can reduce isolation, it advances the understanding of how spatial design impacts social behaviour. Additionally, the interdisciplinary approach could serve as a model for future studies, encouraging collaboration across fields such as sociology, psychology, and urban planning.

In sum, my research graduation project has the potential to drive meaningful change in both theory and practice, addressing loneliness as a multidimensional issue through innovative architectural solutions.