

Reflection  
Dwelling graduation studio AR3AD110  
Design for care in an inclusive environment 23/24



# Happy living environment for university students

Design of mentally supportive residential environment on campus

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## **Colophon**

Delft University of Technology

Master Architecture, Urbanism and Building Sciences

Dwelling Graduation Studio\_AR3AD110 (2023/2024)  
Designing for Care in an Inclusive Environment

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Research Mentor: Leo Oorschot

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## Reflection for research

In general, I am happy with this research. From the initial discovery of the depression problem among university students, to structuring the framework, to completing this research through the research methods. I am very pleased with the three aspects of physical, social, and mental health to explore and promote a healthy lifestyle for university students. Supporting depression prevention through healthy lifestyles is also an idea that deserves attention and development. Of course, these three aspects can be realised not only in the group of university students, but also in other population's lifestyles which are worth thinking about.

Depression among university students is a serious problem in a global context. Currently, research related to emotional problems has been focused on medical buildings, and limited research has been conducted on daily living environments. In the current research context, this research combines psychological, social, and architectural measures to support the prevention of depression through architectural environments. It is hypothesized that the built environment can be used to promote healthy lifestyles in terms of physical, social, and mental health among university students, and thus to prevent depression. Students can gain happiness and enjoy their campus life in the campus and living environment. This research, as a tiny piece of a huge research framework, may not guarantee the complete prevention of depression, but it has the potential to provide a possible research direction for subsequent studies that consider healthy lifestyles in the context of three different aspects of physical, social, and mental health.

The whole research process is very impressive and memorable for me. For me, it is my first experience of pushing the design entirely from the research. Each step of the research advancement was very difficult for me, but also very surprising. It was difficult because the early stages of the research involved constantly searching for and learning new knowledge and organising them into the research framework to guide the research.

I was pleasantly surprised because I learnt a lot of new knowledge about architecture and psychology through the research and slowly advanced the research step by step.

I am very appreciated for this research process that has taught me a lot, both about research and about life. While this research report only go so far, research is always on the way in the future.

# **What is the relation between your graduation project topic, your master track (Ar, Ur, BT, LA, MBE), and your master programme (MSc AUBS)?**

"Designing for Care in an Inclusive Environment" is the topic of my graduation studio. My understanding of this theme is that the design of the environment is to care for the health of the target group. During my research, I have learnt through papers, news, and social media that the rate of depression among university students in the Netherlands is increasing. For university students, if they suffer from depression, they still face many problems in treatment, such as high treatment costs and waiting lists of more than 4 months. As a university student myself, I often feel depressed. So, this urgent problem inspired me to use this as a starting point to study the relationship between the environment and the mental health of university students, and whether it is possible to promote the prevention of depression through the design of the environment and the design of the building so that university students can establish a healthy lifestyle.

University students spend a lot of time on campus, attending classes, meeting and studying. Some of them also choose to live in student apartments, for which they spend more time on campus. For this type of university students, campus and student residence become their main living environment, so this research is feasible and meaningful.

With that topic in the background, my graduation project is about building a healthy living atmosphere for university to support depression prevention by researching and designing the campus environment and

student residence. Based on the research, the design concept will be developed from two scales, campus scale and residence scale. The main guiding scheme is to create a walking-friendly campus, which means it would promote healthy lifestyles through physical, social, and mental health aspects for university students. They are living on the university campus will be able to be happy through a healthy and inclusive environment, thus staying away from depression.

# **How did your research influence your design/recommendations and how did the design/recommendations influence your research?**

Through the course of the research, the prevention of depression can be supported in three ways, which means promoting the physical health, social health and mental health of university students, and there are some specific measures included in these three main aspects of health.

1. Physical health: Increasing physical activity, such as walking and working out.
2. Social health: Increasing social activities such as cafés, group study rooms, etc.
3. Mental health: Increasing contact with the natural environment, such as green space.

It is worth noting that these three aspects do not exist independently of each other; they can influence each other. For example, people can play sports or socialise in natural environments, people can walk and run together to socialise, and so on.

The design guidelines are established after research to guide the design by combining specific measures to promote these three aspects. By creating a walking-friendly environment, the design programme could promote opportunities for students to walk, socialise and interact with the greenery. In this design, vertical walking paths are interspersed throughout the building from the ground to the roof, connecting to the different roofs and then back to the ground, promoting walking in a circular path.

To ensure the quality of the space and to attract students to walk on the vertical paths, the vertical paths are connected to public spaces such as café, recreation room, gym, etc., which promotes social health, and the connected green roofs provide students with opportunities to contact with the natural environment, which promotes mental health.

Research and design are an iterative process, with research guiding the design at first, and design in turn being the visualization of the research experience as a whole and the integration of research details.



## **How do you assess the value of your way of working (your approach, your used methods, used methodology)?**

Four main research methods were used during the study, literature research, observation, interview, and case studies. Literature research was the first step of the study, and through extensive reading and collating of literature on mental health and the environment, it was possible to extract measures that could be environmental aspects of depression prevention. This process is very important and meaningful. Because studying the findings of scholars helped me to establish my own research framework in a convincing way, and the findings of this phase would influence the content of the other three phases of the study.

Observation and interview were conducted concurrently in fieldwork. The seven student apartments on the TU Delft campus were observed to see how the built environment contributes to physical, social, and mental health, but as some of the spaces within the apartments are not open to the public, the information was fragmented. Only one of the apartments was used to complete the information. During this period, I also conducted interviews with psychologist, residents of student residence and other students in TU Delft. I was able to understand how the environment affects mental health and the habits and preferences of the users, both from a professional perspective and from the users' perspective.

Finally, the case studies are to help me explore how to present different types of spaces from an architectural perspective. Through the case studies, I was able to open my mind on the design level and combine different design techniques to realise the design outcome. At the same

time, most of the architectural cases I have analysed are in Europe or the Netherlands, so it is feasible to refer to the technical aspects, such as climate strategy.

These four approaches are very significant and that each of them influences each other. However, there are some limitations in their implementation, such as not enough people being interviewed, occasional missing information due to transcription during the interviews, and so on.

# **How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?**

Currently, while there has been a significant amount of research discussing how the built environment affects mental health, the discussion of this topic has been primarily focused on medical buildings. Research of the living environments of university students and the prevention of depression is limited. During the preliminary research, especially observing the current student housing on TU Delft campus, I found that the housing design were more or less considered the three aspects of physical, social and mental health. However, there are some issues that some of design does not be combined these three aspects or interact with each other, and is independently distributed or lacks the physical aspect or mental aspect.

This project combines physical, social, and mental measures to support the prevention of depression through architectural environments. It is hypothesized that the built environment can be used to promote healthy lifestyles in terms of physical, social, and mental health among university students, and thus to prevent depression. Students can gain happiness and enjoy their campus life in the campus and living environment. This research, as a tiny piece of a huge research framework, may not guarantee the complete prevention of depression, but it has the potential to provide a possible research direction for subsequent studies that consider healthy lifestyles in the context of three different aspects of physical, social, and mental health.

## **How do you assess the value of the transferability of your project results?**

My project is transferable. The target group of this project is university students, and it is applicable to university students in different regions and countries. Therefore, the research ideas and design concepts can be transferred to other cities or countries. However, some design details need to be adjusted due to different lifestyles and cultural differences. For example, to ensure good lighting for the housing, the project has windows on the wall of the corridor. However, if the project were to be moved to Asia, the windows in the inner corridor would need to be removed to maintain the privacy of the housing space.

# Conclusion

Finally, I would like to recall some moments of the process that I remember well.

At the very beginning, the research work was a great challenge for me because I had never done such a complex and interesting research before. I say it was complicated because I started from the theoretical framework, read a lot of related literature, organised, extracted, constructed the framework, and finally made the content within the framework clear. This process is very difficult for me. Although the final diagram looks like only circles and words, it takes a lot of time and effort and a lot of deliberation.

Then, when I started observation I was observing the current student housing on TU Delft campus, and every time I entered a residence I would be very worried that the residents would look at me walking around strangely, so I always took photos and recorded them quickly and then left. And due to the messy information, it took me a lot of time to sort out the information, and unfortunately some information was missing.

Later on, the interview stage also challenged me a lot, I needed to initiate communication with strangers many times, which was a bit exhausting to be honest, and I sometimes felt sorry for disturbing people. But the interview process helped me a lot in my research, and a lot of interesting ideas came from this stage.

After entering the design phase, I am happy that in general my programme is progressing well. However, I lacked the knowledge of building technology. I spent a lot of time to learn the related knowledge, and the drawings were also revised many times. This process was difficult, but it helped me a lot to know more about this part.

Due to the limited time for the graduation project, my project has also entered the finishing stage. Of course, there are some parts that still have possibility for improvement. For example, if I were to do it again, I could research and design more interesting typologies to create more living possibilities; I could spend more time thinking about the landscape design part, so that it could be more closely integrated with the mental health, and even consider the plant configuration, and so on.

Although this graduation project is coming to the end, the research can go on forever. From the time I joined the studio until now, I have never doubted my choice. With my own research process and the results of other classmates' research, I feel that the topic of "health and care" is very meaningful to research. I am very happy to finish my graduation project with such a warm topic. I am grateful my tutors Birgit, Lex and Leo for their patient guidance and help. At last, I would still like to do something in this field in the future and maintain my enthusiasm for architecture.

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