

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information		
Name	Mirthe Ebels	
Student number	4566149	
Studio		
Name / Theme	AR3AD100 Advanced Housing Design	
Main mentor	Olv Klijn	Architecture
Second mentor	Anne Kockelkorn	Research
Argumentation of choice of the studio	<p>The social character of this studio was, for me, one of the main reasons to choose the Advanced Housing Design studio. Not only does Rotterdam have a shortage of affordable housing, but almost all of the Netherlands has the same problem and challenges. There is a need for 1 million new homes before the year 2030 (NOS, 2021). Next to that, with the current housing market in the Netherlands, it is very difficult to rent or buy a house, especially for recently graduated students, who just started working or are still looking for a job. Within a year, this will be my situation and this is already something I am worried about. The role of the architect in the complex world of housing in the Netherlands is a role I find very interesting to investigate. The studio Advanced Housing Design allows experiencing and examining the way architecture can influence the way people live in cities and how architecture can create an inclusive living environment.</p>	

Graduation project	
Title of the graduation project	<p>The Future Playground Creating a high-rise community for families</p>
Goal	
Location:	Blijdorp, Rotterdam, The Netherlands
The posed problem,	<p>Cities in the Netherlands will get denser due to a growing population and the increasing amount of people who move to the so-called Randstad (PBL/CBS, 2019). Because of the rising amount of people that want to live in the cities, densification of the urban fabric is needed. This is a challenge for urban planners and architects. Densification is therefore one of the main focus points for the redevelopment of the Walenburghof in</p>

	<p>Rotterdam. One of the solutions for creating more dwellings in a city with a growing population is the realisation of high-rise residential buildings.</p> <p>When it comes to high-rise residential buildings there are many different opinions. Overall, it seems that high rise living is one of the best solutions to the growing demand for housing in the Netherlands. However, there are some downsides such as the high cost of building a high-rise. Next to that, high-rise buildings are experienced differently from conventional low-rise dwellings and other buildings. David Halpern (1995) even states that there is a relationship between living in a high-rise building and poor mental health. This has been proven for children who are more likely to develop behaviour problems when they live higher up. In the Netherlands however, there is still only a small group of families living in high-rise residential buildings (Raemaekers, 2011). One other disadvantage of high-rise residential living is that for most people, these houses are seen as a home to eventually move on from to an owner-occupied home, it is rarely the ultimate goal for a tenant (Raemaekers, 2011). Because of this, tenants do not have a strong connection with high-rise buildings. The residents do not have a sense of belonging when it comes to the high-rise residential building that they are living in.</p>
<p>research questions</p>	<p>Research question: <i>How can a high-rise residential building contribute to improving the living environment of children in cities while stimulating a sense of belonging to a high-rise community in Rotterdam?</i></p> <p>Sub-questions: <i>How can the quality of the living environment of children in cities be improved within a high-rise residential building?</i></p> <p><i>How can a sense of belonging to a high-rise community be stimulated in a residential high-rise building?</i></p>
<p>design assignment in which these result.</p>	<p>This research aims to explore the ways of creating a high-rise residential building for families, where children can play outdoors and parents can meet their neighbours. My goal is to develop design tools and guidelines that can help with designing a new high-rise residential building in Rotterdam. Within this building, the residents can enjoy life in their private houses, but can also enjoy the social interaction with their neighbours because they are part of a high-rise community. As a result, the residents feel connected to their building and a sense of belonging is created.</p>
<p>Process</p>	
<p>Method description</p>	

For this research, I use three research methods as a guiding tool. The research will be based on: research methods from the field of environmental psychology, literature on children, community and belonging, and the examination of case studies. For each method, I will explain its relevance to the research and how it is used to answer the main research question and sub-questions.

Research methods in Environmental Psychology

For this research, I will use the study of environmental psychology as a theoretical framework. Within the field of environmental psychology, there are many different methods of study. These methods are described in the book by Robert Gifford (2014). Depending on the research question different methods are suitable. Within the field of Environmental Psychology, there are many different kinds of research methods that can be divided into three broad paradigms.

- The adaptation paradigm: which focuses on biological and psychological survival as a key process. The way people behave in their physical setting is determined by the need to survive as a species.
- The opportunity paradigm: in which the drive to actively fulfil goals determines the way people interact with their environment, instead of reacting to the threats and demands of their environment.
- Sociocultural environment: here researchers believe that the way humans behave in their physical environment is nested within other contexts and disciplines such as history and culture.

The different research methods of environmental psychology have often limitations because they cannot be used at the same time within the same research. One solution can be to look for patterns in multiple studies. Because I will be doing only one research, one way to validate the outcome is to compare it to other research that has already been done within the field of environmental psychology. Therefore, I will be looking for existing research on living in high-rise buildings.

For my research, I will focus on different themes within the field of environmental psychology. One of these themes is the way people experience their dwelling and the public space around it. To study this theme there are different approaches. One of these approaches is measuring home.

- Measuring Home

The sense of home can be measured in six different ways:

Classifying based on the five structure-and-use dimensions:

- Permanent to temporary
- Differentiated to homogeneous
- Communal to noncommunal
- Identity to communal
- Openness versus closedness

Measuring the financial value of the dwelling

Objective listing of the attributes of the residence

Measuring the quality of the resident for a particular purpose

Measuring what a residence can do for a person

Measuring the meaning of a residence as a home

Another theme that can be studied is place attachment. Studying place attachment can be done with two different approaches:

- The quantitative approach: where the strength and the type of attachment are translated into numeric terms.
- The qualitative approach: where meanings and personal experiences of the attachment are articulated by individuals and summarized into prominent themes. The approach can be used with case studies, where the summarized themes can be translated to new projects.

Human-centred epistemology

In my research, the transactions between humans and their physical environment will be the focal point. The research will therefore be human-centred. The field of praxeology has become of greater value for architecture and it can be interesting to study the social-spatial practices and the user perspective. Praxeology is based on practice and everyday life and focuses on how people use their environment. By doing this the human individual can become more involved in architecture, the use of a building becomes more important than the aesthetic character.

Children

For the first sub-question on children, it is important to focus on the way children experience their living environment and what elements are important for a child to thrive. To find an answer to the sub-question: *How can the quality of the living environment of children in cities be improved within a high-rise residential building?* I study children's needs and behaviour through literature. Next to that, I examine case studies that are designed specifically for children. However, I also look at buildings not designed for children, but I study them from the perspective of a child..

Belonging

For sub-question 2 on the sense of belonging the theoretical framework of environmental psychology is again very important. The second sub-question is: *How can a sense of belonging to a high-rise community be stimulated in a residential high-rise building?*

To stimulate this sense of belonging a few topics have been investigated investigated such as: creating a community, stimulating social interaction and identity. "For almost anyone, a sense of collective and cultural identity is a powerful source of motivation for active involvement and leadership. If residents feel like they don't belong to a place or a region, it is difficult for them to invest time and energy to work on improving things around them. (And it doesn't hurt that sense of belonging contributes directly to health outcomes—since that's the ultimate goal. Research has shown that people who feel attached to, and interact more with, others enjoy better health than those who are more isolated.)" (Stojicic, 2018)

Literature and general practical preference

Social aspects:

- Aalbers, M. B. (2007). A Century of Social Housing in the Netherlands: From Mass Model to Gentrification? OASE, 73.

- Altman, I. (1975). *The Environment and Social Behavior*. Monterey: Brooks/Cole Publishing Company
- Blokland-Potters, T. V. (1998). *Wat stadsbewoners bindt: sociale relaties in een achterstandswijk*. Kampen: Kok Agora.
- Blokland, T. (2009). *Oog voor elkaar: veiligheidsbeleving en sociale controle in de grote stad*. Amsterdam: Amsterdam University Press.
- Blokland, T. (2008). *Ontmoeten doet er toe* (Essay). Consulted on 26-10-20, from <https://docplayer.nl/77751-Ontmoeten-doet-er-toe.html>
- Gehl, J. & Svarre, B. (2013). *How to study Public Life*. Washington DC: ISLAND PRESS
- Gehl, J. (2011). *Life between buildings: Using Public Space*. Washington DC: ISLAND PRESS
- Huron, A. (2018). *Carving Out the Commons: Tenant Organizing and Housing Cooperatives in Washington, D.C. (Volume 2) (Diverse Economies and Livable Worlds) (1st ed.)*. Univ Of Minnesota Press.
- Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York City: Penguin Random House
- Lofland, L.H. (1998). *The public realm, exploring the city's quintessential social territory*. New Jersey: Transaction Publishers.
- Platform31 (2021). *Ontwerp voor ontmoeten*. Den Haag: Platform31
- Schoonen, W. (2020). *Een gebrek aan sociale contacten? Dat is net zo schadelijk als roken*. Retrieved on 22-10-2020, from <https://www.trouw.nl/nieuws/een-gebrek-aansociale-contacten-dat-is-net-zo-schadelijk-als-roken~b0a82139/>
- Van de Wal, H. & Van Dorst, M.J. (2015). *Privacyscript – De invloed van architectuur op sociale interactie in woongebouwen*. Bussum: Uitgeverij Thoth
- Webb, M. (2017). *Building Community*. London: Thames & Hudson.

Children:

- Alexander, C, Ishikawa, S. & Silderstein, M. (1977) *A Pattern Language*. New York: Oxford university press.
- Halpern, D. (1995). *Mental Health and The Built Environment*. Londen: Taylor & Francis.
- Jephcott, A. P. (1971). *Homes in High Flats: Some of the Human Problems Involved in Multi-storey Housing*. Edinburgh: Oliver and Boyd.
- Kartsen, L. & Felden, N. (2016). *De nieuwe generatie stadskinderen*. Rotterdam: nai010 uitgevers.
- Rohmer, M., Keesom, J., & de Haan, H. (2016). *What Happened to my Buildings*. nai010 uitgevers.
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Environmental psychology:

- Gifford, R. (2014). *Environmental Psychology: Principles and Practice (5th ed.)*. Optimal Books.
- Hamel, R. (2013). *Omgevingspsychologie en ontwerpen, over de toepassing van psychologischce kennis in het ontwerpen [E-book]*. Amsterdam: Universiteit van Amsterdam, Faculteit der Maatschappij- en Gedragwetenschappen, Afdeling Psychologie, programmagroep Brein en Cognitie.
- Hall, Edward T. (1966). *The Hidden Dimension*. Anchor Books.

- Proshansky, H. M. (1970). Environmental psychology: man and his physical setting (First Edition). Holt, Rinehart and Winston.

Living in high-rise buildings:

- Gigon, A., Guyer, M., & Jerusalem, F. (2016). Residential Towers. Amsterdam University Press.
- Roggeveen, D. (Host). (2021, 13 oktober). Toren van Babel - Gesprek met Erik faber over stedelijke verdichting door hoogbouw [Podcastaflevering]. In Architectenweb Podcast. Lieven Heeremans. Geraadpleegd op 17 november 2021, van <https://open.spotify.com/episode/3CO3HPggfEDxdTyax9tgle>

Case studies:

- 8 House, Copenhagen - Denmark, 2010, BIG
- Unité d'habitation, Marseille - France, 1952, Le Corbusier
- The Skyscraper, Amsterdam – Netherlands, 1932, J.F. Staal
- Ama'r Children's Culture House, Copenhagen – Denmark, 2013, Dorte Mandrup
- Family Scraper, Rotterdam – Netherlands, present, Van Bergen Kolpa Architecten

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)?

The MSc 3 studio 'Advanced Housing Design – Ecology of Inclusion' is looking for new design solutions for sustainable and affordable housing in the Netherlands. Within an Ecology of Inclusion, it is important to design not simply for everyone, but especially for those who are now not represented within the city of Rotterdam, such as young families. The studio tackles much larger social problems in the Netherlands through architecture. With my research on children and community building in high-rise residential buildings, I want to develop architectural tools and guidelines that can help tackle some of the problems around housing in the Netherlands. With this research, I will focus on many different scales from the user to its context. Architecture is about the relation between these different scales. By using Environmental Psychology as a theoretical framework, this relation is studied on a deeper level. This can help with tackling these kinds of social problems and help designing for people. This studio enables me to think about the bigger problems and encourages me to find answers within the field of architecture. With my research 'The future playground' I hope to positively influence the way people will live in cities. The research deals with many different aspects of living in cities with a focus on architectural and psychological elements. This multi-disciplinary approach is a critical aspect of the master programme in Delft. By constantly switching between different domains and supporting the design with research, the academic standards from both the Bachelor and Master are met.

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

New concepts of affordable and sustainable housing could influence the way people live in cities. Cities in the Netherlands will get denser due to a growing population and the increasing amount of people who move to the so-called Randstad (PBL/CBS, 2019). Because of the rising amount of people that want to live in the cities, densification of the urban fabric is needed. This is a challenge

for urban planners and architects. One of the solutions for creating more dwellings in a city with a growing population is the realisation of high-rise residential buildings. More and more high-rise residential buildings will be built in the Netherlands in the coming years. These buildings provide an efficient way of living with unique views but have often many shortcomings. Living in high-rise buildings will be a part of the future in the Netherlands, and with this research, I hope to gain insight into how to solve some of these shortcomings. The research 'The future playground' focusses on creating a pleasant living environment for children and their parent in Rotterdam. The children of today are our future, and their development starts at the home.