

PARTICIPATORY DESIGN AS A STRATEGY FOR ADDRESSING **URBAN LONELINESS** AMONG **YOUNG ADULTS**

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ABSTRACT

This master's thesis explores participatory design methods as a means to tackle urban loneliness among young adults in Copenhagen, Denmark. Collaborating with the Østerbro Local Committee on the "The Good Square" project offered an insight to incorporate health considerations into urban design initiatives. Despite the Danish programme "Together Against Loneliness" addressing the significance of loneliness, the urban environment's role in this context requires further exploration. Therefore, this paper aims to foster dialogue among young adults and diverse professionals with the use of a participatory game as a connection tool to collectively enhance health in urban settings. We affirm that urban design and outdoor space planning needs a shift toward participatory approaches that encourage dialogue and incorporate human perspectives and relationships with the urban environment. To this end, we developed a participatory game to facilitate such conversations and deepen our understanding of individuals' matters of concerns, while also fortifying existing networks and forging new ones.

Positioned as Sustainable Design Engineers, we adopt a socio-cultural research approach, focusing on how social interactions and citizens performing in the city influence and use the urban environment. We employ Actor-Network Theory (ANT) and Double Diamond theories as primary frameworks for the project. Our findings are mainly qualitative, and come from a combination of literature research, field research, online questionnaire, workshop, and semi-structured interviews with healthcare professionals, academics, environmental and loneliness organisations, architects, and urban planners.

Through the development and testing of our participatory game, we demonstrate how the concept of gamification can facilitate discussions about urban loneliness among young adults, thereby contributing to destigmatising the issue.

Keywords: Loneliness, urban design, urban loneliness, participatory design, health, young adults.

Most importantly, we want to thank Birgitte Hoffmann, our academic supervisor, for enthusiastically supporting us during the development of the project with her extensive knowledge, valuable feedback and great contacts.

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A big thank you to the citizens who took the time to answer our questionnaire, as well as to the participants and co-organisers of our workshop at Nordisk Kollegium, thanks to whom we could test our project. Lastly, we express our gratitude to our families, whose physical absence during the thesis process did not diminish their unconditional support, trust, and empowerment from afar.

READERS GUIDE

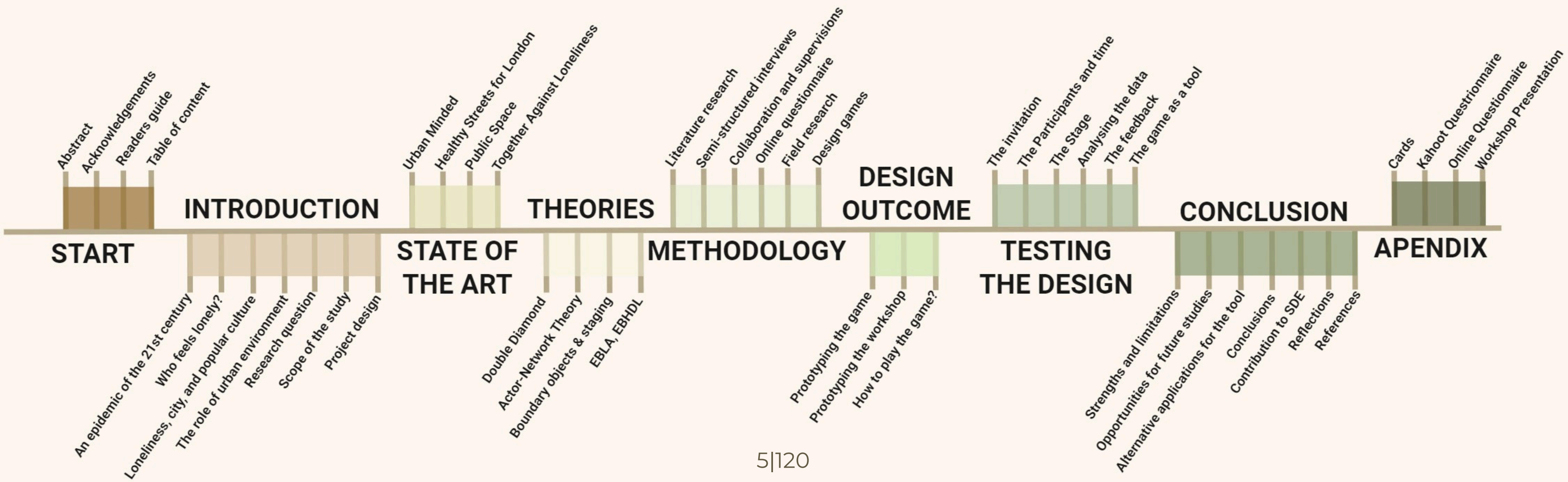
Chapter 1 delves into a literature review on loneliness, encompassing worldwide statistics, its portrayal in mass media, and the role of urban environments. From this review, a problem formulation is extracted, consisting of a main research question and 2 sub-questions.

Chapter 2 focuses on the state of art, examining projects related to loneliness and mental health issues in urban environments to gather inspiration and opportunities for designing effective solutions.

Chapter 3 provides detailed descriptions and explanations of the theoretical frameworks guiding the project.

Chapter 4 describes the methodology employed to gather and analyse the essential knowledge for the development of the project.

Chapter 5 details the design outcomes, outlining all the stages of prototyping leading to the final version of the design game.



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Chapter 6 provides a description of the testing phases, including an analysis of game outcomes, game performance, and significant reflections.

Chapter 7 presents discussions and perspectives on the project process, outlining opportunities for future studies and exploring alternative applications for the tool.

Chapter 8 concludes the project by addressing the research questions.

Chapter 9 explains the contribution of our project to the growing field of Sustainable Design Engineering.

Chapter 10 delves into our reflections on the chosen approach for the project, what knowledge we acquired while working on the topic of loneliness and urban design, and advice for people willing to continue the research.

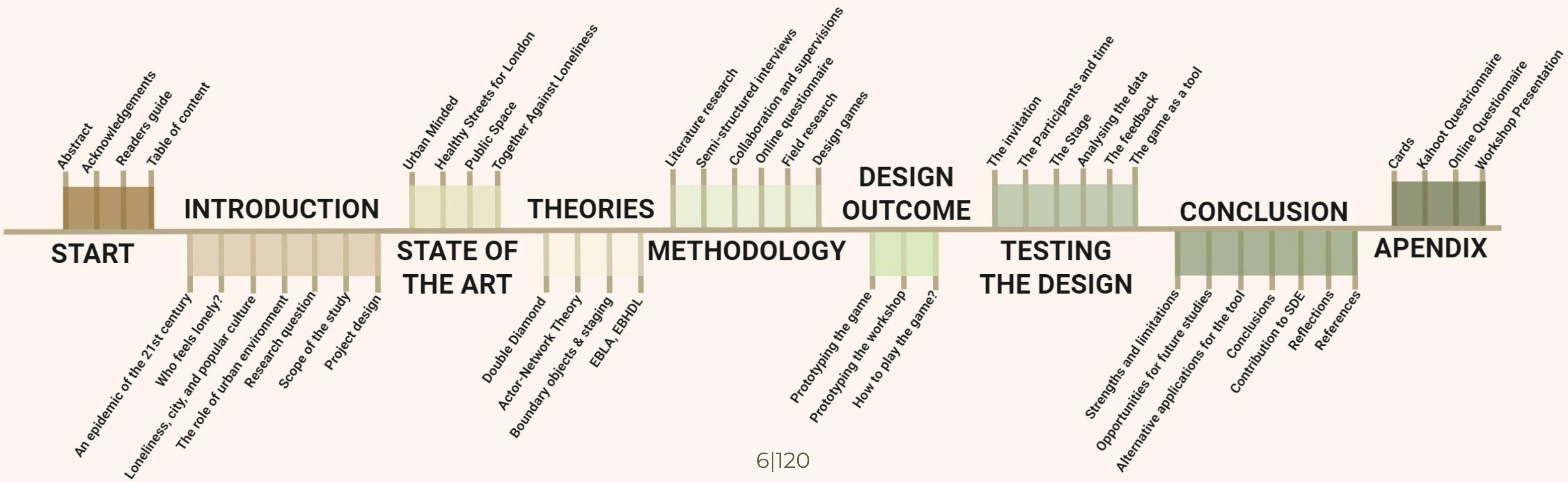


TABLE OF CONTENT

Introduction

- 1.1. An epidemic of the 21st century
- 1.2. Who feels lonely?
- 1.3. Loneliness, city, and popular culture
- 1.4. The role of urban environment
- 1.5. Research question
- 1.6. Scope of the study
- 1.7. Project design

State of the Art

- 2.1. Previous projects
 - 2.1.1. Urban Minded
 - 2.1.2. Healthy Streets for London
 - 2.1.3. Public Space: The Critical Connection in a Sometimes Lonely City
 - 2.1.4. Together Against Loneliness

Theories

- 3.1. The Double Diamond framework
- 3.2. Actor-Network Theory
- 3.3. Concept of boundary objects & staging negotiation spaces
- 3.4. Evidence Based Landscape Architecture & Evidence Based Health Design in Landscape

Methodology

- 4.1. Literature research
- 4.2. Semi-structured interviews
 - 4.2.1. Affinity diagram
- 4.3. The Collaboration and supervisions
- 4.4. Online questionnaire
- 4.5. Field research
- 4.6. Design games

Design outcome

- 5.1. Prototyping the game
- 5.2. Prototyping the workshop
- 5.3. How to play the game?

Testing the design

- 6.1. The invitation
- 6.2. The Participants and time
- 6.3. The Stage
- 6.4. The results
- 6.5. Analysing the data of the workshop
- 6.6. The feedback
- 6.7. The game as a tool

Discussion and Perspectivation

- 7.1. Strengths and limitations of the project
- 7.2. Opportunities for future studies
- 7.3. Exploring alternative applications for the tool

Conclusions

How is our project contributing to the field of SDE?

Reflections

References

Appendices

LIST OF FIGURES

Introduction

1.7.1. Double Diamond of our research design

State of the Art

2.1.2.1. The 10 Indicators of Healthy Streets

2.1.3.1. Answers to field survey question: "What design elements of the public space enhanced your most frequent meaningful interactions"

2.1.3.2. Field observation

2.1.4.1. The concept of Michi-Noeki

Theories

3.2.1. ANT in our project

3.2.2. ANT in our project with matters of concern

3.4.1. Four steps of EBHDL in our project

Methodology

4.2.1. Overview of the interviews

4.2.2. Timeline of the meetings during the project

4.2.1.1. Affinity Diagram of relevant quotes from professionals gathered during interviews

4.4.1. Answers to a question *How often do you spend time outside?*

4.4.2. Answers to a question *What is the purpose of you spending time outside?*

4.4.3. Answers to a question *What could make you spend more time outside in your neighbourhood?*

4.4.4. Affinity diagram of answers from the online questionnaire

4.5.1. Mapped elements of each visited "good square" in Østerbro

Design outcome

5.1.1. Stages of the design of the game

5.1.2. Option 1

5.1.3. Option 2

5.1.4. Simplified Option 1

5.1.5. 10 Categories

5.1.6. Fidelity of the card prototypes

5.2.1. Parts of the workshop

5.2.2. Feedback questionnaire

5.3.1. Parts of the game

5.3.2. Matrix of current and ideal situation

Testing the design

6.1.1. Invitation poster

6.3.1. The Stage

6.3.2. Phase 1 stage

6.3.3. Phase 2 stage

6.3.4. Phase 3 stage

6.3.5. Phase 4 stage

6.5.1. Affinity diagram containing cards chosen by workshop participants

6.5.2. Affinity diagram of chosen tokens

6.5.3. Affinity diagram with justifications of participants' choices of cards

How is our project contributing to the field of SDE?

9.1. "Design for Sustainability" framework by Ceshin and Gaziulusoy (2020)

LIST OF PICTURES

State of the Art

2.1.4.1. Michi-Noeki opening day

Methodology

- 4.5.1. Diverse greenery of the Sankt Kjelds Plads
- 4.5.2. Diverse greenery of the Sankt Kjelds Plads
- 4.5.3. Elements of the Tasinge Plads
- 4.5.4. Elements of the Tasinge Plads
- 4.5.5. Elements of the Tasinge Plads
- 4.5.6 Elements of Gunnar Nu Hansens Plads
- 4.5.7. Elements of Gunnar Nu Hansens Plads
- 4.5.8. Benches of the Sankt Jakobs Plads
- 4.5.9. Benches and tables of the Melchiors Plads
- 4.5.10. Toilet of the Melchiors Plads
- 4.5.11. Greenery of Bopa Plads
- 4.5.12. Greenery of Bopa Plads
- 4.5.13. Artistic element of Melchiors Plads
- 4.5.14. Information point of Bopa Plads
- 4.5.15. Artistic element of Victor Borges Plads

Design outcome

- 6.1.1. Poster on the wall at Nordisk Kollegium
- 6.3.1. Group 1 area
- 6.3.2. Group 2 area
- 6.3.3. Snack table
- 6.3.4. Projector to guide the workshop
- 6.3.5. Board with the cards
- 6.3.6. Phase 2: participants choosing cards
- 6.3.7. Phase 3: participants working individually on cards
- 6.3.8. Phase 4 stage: Group 1
- 6.3.9. Phase 4 stage: Group 2
- 6.3.10. Phase 5: Group 2 presenting
- 6.3.11. Phase 5: Group 1 presenting
- 6.3.12. Phase 6: participants answering feedback questionnaires
- 6.3.13. Facilitator explaining the phases
- 6.4.1. Matrix with results of Group 1
- 6.4.2. Matrix with results of Group 2
- 6.6.1. Feedback from Participant 1
- 6.6.2. Feedback from Participant 2
- 6.6.3. Feedback from Participant 3

- 6.6.4. Feedback from Participant 4
- 6.6.5. Feedback from Participant 5
- 6.6.6. Feedback from Participant 6



1

INTRODUCTION

1.1. An epidemic of the 21st century

In the landscape of our modern society, loneliness has become an epidemic of the 21st century (Heinrich and Gullone, 2006; Sooväli-Sepping et al., 2023; Astell-Burt et al., 2021). This phenomenon, discouragingly still subject to stigma (Campaign to End Loneliness, 2022; Astell-Burt et al., 2022), has been defined by many sources as an unpleasant, subjective feeling of being deprived of meaningful connections and the discrepancy between the current state of the social relationships and what is desired by individual, either by the quantity or quality of one's relations (Astell-Burt et al., 2021; Det Nationale Partnerskab mod Ensomhed, 2023; Ji, 2023; Kleeman et al., 2023; Luhmann et al., 2023).

Loneliness encompasses various dimensions: individual loneliness, characterised by the longing for personal comfort and close relationships; relational social loneliness, which involves a desire for meaningful connections with friends and family;

and collective loneliness, which pertains to the longing for a community with shared interests and a sense of belonging. Missing any of these aspects can lead to feelings of loneliness, a subjective experience as noted by previous research (Austin, 1983; Russell et al., 1978).

Nevertheless, loneliness goes beyond mere passing emotions. If the feeling is chronic, it can pose serious consequences to the health of the individual, becoming a serious public health concern (Corcoran & Marshall, 2017; Det Nationale Partnerskab mod Ensomhed, 2023). Lonely people might feel like they are alone in the world, but loneliness never walks alone: it is often accompanied by despair, depression or self-destructive actions (Shanahan et al., 2019; Lee et al., 2021; Czaja et al., 2021). It severely affects the physical health of a person, including obesity (Heu & Brennecke, 2023), immune deficiency, stroke (Astell-Burt et al., 2021) or cardiovascular disease, as well as mental health, leading to

anxiety (Heu & Brennecke, 2023), cognitive decline or even suicide (Bower et al., 2023). Chronic loneliness is also associated with an increased risk of mortality (Algren et al., 2020; Sooväli-Sepping et al., 2023) and leads to an additional 370 deaths annually in Denmark (Det Nationale Partnerskab mod Ensomhed, 2023).

According to Chamberlain et al. (2022) and Geller et al. (1999), lonely people tend to use medical services more often which creates an extra burden for the sanitary system and in consequence negatively affects the economy. Each year, loneliness in Denmark leads to 449,000 additional medical contacts, 579,000 extra days of long-term sick leave, 193,000 extra psychiatric hospital visits, or 232 additional early retirement pensions (Det Nationale Partnerskab mod Ensomhed, 2023). The impact that loneliness has on the mental and physical health of Danish residents is estimated to cost around DKK 2.8 billion annually.

In the United Kingdom, for instance, the annual costs associated with loneliness and related health complications weigh heavily on the national economy, totalling EUR 36.5 billion (Sooväli-Sepping et al., 2023).

In recognition of the serious, multi-layered impact that loneliness has on society, the United Kingdom appointed the world's first Minister of Loneliness in 2018, with tasks such as developing strategies to raise awareness and helping individuals cope with loneliness (Sooväli-Sepping et al., 2023). Shortly after that, followed by the COVID-19 pandemic, Japan appointed their own Minister of Loneliness in 2021, due to abnormally increasing suicide rates of women and children caused by social isolation (Kodama, 2021). Though Denmark does not have its own Minister of Loneliness, the problem is treated with gravity. The National Partnership against Loneliness (Danish: Det Nationale Partnerskab mod Ensomhed) created a national 2040 strategy for reducing loneliness, aiming at fostering meaningful social connections. Australia also has its own national strategy to combat loneliness called

“Ending Loneliness Together”, providing specific tools designed by specialists that help increase social engagement with others, building social trust and confidence (Ending Loneliness Together, 2024). Since 2018, the Netherlands' Ministry of Health, Welfare and Sport have been working on an action programme called “One against Loneliness”, spreading knowledge about the taboo topic of loneliness through a public campaign “Look at each other”, but also involving municipalities, strengthening social initiatives and supporting scientific research on loneliness to mitigate its negative effects on the society (Eén Tegen Eenzaamheid, n.d.).

In our research, we identified that only 14 out of 52 United Nations European countries have official governmental documents addressing loneliness as a growing problem (Goldman et al., 2024). This shows how overlooked the severity of our current situation is, and how it is affecting people's day-to-day existence. The current state of engagement in tackling this problem highlights the need for more meaningful interventions on loneliness.

1.2. Who feels lonely?

Loneliness may depend on many factors of social life. It might be due to lower levels of education, lower income (Heu & Brennecke, 2023; Bergefurt et al., 2019), living in economically challenged neighbourhoods (Astell-Burt et al., 2021), unemployment (Luhmann et al., 2022), being an ethnic minority (Campaign to End Loneliness, 2022) or living with a chronic disease (Det Nationale Partnerskab mod Ensomhed, 2023). The cultural aspect is also an important factor that influences the level of loneliness, making it significantly differ across various countries (McHugh Power et al., 2017). According to Hansen and Slagsvold (2016), individuals in Eastern Europe experience higher levels of loneliness compared to those in Western and Northern Europe. Their research shows that up to 55% of Eastern Europeans report severe loneliness, compared to only 20% of individuals in Western and Northern Europe experiencing loneliness on the same level. All of the mentioned aspects are important

and significantly influence the nature and the extent of the feeling of loneliness, but the most popular and commonly associated factor influencing loneliness is age. Loneliness is impacting people across all age groups and yet, it is still stereotypically associated with ageing (Astell-Burt et al., 2022). According to Det Nationale Partnerskab mod Ensomhed (2023), more than one-eight of Danes aged 16 and above have experienced loneliness, corresponding to almost 600,000 of individuals in Denmark. The numbers have increased over the past 10 years, especially among young people (Ji, 2023; Det Nationale Partnerskab mod Ensomhed, 2023), breaking the stereotype of elderly people being the most lonely, as mentioned before. Det Nationale Partnerskab mod Ensomhed (2023) provides the information that every 5th young individual between the ages of 16 and 24 is experiencing loneliness, which is equivalent to 145,000 young people living with the struggle.

In 2022, 9% of people aged 16-29 felt lonely all or most of the time, thus being the largest age group feeling lonely most frequently compared to other age groups (Danmarks Statistik, 2023). In Copenhagen, over 7% of kids in the 9th grade stated that they do not have any adults to talk to if something bothers or upsets them, and 6% stated the same in relation to friends (City of Copenhagen, 2021). According to Denmark's statistics (Danmarks Statistik, 2023), loneliness is a much more serious problem among students, where 10% of them claim to be lonely. It might be related to different life transitions, like moving to a new home and new city to study and establishing new relations from the ground up (Det Nationale Partnerskab mod Ensomhed, 2023). In the United Kingdom, young people aged 16-24 feel more lonely than older adults in age 65-74 (Sooväli-Sepping et al., 2023). When it comes to elderly people with age above 65, around 100,000 of them experience

loneliness in Denmark (Det Nationale Partnerskab mod Ensomhed, 2023). According to the research done by Astell-Burt et al. (2021), the lowest cumulative level of loneliness was noted for people in their mid-50s to mid-70s. For those age above 80, there is a significant rise in feeling lonely, mostly related to being widowed, having reduced mobility or poor health (Luhmann et al., 2022). Of course, other age groups undoubtedly experience loneliness on similar levels as well, but if the numbers continue to rise and more young people will experience the unpleasant feeling of loneliness, there is a high risk of carrying that feeling with them further into their adulthood, affecting the society as a whole (Det Nationale Partnerskab mod Ensomhed, 2023). There is a great need for an intervention within this age group to mitigate the emergence of loneliness.

1.3. Loneliness, city, and popular culture

Popular culture, commonly known as pop culture, is a group of artistic outputs such as movies, TV series, books, or music, that is mass-produced and consumed by a large part of society at a given point in time (Mitra & Fyke, 2017). Given the extensive reach and accessibility of popular culture, it has a significant potential to share information, knowledge, and entertaining content, influencing how individuals perceive different aspects of life (Freeman, 2015). Audiences might identify themselves and their reality with the characters or situations depicted (Igartua, 2010), which may lead to either positive emotions, growing hope during difficult times, or deepening their negative feelings, if they see their own situations portrayed negatively. This aspect might be particularly relevant for individuals who experience feelings of loneliness, especially young adults with easy access to mass media. When loneliness is constantly portrayed as something that belongs to the flawed

and fallen individual rather than to the inequalities of society at large (Redmond, 2021, p. 65), it might reinforce the belief that their own loneliness is similar, affecting their perception and well-being, adding to the existing stigmatisation of this issue.

Taxi Driver, a 1976 movie by Martin Scorsese, portrays Travis, a young, lonely taxi driver in New York who suffers from insomnia, as a very specific, isolated person struggling with mental problems related to his traumatic experiences during the war in Vietnam. As a result of many overlapping factors, Travis commits several crimes under the pretext of cleansing the city. He writes in his diary about loneliness as something that „*has followed me my whole life. Everywhere. In bars, in cars, sidewalks, stores, everywhere. There's no escape.*” (Taxi Driver, 1976, 00:53:11-00:53:24), portraying loneliness as a very negative feeling from which one can never escape, which may deepen the viewer's emotional distress. An equally important part of the film

worth mentioning is the main character's relationship with the city of New York, which is presented from his subjective perspective as a place with all the negative aspects of a modern city, such as dirt, chaos, suffering, loneliness, and lack of nature (Weinreich, 1998), showing the importance of the urban environment in topics of people well-being. Another person experiencing loneliness portrayed in a movie is Arthur Fleck in *Joker* (2019) by Todd Phillips, a man suffering from mental illness who receives no help from society but instead is being judged and made fun of. Joker becomes increasingly isolated from others, which leads to tragic and brutal consequences. Joker consciously relates to various lonely male characters from the movies, being haunted by these representations, and triggering his violent imagination (Redmond, 2021). Loneliness is also presented as something that concerns and permeates the entire society and is a collective issue, and the movie sets a perfect

scene for why and how loneliness emerges in big cities like Gotham (Redmond, 2021). And although Gotham is a fictional city, it closely resembles the real cities we all live in. This resemblance may lead viewers to believe that similar things could happen in their own surroundings due to lonely individuals, contributing to the stigmatisation of those who feel lonely and further alienating them from society.

Another example of a movie touching on the topic of loneliness with a more positive ending is *Lost in Translation* (2003) by Sofia Coppola. It portrays two strangers who meet at a certain moment in their lives in Tokyo, united by the feeling of loneliness, desperation and uncertainty about their life choices. When the two protagonists get to know each other, an intimate bond and relationship is created between them that they certainly lacked before. This bond on its own might not be a solution to their feeling of loneliness, however, it can foster hope that things will improve and help understand some things better (Felix, 2011).

The audience might identify with this aspect in a positive way, increasing their belief that their own loneliness can be alleviated or understood, by watching one of the two main characters smile for the first time at the end of the movie. An equally important aspect of this film, as in the previous ones, is the city in which the film takes place - Tokyo. A large, culturally foreign city contributes to the characters' feeling of loneliness and alienation (Takemura, 2017), showing how important a role a city plays in our lives.

Loneliness is depicted in various ways through popular culture, offering different perspectives and allowing people to form their own interpretations. However, it is crucial to remember that people should avoid fully identifying with fictional characters and their situations, as this can reinforce the stigma surrounding loneliness. Action is needed to destigmatise this issue by facilitating open conversations without fear of being judged based on the idea of loneliness shared by mass-media.



1.4. The role of urban environment

According to World Health Organisation (WHO) (2017), the determinants of health are considered to be: the social and economic environment, individual characteristics and behaviours of a person, income and social status, education, gender, genetics, health services and social support networks, and the physical environment, where individuals live, work and play. Thoughtfully designed urban environments can positively influence the daily lives of individuals.

Urban design significantly influences a place's quality, accessibility, safety, and user dynamics (Gardner et al., 2018). Incorporating health and planning into public spaces involves considering how the physical environment affects various health factors, such as air and water quality, housing and transportation access, active mobility options, and microclimatic conditions (Mehta 2014). Participatory approaches have gained significance in urban development projects and health promotion endeavours due to

the interconnectedness of mental health, space, society, and the environment (WHO, 2016; UN Habitat & Bull FC et al., 2020).

The built environment, including streets, open spaces, infrastructure, residences, and structures, plays a critical role in shaping the physical and mental well-being of individuals and communities (Morganti et al., 2020). Urban living is associated with a higher risk of psychiatric disorders such as anxiety and mood disorders, with a 50% increase compared to rural areas (Peen et al., 2010). Public spaces act as hubs for social interaction, fostering community cohesion and supporting the public sphere (Orsetti et al., 2022). Additionally, children raised in urban areas face a 200% higher risk of schizophrenia (March et al., 2008). While various theories attempt to explain these mental health disparities, the exact mechanisms remain unclear, underscoring the undeniable link between urban environments and mental health (Engemann et al., 2019).

The built environment significantly influences human health across various dimensions (Kirsty et al., 2018; Wasfi & Kestens, 2021). These impacts span physical factors such as traffic safety and heat response (Tong et al., 2021), psychological processes like stress induced by crowding and loneliness stemming from anonymity (Knöll et al., 2018), and behavioural dynamics such as higher car dependency linked to low walkability (Sugiyama et al., 2019). Moreover, several qualitative studies (Birch et al., 2020; Etzioni, 2000; Neal et al., 2015; Rishbeth & Powell, 2013; Sobel, 1990) and theoretical insights (Korpela & Staats, 2021; Hartig, 2021) propose diverse pathways through which green spaces could alleviate loneliness, benefiting both the general population and individuals confronting specific life challenges.

Recognising the profound impact of public spaces on social dynamics and community well-being, prioritising their design becomes imperative (Eyles & Litva, 1998).

Jan Gehl emphasises that the quality of outdoor areas significantly influences the activities they accommodate, with high-quality spaces promoting diverse leisurely pursuits (Gehl, 2011).

In pedestrian streets, micro-level physical attributes, especially natural elements, significantly affect individuals' mental well-being, while in car-dominated areas, macro-level characteristics, such as pollution, play a more prominent role.

Green spaces have been shown to influence the likelihood of developing psychiatric disorders across urbanisation levels, with urban centres posing the highest risk and rural areas the lowest (Engemann et al., 2019). Green spaces offer various benefits, including improved air quality, reduced noise, and support for biodiversity (UN-Habitat City, 2019). Prioritising access to green public spaces through urban planning policies and emphasising social aspects in adaptation strategies can enhance social cohesion and reduce health inequities (Kingsley, 2019).

Moreover, Green spaces offer aesthetic experiences, pleasant activities, and psychological relief from stressors, enhancing mood and cognitive function while reducing depressive rumination, particularly in lonely individuals.

They also provide life-affirming experiences for those experiencing distress and lack of trust, offering solace reminiscent of comforting memories, like a warm embrace, even in solitude (Astell-Burt et al., 2021).

Ensuring citizen health is fundamental for building resilient communities and achieving sustainable development goals (Ganzleben, 2020). Integrating health considerations into urban planning can make cities healthier, reduce social inequalities, and advance sustainable development objectives (Orsetti et al., 2022). The quality of public spaces can generate significant social impacts, reflected in co-benefits for the community (Sattrup et al., 2019).



1.5. Research question

Drawing from the literature review and identified areas for intervention within the realms of loneliness among young adults and urban design, we have chosen to investigate the potential of employing a participatory design game, as we have noticed a visible lack of such tools in the given topic of loneliness and urban environment. The tool would be utilised in two ways: to open a conversation and help destigmatise the topic of loneliness. Besides that, we seek to explore how professionals can use such tools to develop tangible urban design solutions aimed at alleviating loneliness among young individuals.

To achieve this, we have formulated the following main research question along with 2 sub-questions.

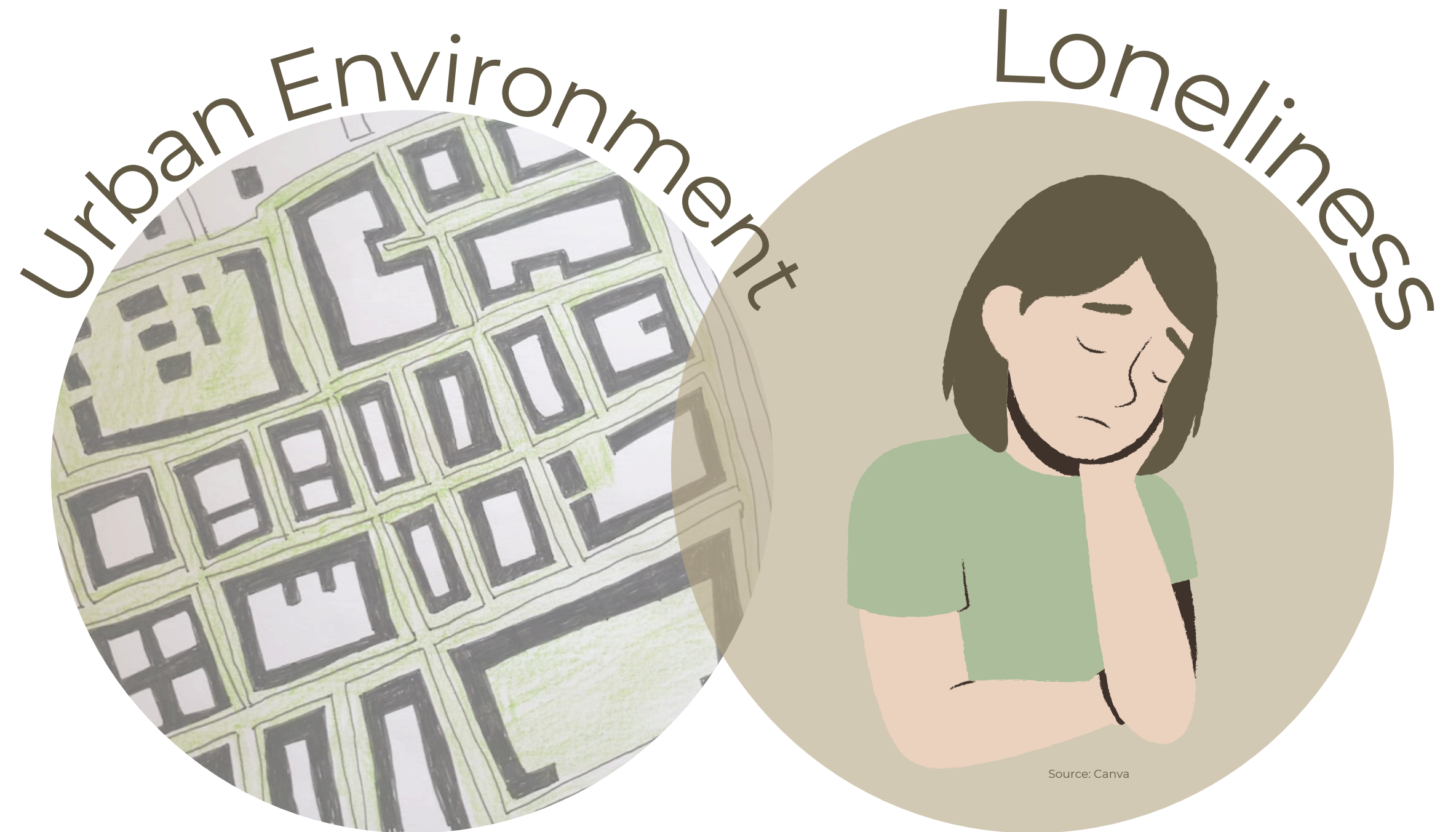
How can participatory design methods facilitate open dialogues about urban loneliness among young adults, thereby contributing to destigmatising this issue?

How can young adults' perspectives and experiences with loneliness be integrated into urban environments design processes?

How can insights gathered from participatory games and extensive research be translated into actionable guidelines for professionals?

1.6. Scope of the study

When approaching the planning of our activities towards the project, we needed to define the scope of our interventions considering the time limitations of the final semester of our studies, our expertise, and potential bureaucratic challenges. Focusing on loneliness within the urban context, we aimed to identify feasible changes within public spaces that could be done using our participatory design tool, and that would not encounter significant resistance from authorities. Therefore, our intervention scope encompassed all urban elements such as streets and public spaces, excluding buildings where intervention in their matter is more intricate and goes beyond our reach.



1.7. Project design

To describe our design process and gain insights into our research questions, we draw inspiration from the Double Diamond theory by the Design Council (see Chapter 3.1), as it supports the iterative nature of our project (Figure 1.7.1). To gain as much information as possible, we combined various theories and methods that provided deeper insights into the topic, guided our project, and helped us answer the research questions.

The project design process began with deep research and problem definition, and lasted for the first two months of work on the project, which is symbolised by the first diamond. During that phase, we utilised methods like literature review, online questionnaire, and field research, together with semi-structured interviews with professionals and our collaborator Østerbro Local Committee.

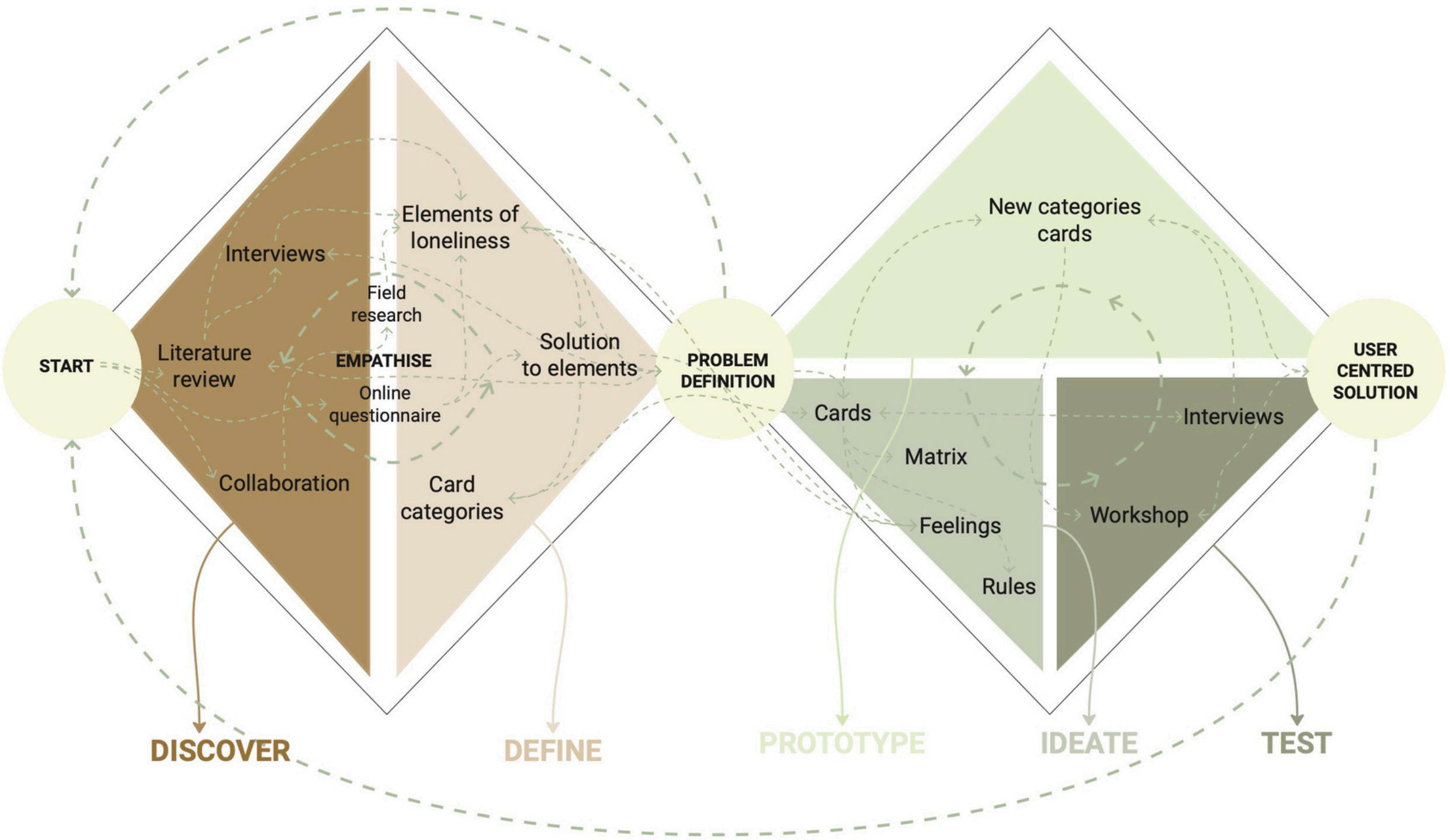


Figure 1.7.1. Double Diamond of our research design. Source: Own elaboration

All these methods allowed us to discover and define the growing problem of loneliness among young adults, as well as the role that the urban environment plays in it, and how it can possibly help to alleviate that unpleasant feeling. To better understand the relationships that exist between the actors involved in our project, as well as how the city performs as a place for negotiation, we decided to use Actor-Network Theory (ANT) (see Chapter 3.2) and the theory about staging negotiation spaces (see Chapter 3.3) as lenses through which we observed the ongoing processes in the city and the existing networks. It allowed us to assess the possibilities of creating new networks and strengthening the existing ones. We also decided to include in our discovery process a more traditional health practice theory, the Evidence Based Health Design in Landscape (see Chapter 3.4), to introduce the perspective of health professionals into our design.

The second diamond symbolises subsequent iterative processes after defining the problem, focusing on the development of our participatory game, its improvement and testing.

During the card design process, we managed to make several prototypes, which were discussed in detail during the second round of semi-structured interviews with professionals in the field of architecture and urban planning. It helped us to improve them through an iterative process, reaching the version that was tested during a workshop in one of the student dormitories in Copenhagen. In this case, we took the concept of boundary objects (see Chapter 3.3) into account when designing new prototypes of our cards to make them work as efficiently as possible. We utilised the theory about staging negotiation spaces to set up the place where the workshop was held, and ANT to observe the effect of our game on the possible changes between the networks of actors involved.

The arrow connecting the end of the second diamond with the start of the first diamond depicts the proposed beginning of another iterative process to improve the game design after the first workshop is conducted. The next iteration remains open for future improvements, paving the way for new

opportunities in facilitating conversations between young adults experiencing loneliness and professionals. These potential future steps will be mentioned in Chapter 7.2 “Opportunities for future studies”.

All of these theories and methods intertwined throughout the project process, guiding us through the creation of our card game and enabling us to answer the research questions by providing a comprehensive understanding of loneliness among young adults and its relationship to the urban environment. The following sections explain in detail how these theories and methods were used to design and evaluate our conversation tool.

2

STATE OF THE ART



2.1. Previous projects

In this part of the literature review, we investigate recent research projects focusing on the creation of solutions and frameworks that aim at mitigating the adverse effects of loneliness and mental health disorders through the utilisation of public spaces. These specific cases were chosen based on a few aspects: the projects had to relate to overall health, mental health, or loneliness, and urban environment. We decided to narrow the search to relatively recent projects from the last 5 years, so we could eventually build up on the newest research or identify the gaps that still need to be filled in. The state of art works as an inspiration regarding approaches or methods used to alleviate the identified problems within our scope of study.

2.1.1. Urban Minded

The “Urban Minded” project, running in Copenhagen over the course of several months in 2022 and 2023, is a joint research project of Henning Larsen Architecture Studio and the Danish National Institute of Public Health, with the support of the Ramboll Foundation (Henning Larsen, 2023). The project was initiated due to growing apprehensions regarding the declining mental health and well-being of teenage girls aged from 14 to 16 who lived in the cities. The study highlighted a serious neglect of this demographic in public spaces, providing information that only 20% of girls and women in Sweden use outdoor areas for sports activities, compared to 80% of boys and men using these spaces frequently (Blomdahl et al., 2012).

A very similar observation was made in 2021 in the Netherlands, where from 45% of girls aged 0-4 playing outdoors, the numbers have declined to 23% among girls aged 13

and more, and the same numbers for boys have increased from 55% in the early years to 77% for boys aged 13 and older (Helleman, 2021). This data motivated the architects and anthropologists from Henning Larsen Architecture Studio to act.

“Urban Minded” used qualitative and ethnographic research techniques like walk-and-talk interviews, interactive workshops or video diaries, to gain invaluable insights from the diverse perspectives and lived experiences of teenage girls from Copenhagen. The outcomes of this extensive research culminated in the development of two guides containing design principles and applicable methodology for participation processes that focus on the well-being of teenage girls (Henning Larsen, 2023).

2.1.2. Healthy Streets for London

The city of London is struggling with a crisis of physical inactivity among its residents (Transport for London, 2017). According to the Mayor of London and the Transport for London (2017), more than 40% of Londoners fail to meet the recommended 150 minutes of physical activity per week, with a high number of 28% of residents not exceeding even 30 minutes weekly. Changing our lifestyle from active to sedentary is one of the greatest threats to our health (Singh et al., 2024). Lack of physical movement is considered to be one of the biggest elements affecting the development of multiple chronic diseases like diabetes (Booth et al., 2012; Sami et al., 2017), dementia (Yan et al., 2020), depression (Huang et al., 2020), cancer (Hermelink et al., 2022), and heart disease (Lavie et al., 2019). To alleviate the growing alarming numbers, the city of London decided to adopt the Healthy Streets Approach to improve the quality of the street experience and encourage more Londoners

to walk, cycle, or use public transport (Transport for London, 2017). Healthy Streets for London was developed by Lucy Sanders, an expert in public health and transport (Healthy Streets, 2024a). It is an evidence-based approach that consists of 10 Indicators of Healthy Streets with the aim to create more sustainable and attractive urban spaces that will influence the everyday lives of residents and their health (Healthy Streets, 2024). These 10 Indicators must be prioritised and balanced in order to improve the design of the streets and therefore, improve the social, economic and environmental sustainability (Healthy Streets, 2024b). The 10 Indicators are presented in Figure 2.1.2.1.



Figure 2.1.2.1. The 10 Indicators of Healthy Streets.
Source: healthystreets.com

According to the official webpage of Greater London Authority and the research made (2024), there are several benefits of adopting the Healthy Streets Approach to design the streets: it can help to reduce noise pollution, improve the mental health of the residents, help combat social isolation and loneliness, and bring economic benefits, as it would help the National Health Service to save GBP 1.7 billion in treatment costs over the next 25 years. Their focus will also be put on minimising the road danger caused by the use of private cars, helping to address the safety fears on walking and cycling more in the city.

Thanks to the courtesy of our university student friends, Laura Viktor Andreassen and Maja Malmstrøm Wiellersen, who interviewed Lucy Sanders in London this April as part of their project, we had the opportunity to ask her one question on the topic of Healthy Streets for London.

The question was: *have mental health and loneliness been part of the discussion and how could these challenges be tackled by the 10 indicators?*

Lucy's answer referred to the fact that according to health professionals, mental and physical health are connected and treated as one system, therefore most of the health initiatives are targeting both types of health. People with mental health problems, and people feeling lonely must go out into the streets, observe the changing nature, be around people, go out into the world, so in other words, to use the aspects mentioned in the Healthy Streets approach. This approach aims to support people's independence, give them reasons to interact with the world and with other people, and this is needed, among other things, for good mental health.



2.1.3. Public Space: The Critical Connection in a Sometimes Lonely City

This study explored how governance and design influence social interactions and loneliness in New York City's public spaces. Through an analysis of 8 sites (4 pedestrian plazas and 4 community gardens) it uncovered key factors affecting social well-being. Governance structures, programming, stewardship, openness, physical features, locality, and seasonality all play significant roles, as noted in the study (Ji, 2023).

For example, plazas attract a broader audience, while community gardens, run by volunteers, serve as platforms for connection. Consistent programming and community involvement foster place identity and reduce loneliness (Ji, 2023). Quality seating and greenery also contribute to meaningful connections. Attention to local demographics and cultural events promotes community cohesion. The study emphasised on addressing loneliness, especially in winter, through thoughtful design and policy. Recommendations emphasised holistic

approaches integrating physical and non-physical elements in public space design, with systematic measurement of loneliness by city governments. Ultimately, the goal is to guide stakeholders in creating cities prioritising social well-being.

Additionally, the study highlighted the importance of thoughtful programming and physical features in combating loneliness and fostering social connections.



Figure 2.1.3.2. Field observation. Source: Ji, 2023

Quality urban green space is vital for the mental health of urban residents (Ha et al., 2022; Nguyen et al., 2021). Implementing multi-purpose furnishings like canopy structures can enhance public spaces, making them accessible to all visitors. Designing well-lit amenities at a human scale and creating welcoming entrances with clear signage fosters a vibrant public realm. Public art can also promote social interaction, with different forms and scales tailored to the space (Ji, 2023).

Physical Features that Enhanced Visitors' Frequent Meaningful Interactions

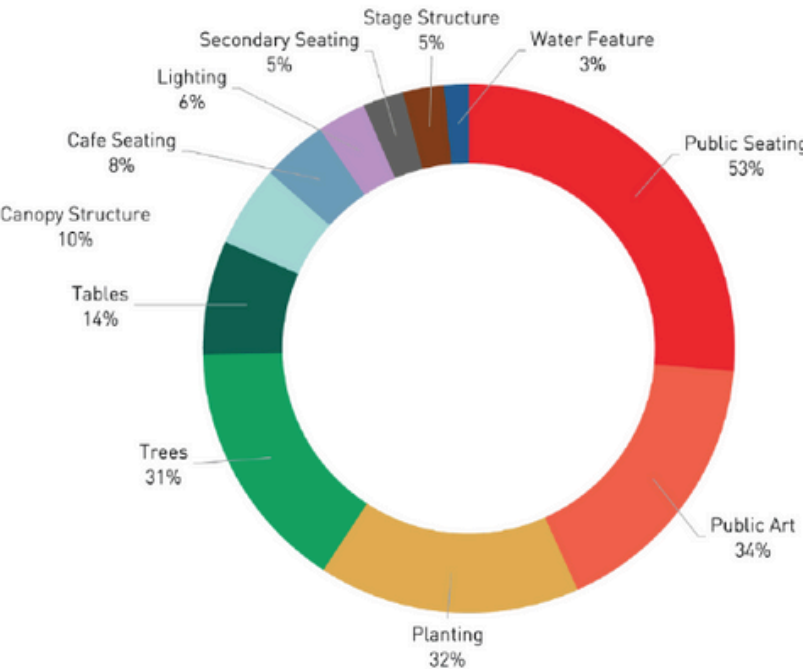


Figure 2.1.3.1. Answers to field survey question: "What design elements of the public space enhanced your most frequent meaningful interactions".

Source: Ji, 2023

2.1.4. Together Against Loneliness

Due to the fact, that loneliness has become a serious problem in the Netherlands, where over 10% of the population over 15 years of age feels frequently lonely, the Dutch government decided to set up a national programme and funding scheme „*Eén Tegen Eenzaamheid*“, that translated to english language means “Together Against Loneliness” (Kroon et al., 2020). The main idea of the programme is to solve problems related to the feeling of loneliness, especially among older adults (Sooväli-Sepping et al., 2023). Many initiatives have been undertaken under this programme, several of which focused on urban planning aimed at reducing social isolation and fostering meaningful relationships. One such initiative called Michi-Noeki occurred towards the end of 2022 in the city of Groningen.

As described by Sooväli-Sepping et al. (2023), Michi-Noeki is a small pavilion giving people the opportunity for casual meetings, making new connections, or having a short dialogue with other individuals from the area (see Figure 2.1.4.1 and Picture 2.1.4.1).

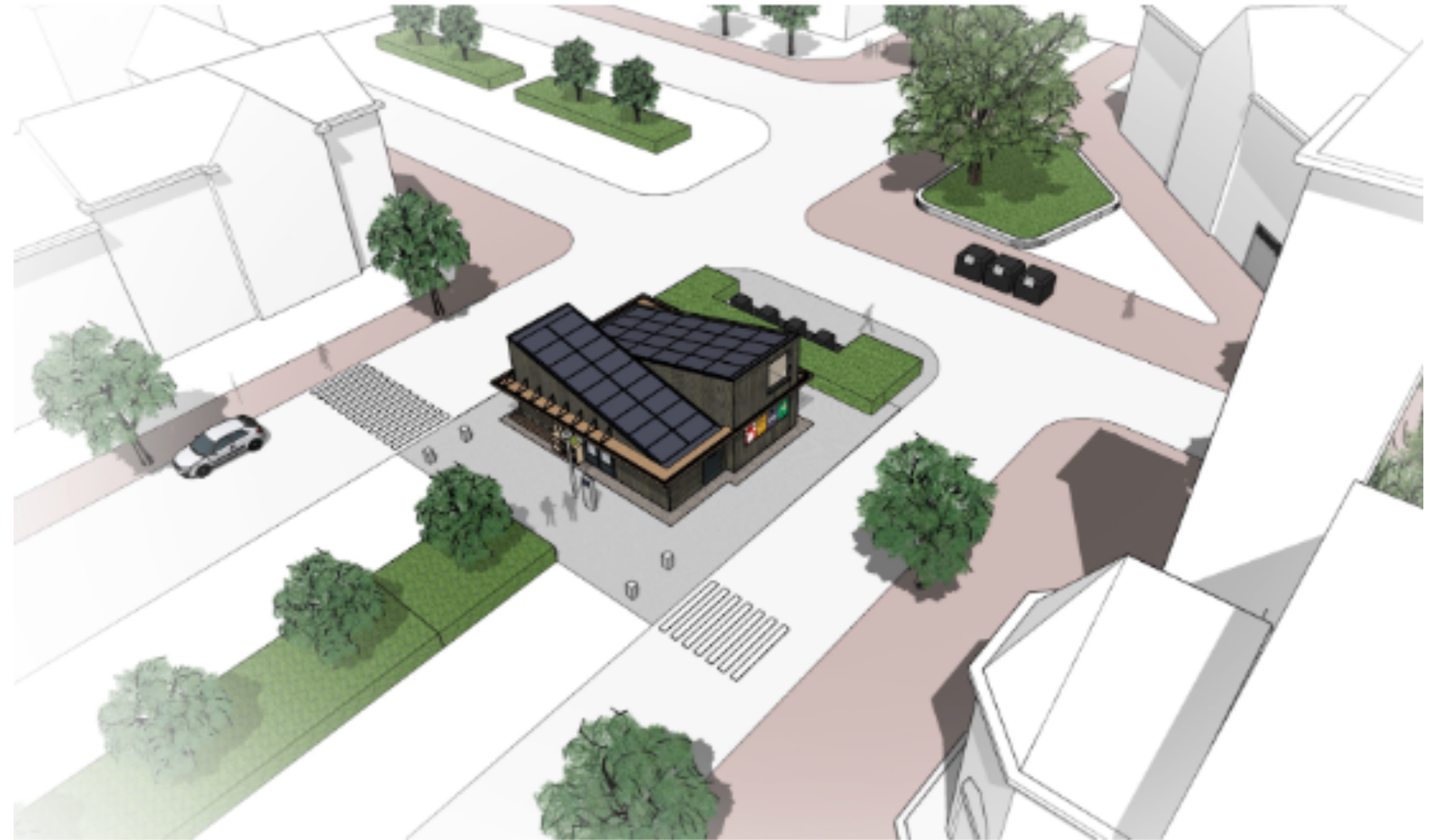


Figure 2.1.4.1. The concept of Michi-Noeki. Source: Mijn Oosterparkwijk, 2022

People can use it as a rest point, drink coffee or tea for the symbolic amount of 1 euro, get new information on what is happening in the neighbourhood, or go to the toilet. The pavilion is located in a very strategic place, which is the central part of the Oosterparkwijk neighbourhood, having many facilities nearby that can attract local residents. The concept earned a “second place prize” in the 2018 Who Cares competition that was initiated by the Rijksbouwmeester of the Netherlands with the aim of acquiring new ideas for urban living and caregiving solutions (Mijn Oosterparkwijk, 2022).

The term Michi-Noeki originates from the Japanese traditional roadside stations, where travellers could rest, eat nutritious meals, feed their horses, and stay overnight (Mijn Oosterparkwijk, 2022). This concept persists in Japan, where many elderly people from local areas decide to volunteer at these pavilions, offering food service and enjoying social interactions (Sooväli-Sepping et al., 2023). Each project focuses on health, including

mental health, and loneliness, all in the context of urban spaces, presenting completely different approaches to solving given problems. Thanks to the analysis of the projects, we gained inspiration regarding the methods of obtaining data for the project, theoretical approaches, and how important a role urban spaces play in influencing people's health. The analysis of these projects also showed us that none of these projects focuses on trying to destigmatise the

presented problems or opening a conversation about them. Instead, they focus on a tangible solution that can be implemented, still leaving the subject of loneliness and mental health without the audience being able to understand it more precisely or reflect on the subjectivity of the problem. Therefore, our decision to develop a tool or method to facilitate these conversations is adequate and can help us to have a more precise understanding of these issues.



Picture 2.1.4.1. Michi-Noeki opening day. Source: Rijksoverheid, 2023



This chapter is dedicated to outlining the theories on which the project is based. We explain the theoretical concepts and present their application throughout the entire project process.

3.1. The Double Diamond framework

Double Diamond is a framework designed and popularised by the British Design Council in 2004. It is a framework that describes the non-linear design process in a transparent, logical way, allowing designers and non-designers to explore the issue more deeply, and then take focused action. It consists of 2 phases: divergent thinking (discover and define), and convergent thinking (develop and deliver), each represented by a diamond shape (Design Council, 2023).

This framework represents the entirety of our project's design journey, encompassing the iterative phases of research and problem formulation in the first phase, as well as the finalisation and delivery of our solution during the second phase.

3.2. Actor-Network Theory

The actor-network theory (ANT) serves as a tool to gain a comprehensive understanding of the complex relationships between various actors, both human and non-human, that we have encountered throughout our whole project. It sheds light on the continuous evolution of the city as an entity and the interconnected system it creates with actors involved in its use and development, and how it can act as a negotiation space (see Chapter 3.3).

According to Callon (1986), there are 4 moments that occur in a non-linear, iterative way throughout the translation of the networks. First is the problematisation, where the problem is clearly defined. In the case of our project, it was the lack of an available tool that would support the process of opening discussions about loneliness in groups of young people, using elements of the urban environment.

The second moment is interessement, where actors are negotiated to become part of

the network. During the entire project process, contacts were established with various actors who could influence the development of the project or have an impact on one of the most important elements, people feeling lonely or the urban environment.

The third part is called enrolment, where connections are defined and interrelated. In this part, thanks to the contacts established, we managed to determine the type of networks that exist between actors related to our project. This allowed us to understand which actors support each other and which connections need more support to function properly.

The last moment is the mobilisation, where the actors advance the network's objectives. While working on the development of our tool, we managed to meet some actors for feedback or knowledge-sharing sessions, thanks to which the actors remained constantly engaged and up to date with the

development of the process.

The game, as part of the network, would function as a boundary object (see Chapter 3.3) attempting to support weak networks among individuals experiencing loneliness, the urban environment, and architects and urban designers (see Figure 3.2.1). The main goal of the game is to facilitate a conversation and act as a translator between entities that struggle to fully understand each other on a common matter. In the future the results of conversations conducted through the game can also contribute to the actual process of designing urban environments, taking into account the perspective of those who feel lonely, and therefore strengthening the networks in need of support.

It is also worth mentioning the theory of urban assemblages, which complements ANT by allowing for a deeper understanding of the complexity of cities as networks and how they continue to evolve.

According to this theory, cities are dynamic collections of various heterogeneous elements (human and non-human, organic and inorganic, technical and natural (Anderson & McFarlane, 2011)). All of these elements are constantly interacting causing the city to evolve in a non-linear way, making the transformation a continuous development process rather than an effect (Ghoddousi & Page, 2020; McFarlane, 2011). The Urban assemblages theory allowed us to look at our network from a broader perspective and observe the dynamics of possible changes in interactions after the introduction of our tool and how it will affect the network's dynamics between other actors.

We fully acknowledge that each human actor we have included in our project's ANT might also be among the group of people experiencing loneliness. We are not suggesting that they are separate from this group. To ensure clarity in our project's network, we have chosen to distinguish each actor as a separate entity, recognising that all

of these roles in the network may indeed overlap on many levels.

In Figure 3.2.1, we have mapped the relevant actors divided into categories. On the right, there are 5 categories of professionals that we identified during the problematisation phase as important to the issue of urban loneliness. On the left side, we have the citizens of Copenhagen, some of whom overlap with those experiencing loneliness, all within the urban environment that encompasses these actors, networks, and interactions. The actors inside the coloured circles are those we successfully managed to interest (Second moment of translation) through semi-structured interviews, semester-long collaborations, or participation in online questionnaires and workshops. Conversely, the actors outside the circles were identified as relevant but, for various reasons, we could not connect with them. Some did not respond to our requests, others cited a lack of time, some felt they could not contribute meaningfully to our project, and a few responded too late in our process for us to

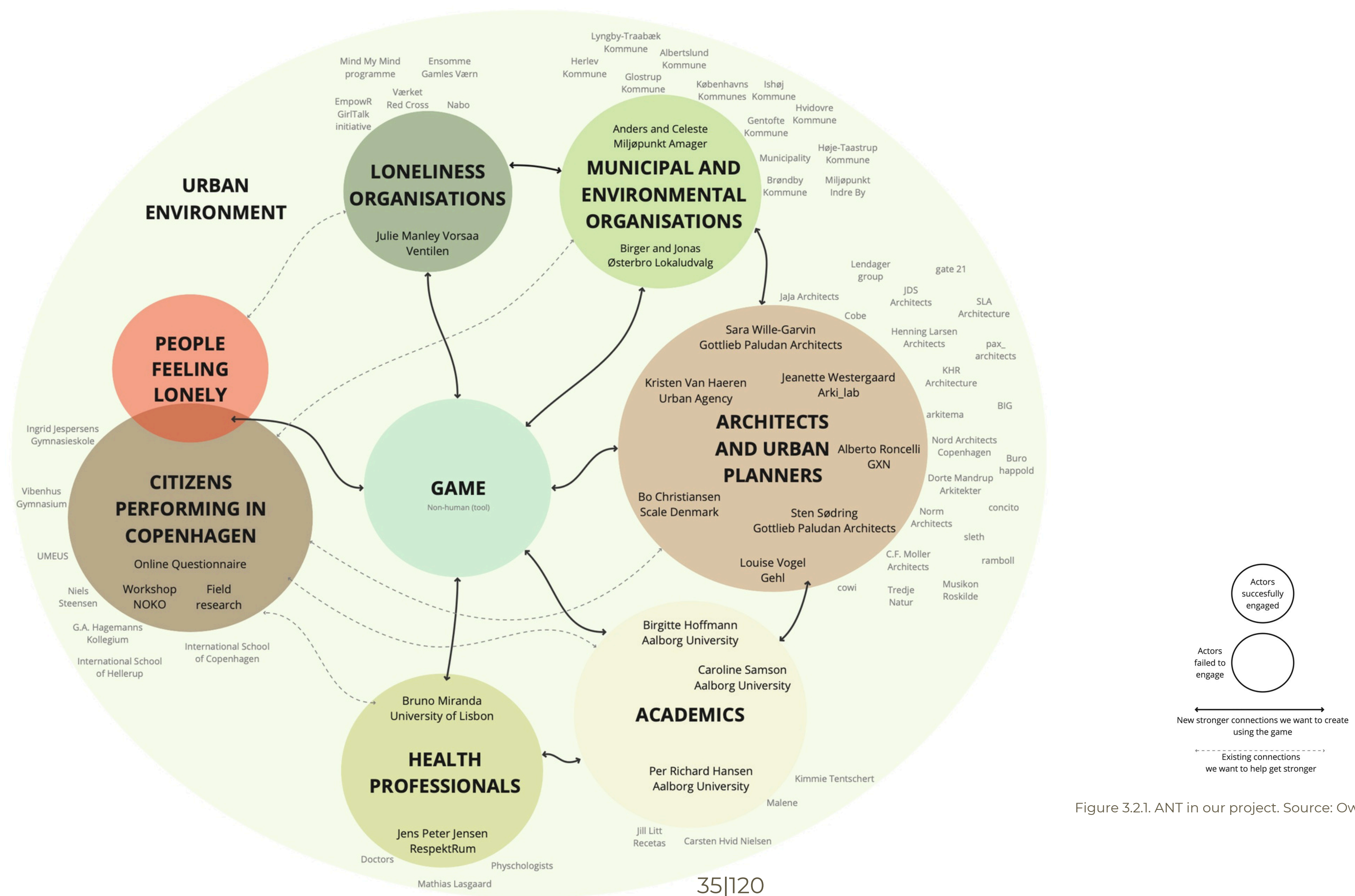
arrange a meeting.

In the enrollment stage, connections are established and interrelated. In the centre of the graph, we have our game, represented as a non-human actor. This game serves as an artefact or tool designed to strengthen existing connections (indicated by dotted arrows) and to create and facilitate new networks of actors, marked by solid arrows.

For the second ANT Figure (3.2.2), we considered issues with public spaces in Copenhagen identified through an online questionnaire conducted with 41 individuals, as well as through semi-structured interviews we conducted with 14 professionals. These issues have been added inside the circle representing each category of actors.

We utilised the concept of "matters of concern", as defined by Latour (2005), which refers to problems or issues that mobilise actors into action, illustrating the dynamic nature of social reality. On the right side, we display these elements (yellow boxes) grouped into 15 common categories to organise and better understand the matters of concern,

demonstrating how different actors share common concerns. Our game is represented as a tool with a goal of facilitating conversations among these actors about their shared matters of concern. At some point in the future, it is hoped to enable actionable changes to improve the situation. This final step corresponds to the mobilisation stage from Callon's "moments of translation".



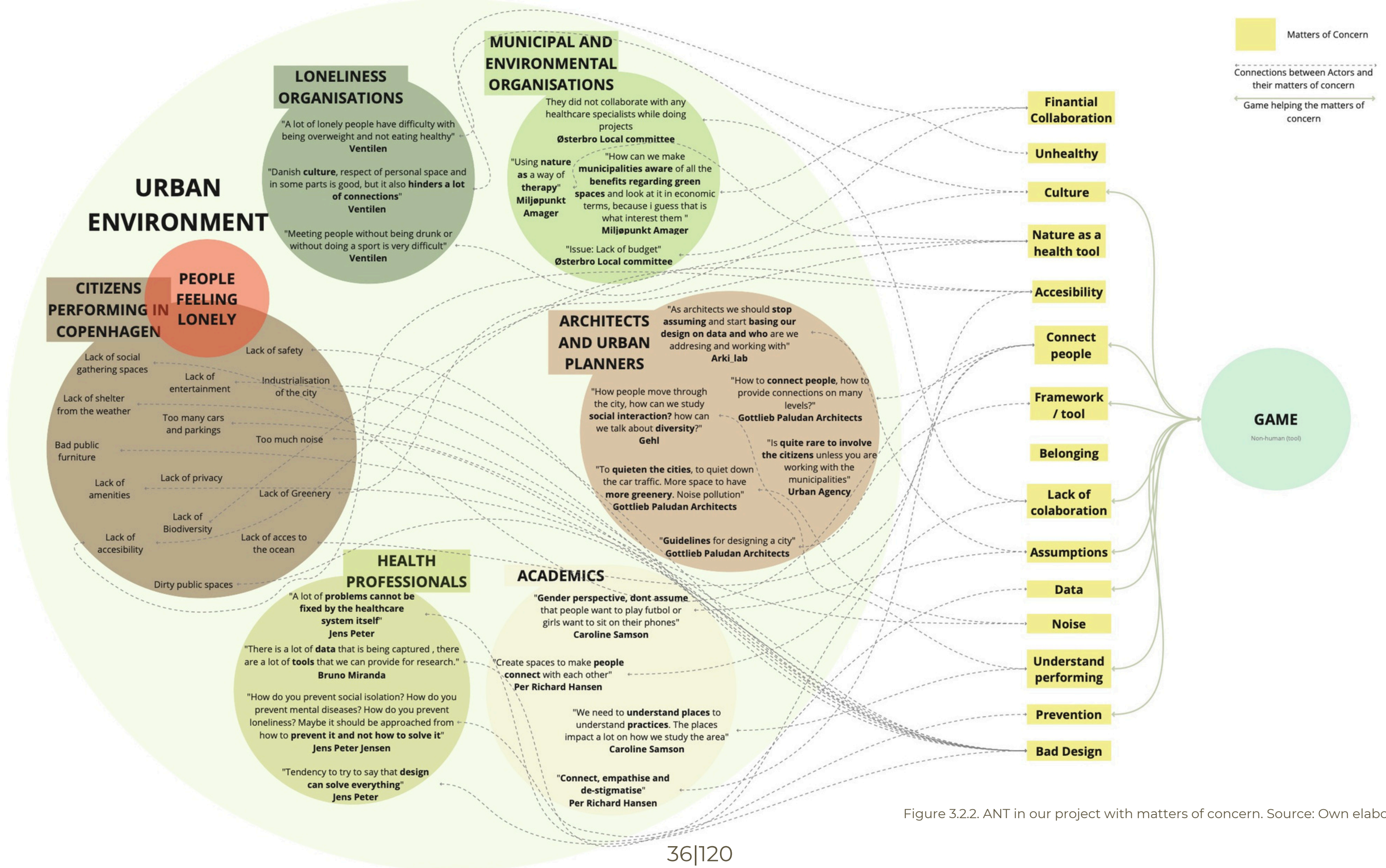


Figure 3.2.2. ANT in our project with matters of concern. Source: Own elaboration

3.3. Concept of boundary objects & staging negotiation spaces

To enhance the creation of improved public areas while properly considering the perspectives of individuals experiencing loneliness, we decided to employ the concept of boundary objects by Carlile (2002). Boundary objects are “objects that are shared and shareable across different problem solving contexts” (Carlile, 2002, p. 451). In other words, boundary objects could be defined as entities or artefacts that serve as bridges connecting different social worlds, their perspectives, and knowledge domains, reducing disparities in mutual comprehension among various groups regarding a specific issue. Therefore, these objects should be flexible, adaptable, and applicable across various contexts and social groups for the best outcomes. The creation and use of such facilities is crucial to maintain balance and understanding between intersecting social worlds.

In the case of our project, the game we designed serves as a boundary object,

linking us, Sustainable Design Engineers, with individuals experiencing the feeling of loneliness. They provide us with knowledge about how particular elements of public spaces affect their overall feeling of loneliness, as well as nuanced aspects of their loneliness. The information we obtain during the knowledge-sharing session allows us to comprehend both the individual and collective experience of loneliness, empowering us to take action to improve the current situation. Similarly, considering our game as a “connector”, it can act as a boundary object between individuals feeling lonely, and professionals such as architects, urban planners, Østerbro Local Committee, and later municipal authorities responsible for shaping public spaces. Through our tool, essential knowledge is translated and transferred to higher-level professionals, fostering better comprehension of the growing issue, and enhancing the likelihood of identifying effective solutions

to mitigate loneliness.

In our endeavour to create a platform for dialogue and collaborative design through the utilisation of our game, we find guidance in Signe Pedersen's (2020) work on "Staging negotiation spaces: A co-design framework". Pedersen's framework shows the importance of carefully preparing the stage for negotiation processes that involve various stakeholders gathered around a particular issue. It underscores the importance of how actors are invited, hosted, and treated, as well as what opportunities they will have to use props, such as design games, facilitating the creation of their own narrative and ensuring their active involvement. The framework consists of 3 main aspects: before (staging moves), during (facilitating negotiations), and after negotiations (reframing).

In our project, the design process of the game, the workshop conducted to test the game, and the process of urban planning will be considered as the negotiation processes.

We identified 3 key spaces for negotiations: the city itself, venues for feedback sessions with architects, and the Nordisk Kollegium library.

Before each negotiation process, plenty of time was dedicated to analysing the data and statistics related to loneliness and demography to understand the issue of loneliness on a deep level and how the city works as a negotiation space where various individuals, professionals, and organisations interact over the development of the urban environment.

Throughout the design process negotiations, a participatory game was being crafted to serve as a communication and knowledge-sharing tool during workshops with young adults. Negotiation processes over the creation of the game continued during each meeting with architects, where prototypes and different versions of games were presented as boundary objects. For the workshop as a negotiation process, the focus was put on fostering an environment of equality, embracing diverse perspectives

with openness and respect. It was important that participants feel at ease, especially when discussing the uncomfortable subject of loneliness. Hence, we have chosen the library of Nordisk Kollegium as our workshop venue, a very familiar space for all participants.

After negotiations during the design process and collecting the feedback from professionals, multiple iterative processes have been initiated to refine the game, aligning with Pedersen's emphasis on continuous iteration and adaptation as integral to effectively design with various actors. After the workshop as a negotiation process, the same iterative process to refine the current version of the game should occur. Additionally, once the previous stages of negotiations are completed, the same process of refining the urban environment should occur. However, this is beyond our professional capabilities and control, and also cannot be achieved within the given time constraints for the project.



3.4. Evidence Based Landscape Architecture & Evidence Based Health Design in Landscape

Evidence Based Landscape Architecture (EBLA) is an approach to designing outdoor spaces that relies on solid evidence to guide decision-making. This evidence can come from scholarly research, like studies and articles, as well as from practical experience in the field. The goal of EBLA is to ensure that decisions about how land is used and shaped are based on reliable information rather than guesswork or tradition. It helps landscape architects make informed choices that can lead to more effective and sustainable designs (Brown & Corry, 2011).

Working in an evidence-based manner ensures that the design aligns with the users' needs (Gramkow, et al., 2021). Certain aspects of landscape architecture, like stormwater management, already embrace evidence-based practices. This approach, borrowed from fields like medicine, involves integrating the best available research with professional expertise. In healthcare architecture, the importance of evidence-based design

became clear in the early 2000s following reports on hospital deaths and acquired illnesses (Ulrich, et al., 2008). Stichler and Hamilton (2008) formalised this concept, defining it as a method that conscientiously utilises current best evidence from both research and practice, alongside informed client input, to make crucial design decisions for each project.

Stigsdotter (2015) defines Health Design in Landscape Architecture as the intentional creation of green spaces designed to actively support health processes and lead to enhanced health outcomes. Nonetheless, it is crucial for designers to consider that users with diagnoses are more likely to be vulnerable individuals and may perceive the environment differently from healthy users (Marcus & Barnes, 1999).

Some of the advantages of the EBHDL process model include its user-centred approach, interdisciplinary nature by integrating evidence from various research

and practice disciplines, systematic organisation as evidence is structured according to clear objectives, and transparency as it offers documentation of the reasoning behind design decisions (Stigsdotter and Sidenius, 2020).

The EBHDL process model comprises 4 key steps: Evidence collection, Programming, Design, and Evaluation. For our project, evidence was gathered from scientific journals and interviews with both the target group and experts in health and urban design. Additionally, best practices were gleaned from case studies detailed in Chapter 2.1, Previous Projects. The Programming phase is divided into 3 elements: identifying the elements of loneliness, establishing solutions and positive feelings to tackle these elements, and developing an initial card division proposal to address these criteria. In the Design phase, conceptualisation began by outlining the elements and categories for the cards, followed by creating prototypes

incorporating finalised images and text for the game.

The fourth step encompasses Evaluation, which is initiated by soliciting feedback from professionals regarding the card product. This collaborative process involved input from 8 diverse professionals, facilitating an extensive

iterative analysis aimed at enhancing the game's quality. The subsequent stage entailed engaging the target group or users, a pivotal step conducted with Nordisk Kollegium on May 22nd. This phase marks the moment to test the tool and observe its interaction firsthand.

Detailed discussion on this phase and its outcomes will be provided in Chapter 6.4.

The EBHDL follows an iterative approach meaning that at this stage, the process circles back to the initial step of Evidence collection and begins anew. The phases of the EBHDL, as adapted for our research, are illustrated in greater detail in Figure 3.4.1.

We recognise that this theory also resembles the approach of the Double Diamond theory, used to describe our process earlier. However, EBHDL does not present the iterative process in various phases of the project in such an advanced way as Double Diamond does, therefore we decided to incorporate both of the theories. We integrated the EBHDL model as it embodies traditional health practices, and we do so with the intention of incorporating the perspectives of these individuals into our work, emphasising that our project is based on in-depth research of reliable sources of information. By embracing this approach, we are also dealing with a form of knowledge that might otherwise be met with scepticism by health professionals.

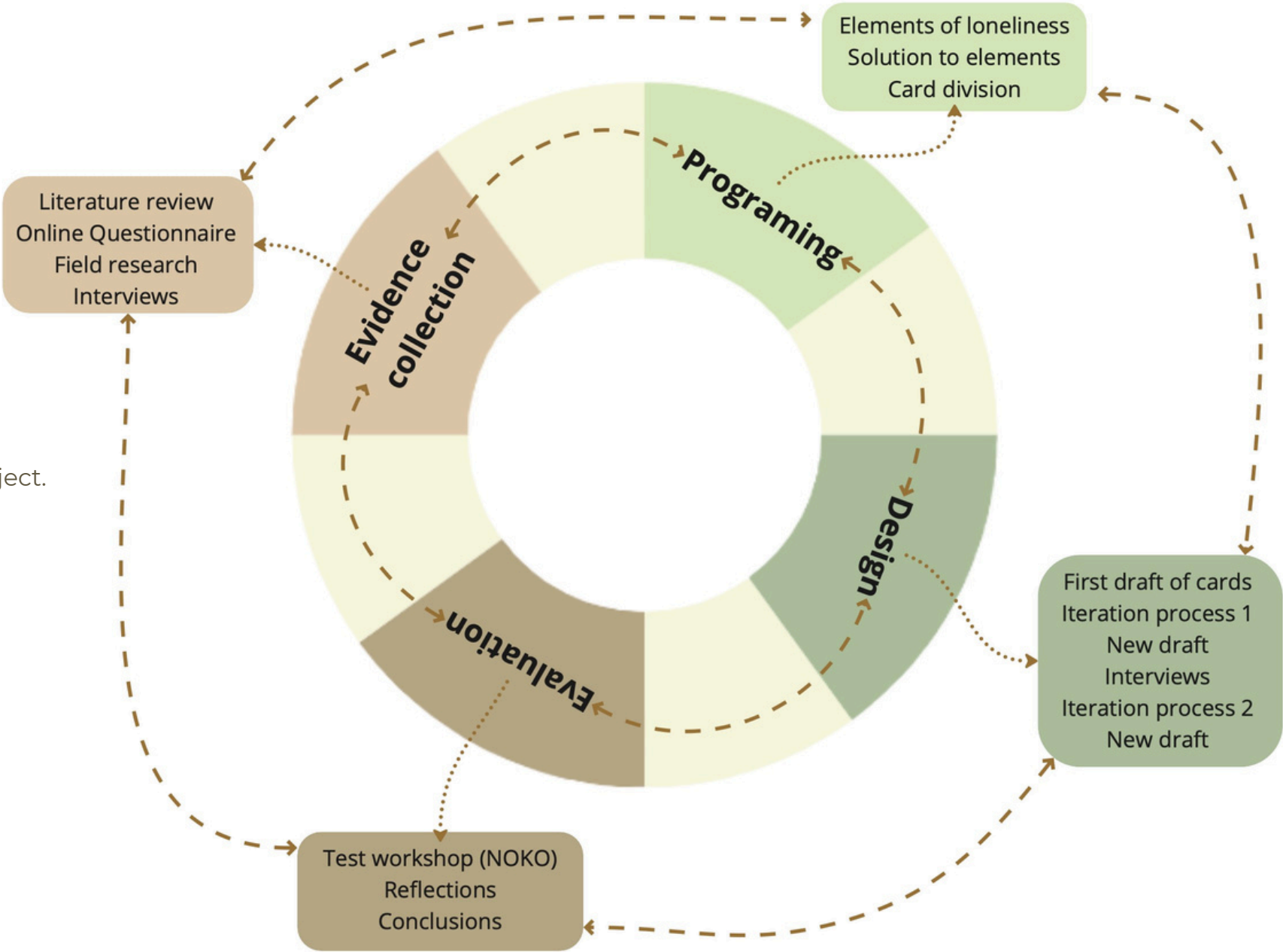


Figure 3.4.1. Four steps of EBHDL in our project.
Source: Own elaboration



4

METHODOLOGY

4.1. Literature research

This chapter focuses on the methodology applied in the project to acquire knowledge. We outline how the knowledge was captured, analysed, and used in our study. The professionals with whom we interacted are presented, as well as the knowledge we acquired from them. Eventually, we talk about our collaboration partner and the places we visited as part of field research.

In conducting our extensive literature research on the topics of overall health, urban design, and loneliness, we decided to rely on multiple search databases such as Scopus, Primo, and Google Scholar. Since the main focus of our project was not clear from the beginning, we elected that using multiple databases would provide us with more information regarding existing research gaps within the scope of health in the urban environment in which we wanted to develop our project.

Our initial search was conducted using multiple combinations of keywords, such as:

„health*” OR „health inequalit*” OR „mental health” AND „urban environment” OR „public spaces” OR „greenery” OR „urban design” OR „urban planning”

to explore existing research and issues addressed.

With this search strategy, we gained around 24,000 relevant articles which were beyond our capabilities to read. We decided to limit our search by choosing the English language as the only language, limiting years of publication to 10 years behind (2014-2024), choosing urban planning, health and design as the only categories to search within, limiting the search to articles and books, and yet, the final search showed more than 1,400 results.

Simultaneously with the literature review, we conducted multiple interviews with professionals to gather their insights and how different health issues are addressed in their projects. During these interviews, some of the professionals mentioned the problem of loneliness and the lack of solutions to it within urban design, and we decided to take a closer look at it and how the city might be related to this issue.

To narrow down the broad search that we started with, we decided to add more keywords to reach more specific findings:

AND „loneliness” OR „lonely” OR „social isolation”

Thanks to incorporating these keywords we found around 30 results that directly or indirectly related to the topic we were searching for from all databases in total. While reviewing the articles, we also came across other references provided by the authors, which concerned the topic of loneliness, health, and urban planning.

4.2. Semi-structured interviews

As part of our research, semi-structured interviews were conducted with professionals in the fields of architecture, urban design, and health, along with representatives from organisations addressing loneliness or ecological issues in Copenhagen.

For each meeting, predetermined questions were prepared and sent to professionals a few days earlier to familiarise themselves with them. It was decided that allowing the conversations to develop during the course would help us to discover more interesting information and draw more inspiration (Ruslin et al., 2022), thus the decision to employ semi-structured interviews. All interviews conducted were audio-recorded, and detailed notes were taken during the meetings. Given the time constraints and the considerable number of interviews, transcription proved impractical. The relevant information gathered will be displayed in the affinity diagram further in Chapter 4.2.1. However, we listened to the recordings while

designing our participatory tool to ensure the effective utilisation of the information gathered.

The diverse selection of organisations and professionals for interviews was justified by the multifaceted nature of the project, which touches on the areas of mental health, physical health, overall well-being of citizens, and the planning of urban environments.

The process of contacting individuals began in February. Seeking inspiration and insights into how professionals incorporate the health of the citizens into the design processes of the urban environment, we managed to interview 7 architects and urban planners. We were able to have a conversation with 3 of them twice and obtain substantive support and feedback during the development process of our project. Their assistance helped us to understand how the conversation and participatory tool we proposed could be utilised by professionals in real-life urban environment design scenarios.

As previously mentioned, we consulted with 2 health professionals to gain a broader understanding of how loneliness significantly impacts health and how best to approach this issue. Additionally, we interviewed an organisation called Ventilen which supports young people experiencing loneliness in Denmark. Through this conversation, we were able to learn about ongoing initiatives in Denmark that align with our project's objectives and how we can support the current strategies addressing loneliness with our actions.

We also successfully engaged with representatives from one of the environmental points in Amager to investigate whether any initiatives or projects aimed at improving the mental and physical health of their residents are being implemented. These two conversations provided us with insight into their current efforts and future plans to improve community health in Amager.

ARCHITECTS AND URBAN PLANNERS	HEALTH PROFESSIONALS	ACADEMICS	MUNICIPAL AND ENVIRONMENTAL ORGANISATIONS	LONELINESS ORGANISATIONS	
Bo Christiansen Architect and founder of Scale Denmark. Focused on Copenhagen's urbanism and its economics. Scale Denmark	Jens Peter Jensen Citizen involvement expert and consultant at the University of Cambridge. Co-founder of RespektRum. RespektRum	Caroline Samson PhD Fellow at Aalborg University, researches urban sustainability, focusing on food, mobility, and housing practices' intersection and impact. MSc in Sustainable Cities. Aalborg University	Anders Christoffer Andersen Project manager and educator. Master's degree in Film Studies, certified in NADA therapy, nature therapy, and outdoor instruction. Miljøpunkt Amager	Julie Manley Vorsaa Volunteer coordinator at Ventilen Denmark, overseeing 22 meeting points across Denmark. Bachelor's degree in Pedagogy from Professionshøjskolen UCC Ventilen	
Jeanette Westergaard Frisk Co-founder of Arki_lab, MAA of Architecture and Urban Design Arki_lab					
Kristen Van Haeren Senior Architect, expert in architectural design, project management, and urban planning Urban Agency					
Sten Sødring MAA of Architecture, Head of Communications and Development Gottlieb Paludan Architects	Bruno Miranda MD, PhD, specializes in neuroscience and neurology research. Junior Researcher and Assistant Professor at the University of Lisbon. Clinical Researcher at the Instituto de Medicina Molecular João Lobo Antunes. University of Lisbon, Instituto de Medicina Molecular João Lobo Antunes	Per Richard Hansen Researcher, consultant, and teacher at AAU Copenhagen, specializes in knowledge-intensive work, organizational change, and sustainable design. Multiple Ph.D. degrees, including one in Management of Knowledge Intensive Work from DTU. Aalborg University	Celeste Elizabeth Arnold leading WeTurn2030.com, Manager of sustainability projects. MAA in Art History, Aesthetics, and Culture. Miljøpunkt Amager		
Sara Wille-Garvin Architect, Head of Urban Development & Mobility Gottlieb Paludan Architects					
Alberto Roncelli Master of Architecture (MArch), LINA Fellow GXN					
Louise Vogel Kielgast MSc in Urban Development Planning Director of Health & Community Gehl - Making Cities for People					

Figure 4.2.1. Overview of the interviews. Source: Own elaboration

From an academic standpoint, we interviewed two professionals from Aalborg University in Copenhagen, whose experience and research aligned with our project's topic. This provided us with valuable substantive insights to our thesis.

Figure 4.2.1 provides a comprehensive overview and details about every professional and organisation we interviewed during our project. Figure 4.2.2 illustrates a timeline of when each meeting occurred throughout our project’s duration.

Despite our great success in the number of people we were able to talk to, we also faced many rejections of requests to talk and collaborate on our project. This group includes around 50 professionals from the fields of health, architecture, and urban planning, together with voluntary organisations related to the health of Copenhagen residents, as well as schools and dormitories that did directly reject our requests for collaboration or did not respond to our attempts to contact them.

BO CHRISTIANSEN: founder of Scale Denmark (2004), has been an active professional in Copenhagen since 1986. He holds a membership of the Danish Architectural Association AA and Guiding Architects. Additionally, he serves as an Assistant Professor of Architecture at DIS - Study Abroad in Scandinavia. Bo pursued his architectural studies at the Royal Danish Academy of Fine Arts and the University of Washington in Seattle, USA.

JEANETTE WESTERGAARD FRISK: co-founder of Arki_lab, holds a Master of Architecture from The Royal Danish Academy of Fine Arts (1999-2005). With a focus on urban space and building design, development strategies, and management, she brings extensive experience to her work. Collaborating with firms such as White Architects, Arkitema, and Witraz, Jeanette has led prestigious projects and competitions. Beyond her professional endeavours, Jeanette shares her expertise through teaching and workshops, demonstrating proficiency in involvement processes, dialogue facilitation, and conflict resolution.

KRISTEN VAN HAEREN: a graduate of the University of Amsterdam with a Bachelor of Architecture, is currently a Senior Architect at Urban Agency. With expertise in architectural design, project management, and urban planning, she leads design teams and oversees projects from inception to completion. Kristen's commitment to innovative and sustainable design has made her a valuable asset to Urban Agency, where she continues to contribute to impactful projects that enhance communities.

STEN SØDRING: an accomplished architect, who graduated with a Master's degree in Architecture from The Royal Danish Academy of Fine Arts. With over 2 decades of experience, he currently serves as the Head of Communications and Development at Gottlieb Paludan Architects. Sten's career includes roles such as Senior Project Manager & Communications Manager, where he managed projects and led communication initiatives. Dedicated to shaping better cities and societies, his expertise lies in architecture of the highest quality.

SARA WILLE-GARVIN: Head of Urban Development & Mobility and an Architect at Gottlieb Paludan Architects, with over a decade of experience in the field. She specialises in urban planning, architectural design, and mobility solutions. Sara holds a Master's degree in Architecture from KADK - Kunstakademiets Arkitektskole and a Bachelor's degree from Canterbury School of Architecture. Her expertise includes project teaching, semester planning, and architectural consultancy.

ALBERTO RONCELLI: an Architect and Circular Design Specialist at GXN, channels his expertise towards integrating circular design principles into architectural projects. His commitment to innovation and sustainability is further underscored by his role as a LINA Fellow at LINA European Architecture Platform. Alberto's academic background includes a Master of Architecture (MArch) from Politecnico di Milano (2018-2020).

LOUISE VOGEL KIELGAST: passionate about city-making and urban cultures. As the Director of Health & Community at Gehl - Making Cities for People, she focuses on bridging strategic planning with a people-centric perspective to enhance urban environments. Louise holds a Master of Science in Urban Development Planning from UCL, (2006). Her academic journey also includes a Master in Anthropology from the University of Copenhagen, (2003). With a strong interdisciplinary background, Louise has conducted fieldwork in places like Mongolia and Canada, exploring topics such as urban identity and community sense.

JENS PETER JENSEN: has extensive experience with various citizen involvement initiatives in Denmark and internationally. Currently, he is associated with the University of Cambridge as a consultant. His previous roles include serving as the director of Aarhus Tech and project director of MidtLab in the Central Jutland Region. Jensen's diverse background spans psychiatry, employment, and management. He is also a co-founder of

RespektRum, a socially and economically holistic flexible job initiative.

BRUNO MIRANDA: earned his Medical degree in 2006 from the University of Lisbon and a PhD in Neuroscience in 2016 from University College London, focusing on reinforcement learning strategies. He became a Specialist in Neurology in 2019 with extensive training in research. Currently, he is a Junior Researcher and Assistant Professor at the University of Lisbon and a Clinical Researcher at the Instituto de Medicina Molecular João Lobo Antunes. His research examines how human goal-directed behaviour and decision-making models can explain neuropsychiatric manifestations, using methods like behavioural analysis, computational modelling, and neuroimaging.

JULIE MANLEY VORSAA: a Volunteer Coordinator at Ventilen Danmark, overseeing 22 meeting points across Denmark, all run by approximately 250 volunteers. She ensures volunteers are educated on loneliness and its prevention. Julie has been with Ventilen Danmark since May 2013 and holds

a Bachelor's degree in Pedagogy from Professionshøjskolen UCC.

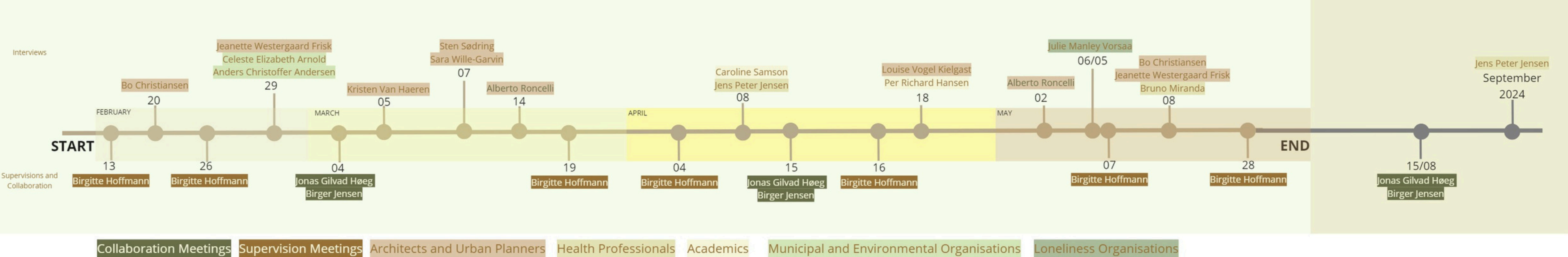
CELESTE ELIZABETH ARNOLD: a deeply dedicated individual to sustainability since 2003. Through WeTurn2030.com, she gathers expert knowledge to guide individuals interested in sustainability, primarily focusing on the UN's Sustainable Development Goals. Celeste specialises in designing frameworks, curating content, and hosting discussions. Currently, she serves as a Project Manager at Miljøpunkt Amager, overseeing sustainability initiatives. Celeste holds a Master's degree in Art History, Aesthetics, and Culture from Aarhus University.

ANDERS CHRISTOFFER ANDERSEN: dedicated individual to bridging people with nature, serving as a project manager and educator. He leads initiatives to make Nature Park Amager more accessible, focusing on local communities. Anders holds a Master's degree in Film Studies from Aarhus University and certifications in NADA therapy and nature therapy. He is also a certified outdoor instructor through DGI.

CAROLINE SAMSON: a PhD Fellow at Aalborg University, researching the intersection of food, mobility, and housing practices to support a green transition in urban living. Her work examines how these practices interrelate and influence city organisation, with a focus on gender, mobility, and urban planning. Caroline emphasises the importance of understanding cultural, social, and material contexts to comprehend how practices unfold and how urban spaces impact behaviour. She holds a Master's degree in Sustainable Cities and a Bachelor's degree in Geography and Geoscience from the University of Copenhagen.

PER RICHARD HANSEN: a researcher, consultant, and teacher at Aalborg University Copenhagen, specialising in knowledge-intensive work, organisational change, and sustainable design. With 3 decades of experience, he holds multiple PhD degrees, including one in Management of Knowledge Intensive Work from Denmark Technical University. Per's dedication to teaching has earned him several “Teacher of the Year” awards.

Figure 4.2.2. Timeline of the meetings during the project. Source: Own elaboration



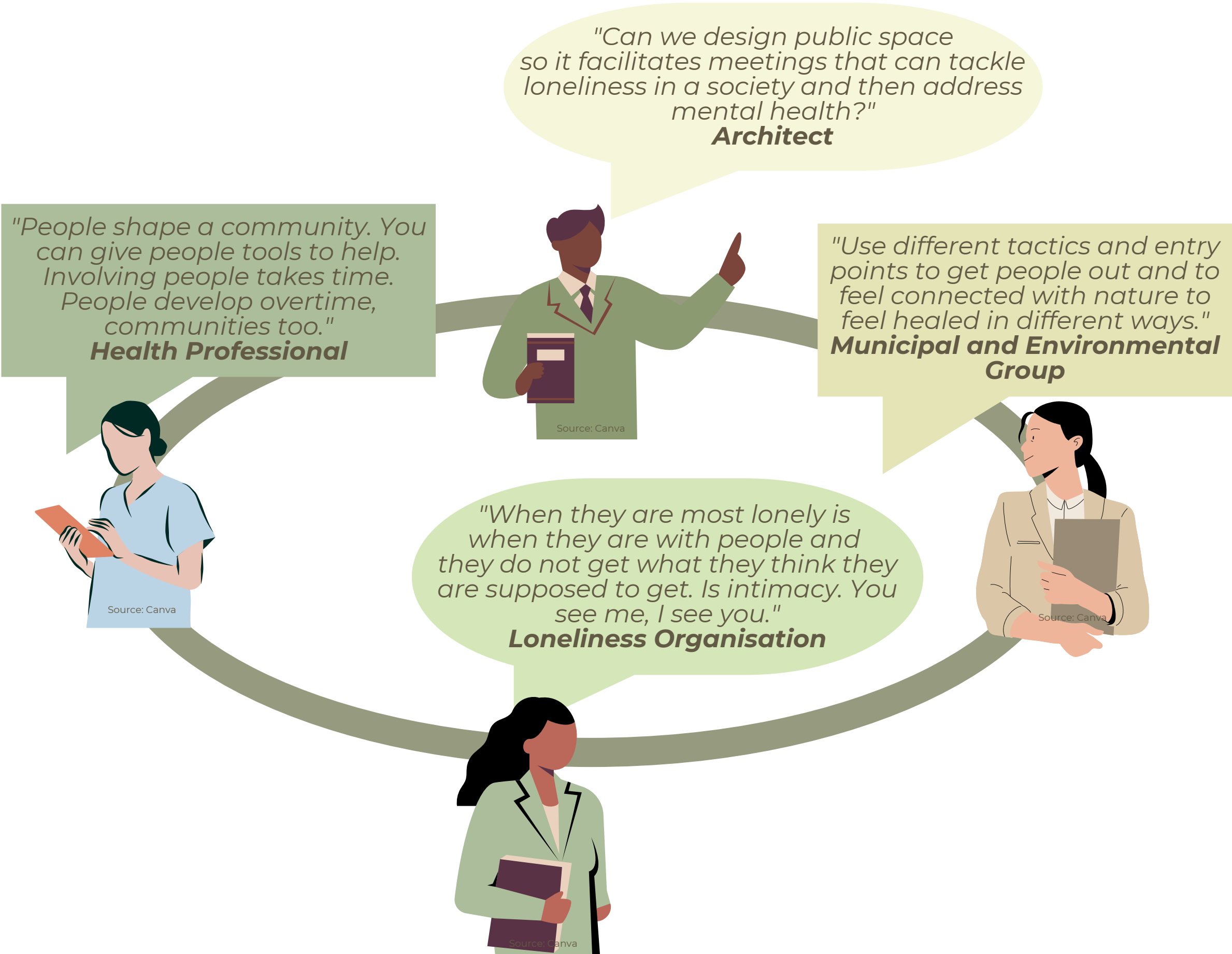
4.2.1. Affinity Diagram

To understand and analyse the information gathered from interviews with professionals, we made an Affinity Diagram (see Figure 4.2.1.1) of relevant quotes from these interviews. From this, we identified 6 recurring themes: Connect, Accessibility/Belonging, Understanding Performativity, Nature as a Health Tool, Creating a Framework or Design Tool with Guidelines, and Collecting Data in the Design Process. In the affinity diagram, we observe that the most frequently mentioned categories are "Connect" and "Understanding Performativity".

The "Connect" category was highlighted by all 5 groups of professionals included in our interview process.

Architects and Academics emphasised designing spaces that facilitate and encourage social interactions.

Municipal and Environmental Groups discussed the importance of urban green spaces in fostering connections, both among people and with nature.



Health Professionals highlighted that a community's essence is shaped by its members, underscoring the importance of interpersonal connections.

Loneliness Organisations focused on the quality of these connections, noting that intimacy plays a crucial role in alleviating loneliness.

An interesting category to observe is "Understanding Performativity", which was also mentioned by 4 professional groups; it was mentioned in a total of 14 quotes. This category reflects an extensive interest in understanding how people actively engage with and shape public spaces. Despite using different terminologies and perspectives based on their expertise, the fundamental goal is the same: to gain insights into human behaviour to inform and enhance design practices. Each group expressed a desire to better comprehend user interactions within spaces to create more effective, user-centred designs.

Architects talked about studying the social interactions and designing with the users to

get better understanding of their needs and in this sense it is also helping to improve accessibility.

Health Professionals emphasised the importance of analysing the target group and engaging them in discussions. They advocate not only for direct communication with individuals but also for fostering dialogue among them, ensuring that everyone feels their opinions are valued.

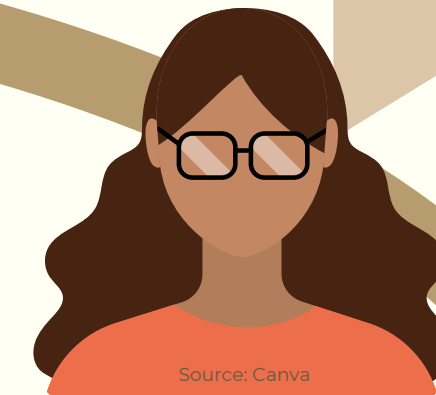
Academics highlighted the significant influence of cultural and social factors on how people use and behave in urban environments.

The Loneliness Organisation emphasised a crucial point: it is not just about the elements placed in the urban environment but about the various activities people engage in within those spaces. They stressed that these activities can only be effective when people are willing and open to perform with them.

"Focus on the process and design WITH, you get a better and qualified understanding of who you are designing for and that in itself makes it accessible."
Architect



"We need to understand culture, social aspects, materials, who lives here, who does not live here and this matter or how we behave in this context."
Academic



"Find who the people are, talk to them, make them talk to each other, whatever they say will mean something, you need to make them feel that."
Health Professional



"Space is only what you put into it and the idea of different activities is hard if there are no people filling the space, you can only make things happen if people are willing to help to use them."
Loneliness Organisation



"Framing, curating and hosting, altering behavior by asking questions that make people think, make people work"
Municipal and Environmental Group



CONNECT	ACCESSIBILITY / BELONGING	UNDERSTAND PERFORMATIVITY	NATURE AS A HEALTH TOOL	FRAMEWORK / TOOL	DATA
"Can we design public space so it facilitates meeting that can tackle loneliness in a society and then address mental health? "	"Having awareness that when we design everyone should have access to it"	"Focus on the process and design WITH, you get a beter and qualified understanding of who you are designing for and that in itself make it accesible "	" Nature becomes a tool that you can use very succesfully "	"How to tackle mental health is very broad, we use a framework , look at certifications, rules, laws, most recent studies, unique stories were you try to elevate the unicity of the project"	"The use of data and knowledge would be useful more to contribute to efforts, to assess existing projects, to get to know more about people's behaviour "
"People focus and focus on our process building community and that is the value we talk about in first hand and the design is a byproduct"	"Good public space is flexible people feel they can inhabit it... they have some kind of influence... makes it more democratic ... makes people feel they belong "	"Having unprogrammed spaces , that something might occur"	"People have a longing for more nature, more green, more color ... it says something about our state of mind as a society, getting back how it used to be"	"Be specific with user groups, develop tools to try to make it unique, sensorial maping, behavioral related tools to analyse a place and get some principles "	"We need to make an effort in understand , things are subjective, there is an architecture common about species and we are worry about of standard deviation of how people feel, we do find some elements that we can extract , they are prompt to social interactions, behavioral analysiss"
"Mental Health is addressed true community and social activities "	" Designing for everyday life, for everyday people , rather than fancy parts"	"The use of data and knowledge would be useful more to contribute to efforts, to assess existing projects, to get to know more about people's behaviour "	"High priority creating greener streets and community spaces to interact with the neighbors, minimizes cars and gives space back to the people."	" Design Manual that starts to outline rules how to create quality spaces"	"There is a lot of data that is being captured , there are a lot of tools that we can provide for research, now is very vague and not supported decisions."
"How to connect people , how to provide connections on many levels?"	" Safety and comfort is always an important aspect"	"How people move through the city, how can we study social interaction? how can we talk about diversity? "	"Having green spaces, pocket parks, meet mobility needs, microclima and quality spaces for people "	" Tool, guide, method that we can use to measure the inclusivity "	"Collect data of the brain activity , nature within the urban environment settings, crowdedness"
"Create spaces to make people connect with each other"	"Making space for all kinds of people, with or without money, is important. That might also influence the sense of belonging , if there is the space for you"	"Find who the people are, talk to them, make them talk to each other, whatever they say will mean something , you need to make them feel that"	"Using nature as a way of therapy "	" Guidelines for designing a city"	"Knowledge sharing through workshops, events, movie screenings. Using knowledge from experts "
"Urban spaces is somewhere where people will go and hopefully meet other people "	" Urban belonging , looking at different layers on the sense of belonging, strong correlation between it and good mental health in overall. How can we start to increase that sense of belonging?"	" Talk to people , not only urban designers, social workers, in order to know about specific areas, habits of these people, what they do and don't, who live there that we have not seen before"	"Use walks in nature as a meaning to get connected , to get the mind going, use mindfulness, food preparation, visiting animals"	"How do people make a good living where they are and how can we support that?"	"Framing, curating and hosting, altering behavior by asking questions that make people think, make people work "
" Connect, empathise and de-stigmatise "	" Democracy aspect, look at who has been left behind"	"Main consumption areas and how they interrelate with one another, How can we make use of this kind of knowledge? "	"Being outside, in a safe environment, in a safe group is helpfull for mental health"		
"You go somewhere to connect , or you go somewhere to feel connected , or by being with people who feel connected. "	"How do you prevent social isolation? How do you prevent mental diseases? How do you prevent loneliness? Maybe it should be approached from how to prevent it and not how to solve it "	"The places where practices unfold have a big impact"	"Getting sunlight in the morning is beneficial, we use morning walks"		
"Use diferent tactics and entry points to get people out and to feel connected with nature to feel healed in diferent ways"		"We need to understand culture, social aspects, materials, who lives here, who does not live here and this matter or how we behave in this context"	"We use every trick in the book to get people out and get them connected to themselfe and feel safe , they are very interconnected and dependent. These activities help to make you feel conected to people and in consequence hopefully aleviate feelings of loneliness "		
"Most people ask they want to be with other people "		"We need to understand places to understand practices . The places impact a lot on how we study the area"	"At Ventilen they are going out using the parks for activities also for walks, eating, inviting the local community to participate"		
"Their main job is to connect people of the city to the bigger institutions like municipalities "		"The meaning and the matter that we put to places"			
"A lot of young people have been lonely for a long time. A lot of them have difficulty with being social. They lack small talk. Training spaces for social muscle "		"Space is only what you put into it and the idea of different activities is hard if there are no people filling the space, you can only make things happen if people are willing to help to use them "			
"When they are most lonely is when they are with people and they don't get what they think they are supposed to get. Is the intimacy . You see me, I see you"		"Danish culture , respect of personal space and in some parts is good, but it also hinders a lot of connections "			
"People shape a community . You can give people tools to help. Involving people takes time. People develop overtime, communities too"					

Overall, we gained valuable insights from these interviews with various professionals. Some insights were derived directly from their words and reflections on their own concerns, while others emerged from our analysis of their responses. A significant understanding we obtained was the notable lack of interdisciplinary collaboration, particularly between professionals and citizens.

Figure 4.2.1.1. Affinity Diagram of relevant quotes from professionals gathered during interviews. Source: Own elaboration

4.3. The Collaboration and supervisions

The Østerbro Local Committee (Østerbro Lokaludvalg) consists of 25 volunteers who work with the residents of Østerbro and Nordhavn, and with the municipality of Copenhagen, to create the best possible environment for their local residents (Østerbro Lokaludvalg, n.d.). Their primary role is to act as a "bridge" between local residents and the municipality while developing the two districts of Østerbro and Nordhavn. The Local Committee consistently considers the local knowledge and preferences of residents, ensuring that the information is later transferred to the municipality and taken into account during the implementation of various projects.

We decided to collaborate with the Local Committee on the project called "The Good Square" which focuses on the design of public squares in Østerbro and Nordhavn. The Local Committee aimed to create a framework or a set of guidelines that would serve as a base for creating future public spaces for residents.

We were intrigued by the project and started the cooperation, but opted for a slightly different approach than the conventional method of establishing a single set of rules for every situation. As we know, "one solution will not fit all", so rather than providing a ready-made set of guidelines or a framework, we decided to provide a tool that will allow the Local Committee to gather information from a given group of residents and then use the data to compile a list of elements that are needed to create each "good square".

In the case of our thesis project, we also intended to connect it with the issue of health and loneliness of residents, especially young adults, ensuring the project transcended mere aesthetics to have a deeper impact. Our collaborators agreed, pointing out that it could be a very interesting set of information providing valuable insights for future initiatives. Consequently, we decided to integrate these two topics and proceed with the project development.

Our entire project process was supervised by Birgitte Hoffmann, an Associate Professor from Aalborg University in Copenhagen who is an expert in the field of sustainable urban development. In total, during the entire process of working on the thesis project, we succeeded in meeting 7 times to share the current state of our work using multiple boundary objects, as well as to obtain valuable feedback and inspiration for the further development of our work.

4.4. Online Questionnaire. Affinity diagram

We conducted an online questionnaire as an initial means of engaging with citizens in Copenhagen. This tool enabled us to gain insight into their emotions, experiences, and utilisation patterns concerning public spaces within the city. The questionnaire, comprising 10 questions aimed at collecting empirical data, included several with open-ended response options. Our objective was to gain preliminary insights into the perceptions of Copenhagen's residents regarding urban space and their ideas for potential enhancements in their area of residence. While we received 41 responses to the questionnaire, it is essential to note that this represents only a small fraction of Copenhagen's total population of around 600,000 inhabitants. Despite the small percentage, these responses still offer valuable insights into the sentiments and preferences of a portion of the city's residents, guiding us in our exploration of urban space enhancements.

Some of the closed-ended questions we asked were: *How often do you spend time outside?* (Figure 4.4.1), with more than 50% of people spending time outside every day. The next one was *What is the purpose of you spending time outside?* (Figure 4.4.2), with 31 people answering that the purpose was to meet people.

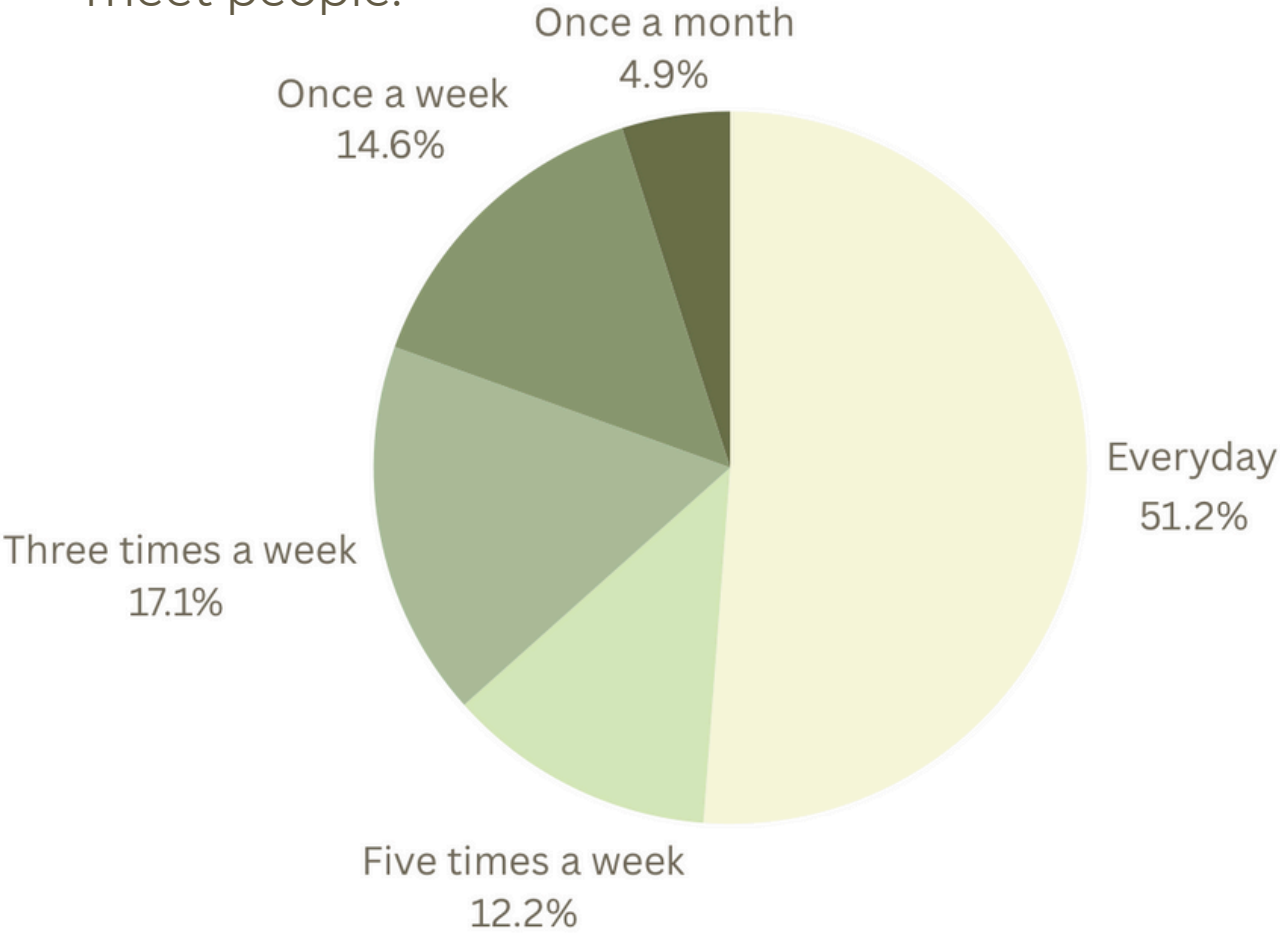


Figure 4.4.1. Answers to a question *How often do you spend time outside?* Source: Own Elaboration

Lastly, *What could make you spend more time outside in your neighbourhood?* (Figure 4.4.3), where more than 20 people answered that more greenery and outdoor seating would help them with that. Thanks to these questions, we gained a general insight into people's patterns and how important urban spaces are for them in their everyday lives. To analyse the empirical data obtained from open questions through this method, we created an affinity diagram grouping the responses into 8 categories that were most frequently mentioned by citizens in Copenhagen (see Figure 4.4.4). The most important and recurring aspects described by people as their dream outdoor spaces were related to green spaces and nearby amenities. This information provided valuable insights for our game preparation, especially in terms of chosen categories of urban environment elements.

What is the purpose of you spending time outside?

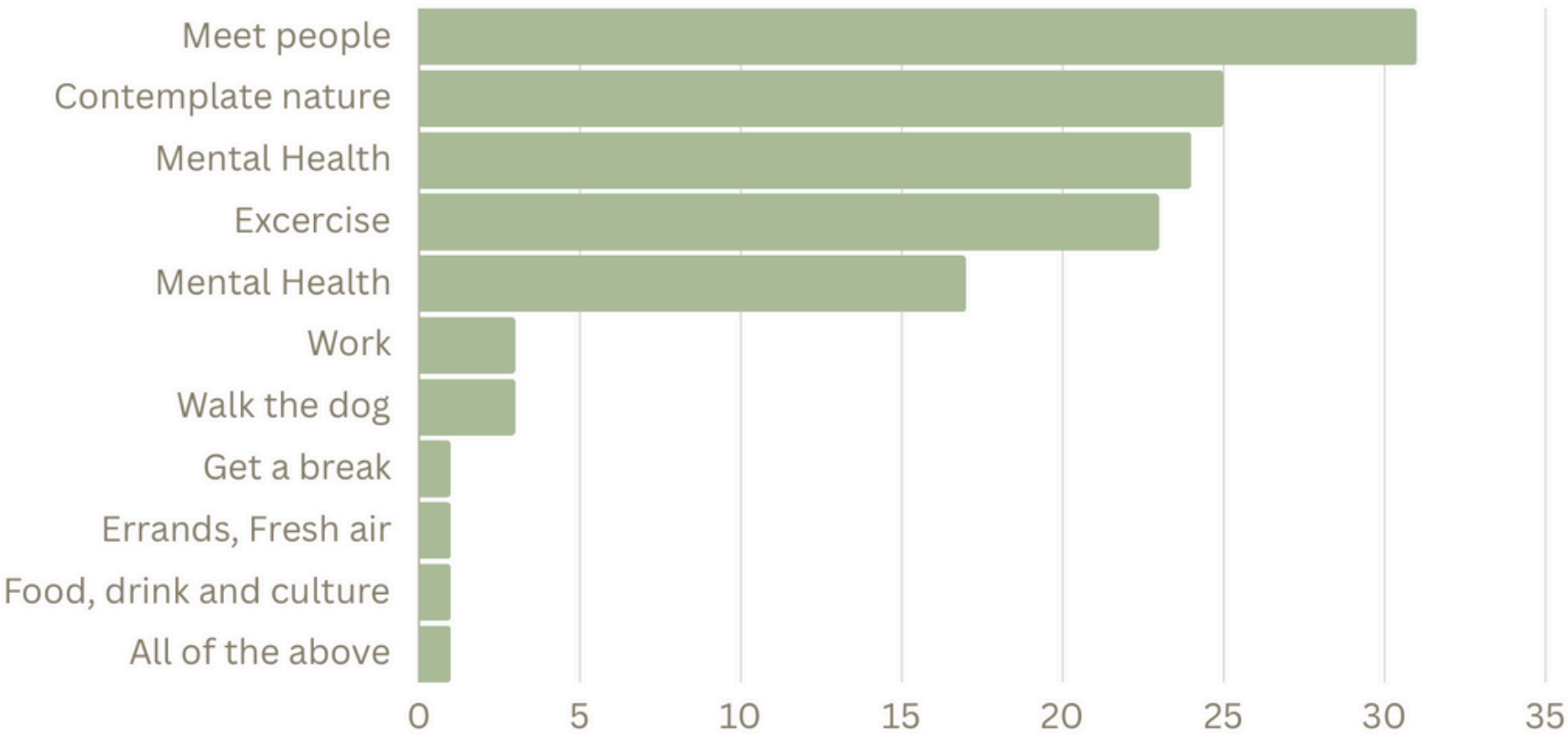


Figure 4.4.2. Answers to a question *What is the purpose of you spending time outside?*
Source: Own elaboration

What could make you spend more time outside in your neighbourhood?

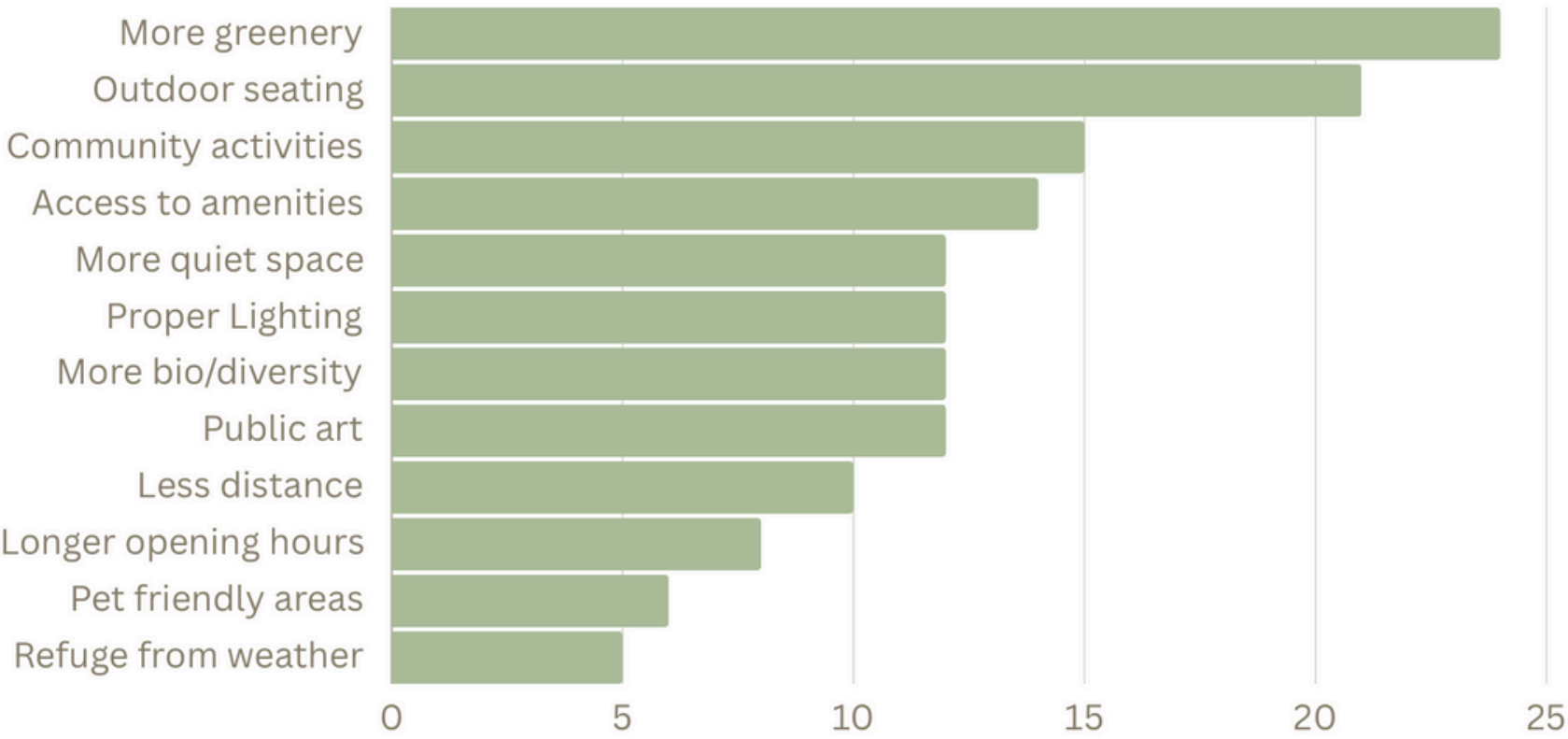
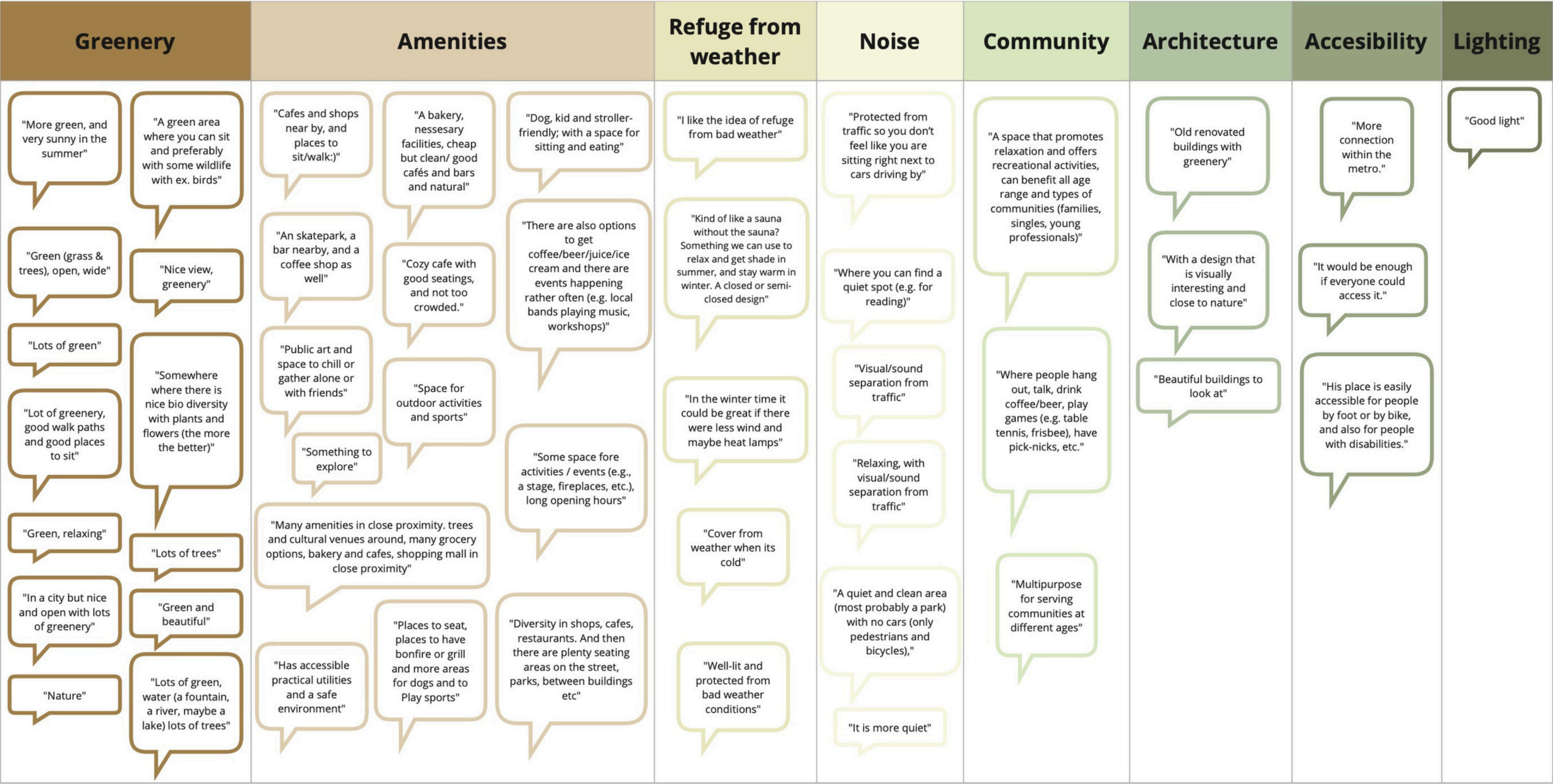


Figure 4.4.3. Answers to a question *What could make you spend more time outside in your neighbourhood?*
Source: Own elaboration

Figure 4.4.4. Affinity diagram of answers from the online questionnaire. Source: Own Elaboration



4.5. Field research

We conducted field trips in Østerbro, our designated study areas, to observe examples of "good squares" provided by our collaborator, the Østerbro Local Committee. These excursions allowed us to contextualise our findings and identify specific challenges and opportunities within these localities. During these field trips, we examined various urban features present in the squares, including greenery and landscaping, infrastructure, available amenities, and square furniture. Additionally, we analysed usage patterns by visiting at different times of the week and day. We also assessed noise pollution patterns in each square. In total, we visited 7 squares two times each, once on a Sunday at 13:00 and once on a Thursday at 10:00, both in the month of March. The first square we visited was Sankt Kjelds Plads. It was characterised by its plant diversity and a very natural appearance, resembling a wild park rather than a designed one (see Picture 4.5.1 and 4.5.2).



Picture 4.5.1. Diverse greenery of the Sankt Kjelds Plads.
Source: Own elaboration

Several cafés in the surroundings attracted many residents on both days of our visit, but we saw only a few individuals in the park itself. We are aware that it might have been related to the weather, hours, or days that we visited the given square. The most significant drawback was the noise pollution caused by the roundabout in the centre of the place. The next square we explored was Tåsinge Plads, situated approximately within 5 minutes walking distance from the Sankt Kjelds Plads. It consisted of the most extensive array of amenities such as cafes,



Picture 4.5.2. Diverse greenery of the Sankt Kjelds Plads.
Source: Own elaboration

diverse infrastructure, and urban furniture among all the squares we visited in Østerbro (see Picture 4.5.3, 4.5.4, and 4.5.5). Compared to other squares, this one also had the most people who used its facilities during our visit. Noise pollution was relatively low. An interesting addition to the park was the rainwater management project, a part of Copenhagen's city initiative to adapt to climate change, explained in detail on the information board located in the square.



Picture 4.5.3. Elements of the Tasinge Plads. Source: Own elaboration



Picture 4.5.4. Elements of the Tasinge Plads. Source: Own elaboration

Gunnar Nu Hansens Plads was the third square visited by us, and by far, the least developed one in terms of being a „good square”.

It lacked greenery, urban furniture and human-centred infrastructure (see Pictures 4.5.6 and 4.5.7). The square is placed along a bustling street, mostly paved with concrete and decorated with solitary benches, including a few trees and shrubs growing from a nearby café and flower shop. It serves more as a transition point, where individuals move from one place, such as a nearby shopping centre, onwards to other parts of the city, merging into the flow of traffic along Østerbrogade, rather than a destination



Picture 4.5.5. Elements of the Tasinge Plads. Source: Own elaboration



Picture 4.5.6. Elements of Gunnar Nu Hansens Plads.
Source: Own elaboration

for social gatherings or a brief stop from the fast pace of life.

The last 4 squares we explored were designated as Bopa Plads, Melchiors Plads, Sankt Jakobs Plads, and Victor Borges Plads. They shared a strong resemblance in structure, nestled within a compact space surrounded by residential buildings. Each square consisted of urban furniture like benches and tables (see Picture 4.5.8 and 4.5.9), close-by amenities and essential facilities such as toilets (see Picture 4.5.10) and drinking fountains.



Picture 4.5.7. Elements of Gunnar Nu Hansens Plads.
Source: Own elaboration



Picture 4.5.9. Benches and tables of the Melchior Plads.
Source: Own elaboration

The presence of greenery influenced a sense of cosiness, offering a retreat from the hustle and bustle of city life (see Picture 4.5.11 and 4.5.12). Various artistic and informative features lent individual character to each square (see Picture 4.5.13, 4.5.14, and 4.5.15).



Picture 4.5.11. Greenery of Bopa Plads. Source: Own elaboration



Picture 4.5.8. Benches of the Sankt Jakobs Plads.
Source: Own elaboration



Picture 4.5.10. Toilet of the Melchior Plads. Source: Own elaboration



Picture 4.5.12. Greenery of Bopa Plads. Source: Own elaboration



Picture 4.5.13. Artistic element of Melchior's Plads.
Source: Own elaboration

Despite all these attributes, we noted a significant lack of visitors, particularly among young adults, stimulating reflection on what might be lacking to attract people experiencing the feeling of loneliness. We are aware that our observations and conclusions might be influenced by the days and hours of visits we choose, as well as the season, which, despite the lack of rainy weather on both days of visits, did not result in an increase in the number of people in the squares. This has prompted reflection on the improvements that need to be made to public spaces to serve as an effective antidote to loneliness also beyond the summer months.

After concluding both field researches, we proceeded to map all of the elements of each square in Miro, an online workspace, grouping them to gain a comprehensive understanding of the level of development of each space. It allowed us to identify the well-developed “good squares”, as well as those

who require further interventions despite their existing status. Figure 4.5.1 shows the mapped elements of each square in Miro. Furthermore, through the process of mapping these elements, we obtained inspiration for our tool by identifying essential components to be incorporated.



Picture 4.5.14. Information point of Bopa Plads. Source: Own elaboration



Picture 4.5.15. Artistic element of Victor Borges Plads.
Source: Own elaboration

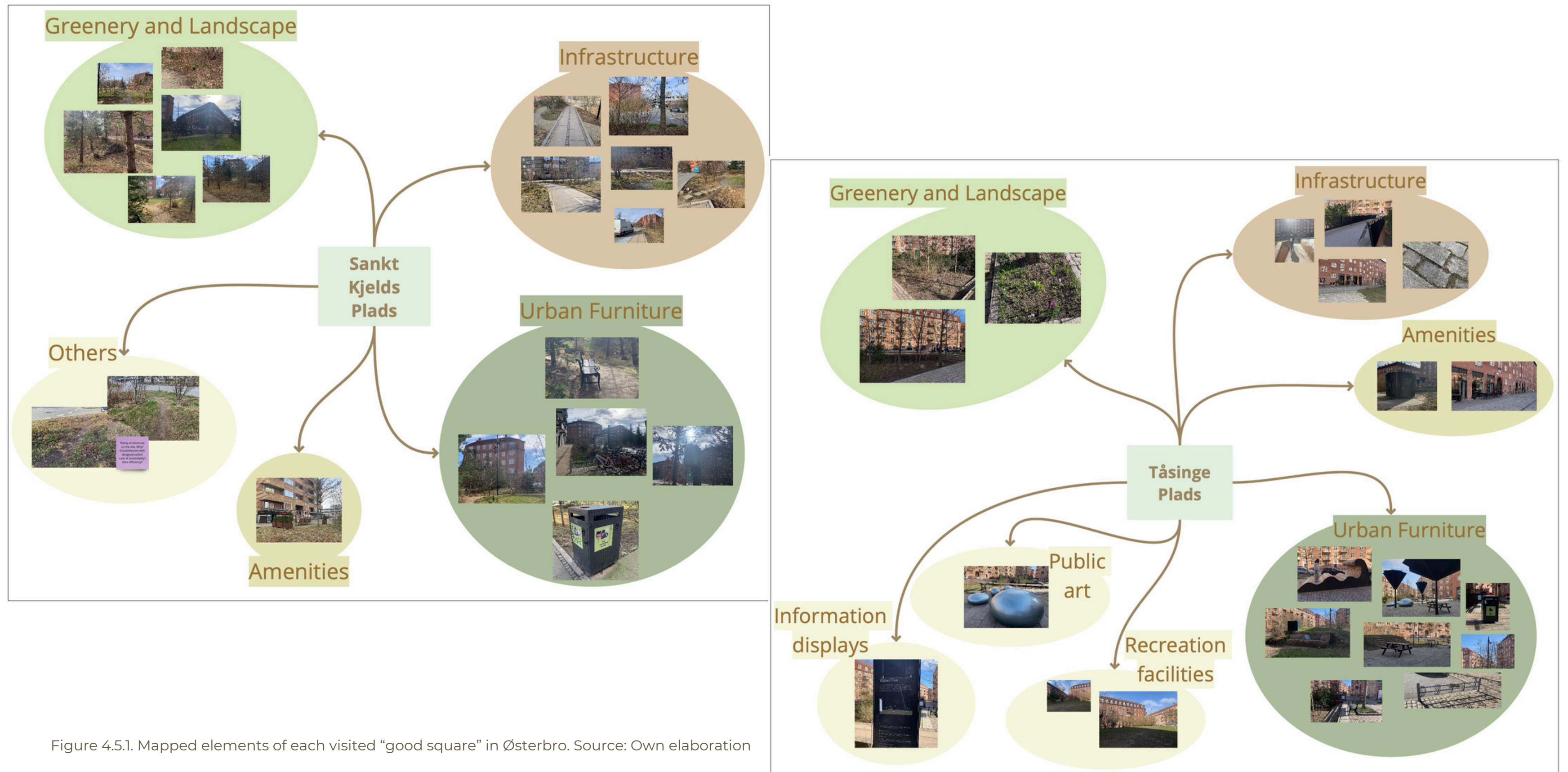


Figure 4.5.1. Mapped elements of each visited “good square” in Østerbro. Source: Own elaboration

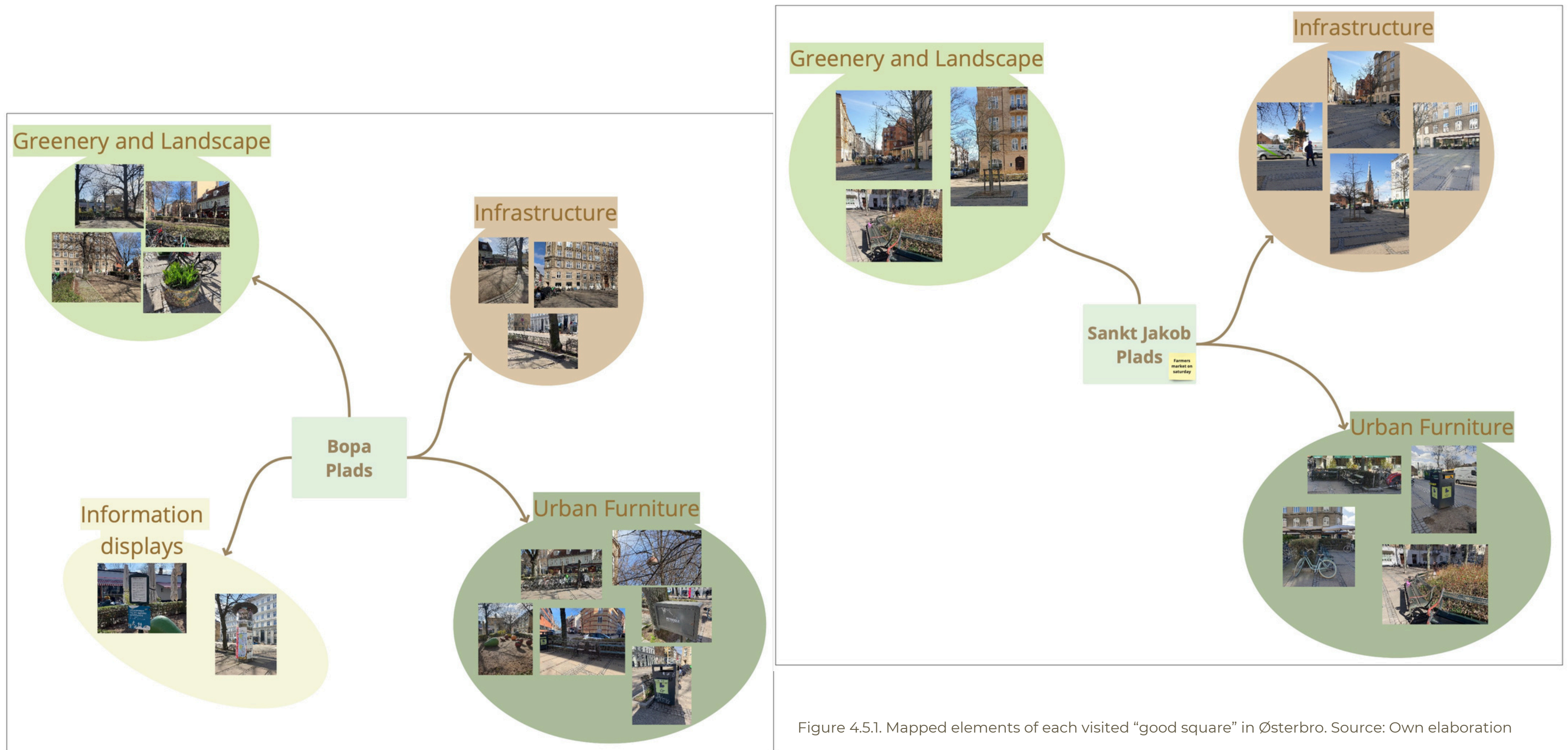


Figure 4.5.1. Mapped elements of each visited "good square" in Østerbro. Source: Own elaboration

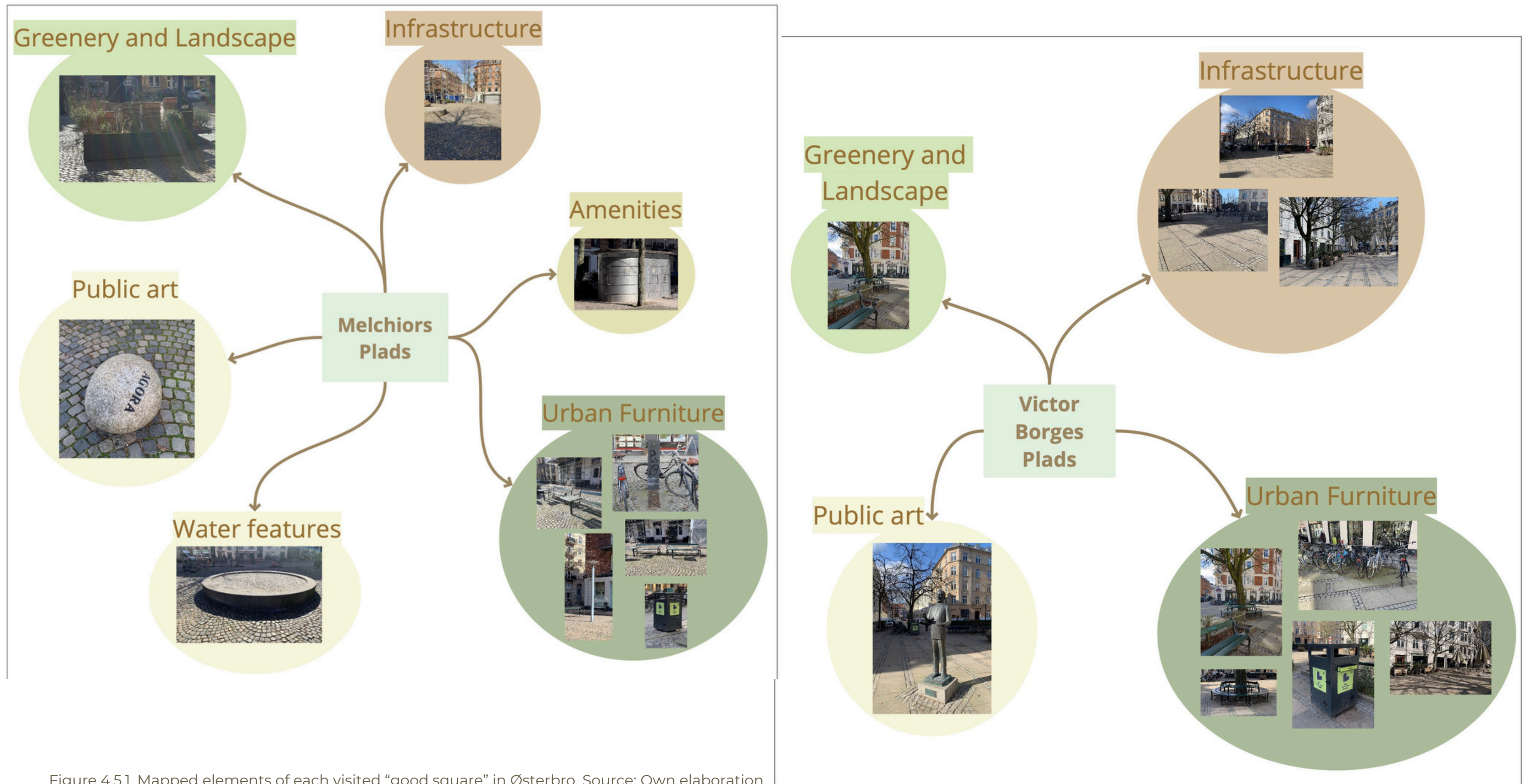


Figure 4.5.1. Mapped elements of each visited “good square” in Østerbro. Source: Own elaboration

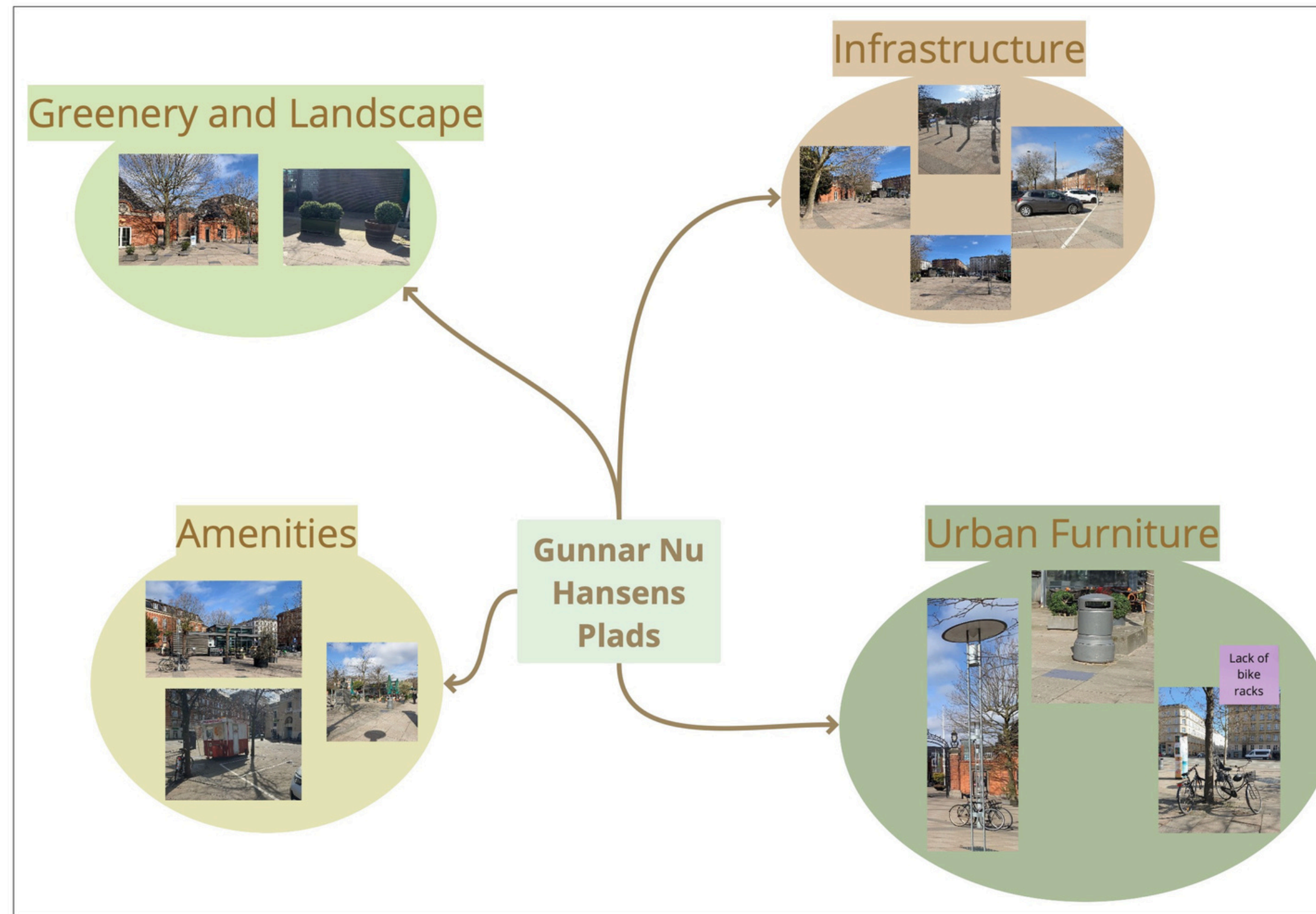


Figure 4.5.1. Mapped elements of each visited "good square" in Østerbro. Source: Own elaboration

4.6. Design games

To efficiently engage young adults in discussing the challenging and stigmatised topic of loneliness and how the urban environment influences their experiences, we chose to employ design games as a method. By deciding on this method, we aimed to open conversations and transform serious topics into more casual discussions, help create a more pleasant atmosphere around them, and hopefully alleviate the fear of speaking about feeling lonely.

We decided to draw inspiration from Brandt et al. (2008) definition of a participatory design game and base our tool on the following 4 factors:

IT GATHERS A GROUP OF PLAYERS AROUND AN ACTIVITY GUIDED BY SIMPLE RULES, SUPPORTED BY PRE-DEFINED GAMING MATERIALS

THE MATERIALS POINT TO EXISTING SITUATIONS AND FUTURE POSSIBILITIES

IT EXPLORES NEW CONFIGURATIONS OF THE GAME MATERIALS, AS WELL AS THE PRESENT AND FUTURE PRACTICES THESE MATERIALS POINT TO

AT THE END, PLAYERS PRESENT THE POSSIBLE DESIGN OUTCOMES

We recognise that Brandt et al. propose an additional factor for a participatory design game which involves playing the game in a temporary spatial setting often detached from players’ everyday context. However, taking into consideration the sensitive nature of the topic of loneliness, we chose not to include that aspect in our game, and test it in a familiar environment for the players. With this approach, we expect to positively impact the players’ well-being during the game session.

The information we obtained thanks to these methods described above served as a basis for us to set the course of action for prototyping our game. The complete process is detailed in the following chapter.

5 DESIGN OUTCOME



This chapter focuses on describing the complex and iterative process of prototyping our game, planning workshops where the game will be tested, and explaining how to play the game we designed.

5.1. Prototyping the game

Drawing inspiration from Brandt et al. (2008) and their definition of a participatory design game, we created a game to involve a diverse group of players in individual and collaborative activities. Our goal for the use of the tool is to foster conversations about loneliness in urban spaces, aiming to destigmatize it and empower individuals to discuss their experiences openly. According to Carlile (2002), a boundary object is the most effective when allowing people to voice their differences and learn about them. Our game, when serving as a boundary object, should facilitate these processes, encouraging an open dialogue. Additionally, we seek to gather insights into the relationship between loneliness and urban public areas, offering potential solutions for navigating loneliness while engaging with the city. Boundary objects facilitate knowledge sharing across social and knowledge boundaries of people (Star, 1989). Therefore, the tool is expected to also help to

share the knowledge gathered on the topic of loneliness and utilise it in a real-life urban environment solution. Our innovative approach challenges stigmatised perceptions by linking loneliness to urban spaces and introduces a new method for addressing the issue.

According to EBHDL theory, to ensure good use of space, decisions must be based on reliable information from trustworthy sources to ensure transparency of choices, especially when it comes to design for health (Stigsdotter and Sidenius, 2020; Ulrich, et al., 2008). Our game design process began with a deep exploration of loneliness' multifaceted aspects, drawing insights from literature reviews. The most common elements of loneliness that we identified in the literature were emotional distress (Shanahan, et al., 2019; Erzen & Çikrikci, 2018; Klonsky, 2008; Lazuras et al., n.d.), sense of rejection (Restepo et al., 2023; Saricam et al., 2012), and lack of meaningful connections

(Astell-Burt et al., 2021; Ji, 2023; Kleeman et al., 2023; Luhmann et al., 2022). Therefore, we decided to design our game around these 3 elements. Building upon this, we formulated potential solutions rooted in design principles gleaned from Jackson's (2018) "Alleviating Urban Loneliness Designer's Handbook", connecting them to the elements identified in our initial exploration. Utilising data from an online questionnaire, we identified positive emotions capable of countering loneliness. Subsequently, we translated these insights into actionable strategies targeting specific physical features and conceptual ideas within urban spaces, fostering feelings of being welcome, relaxation, belonging, and meaningful connections among users. We present the stages of the design of the game in Figure 5.1.1, distinguishing between backstage phases, and the actual stage phases of the process. The theatre metaphor, explored by Goman (1959), introduced the concepts of frontstage and backstage activities to explain identity negotiations. Participatory design researchers, such as

Bødker, Dindler and Iversen (2017), emphasised "backstage activities" shaping the entire process. While acknowledging the importance of behind-the-scenes actions, Pedersen (2020) proposes a comprehensive approach encompassing pre, during, and post-negotiation phases. This iterative examination of staging negotiations sheds light on how designers foster collective understanding, though directly categorising actions as front stage or backstage may overly materialise the stage concept, limiting its analytical application. Our project leverages these frameworks to deepen the understanding of the game design process, its multifaceted nature, and the complexity of the entire process that led us to the final design.



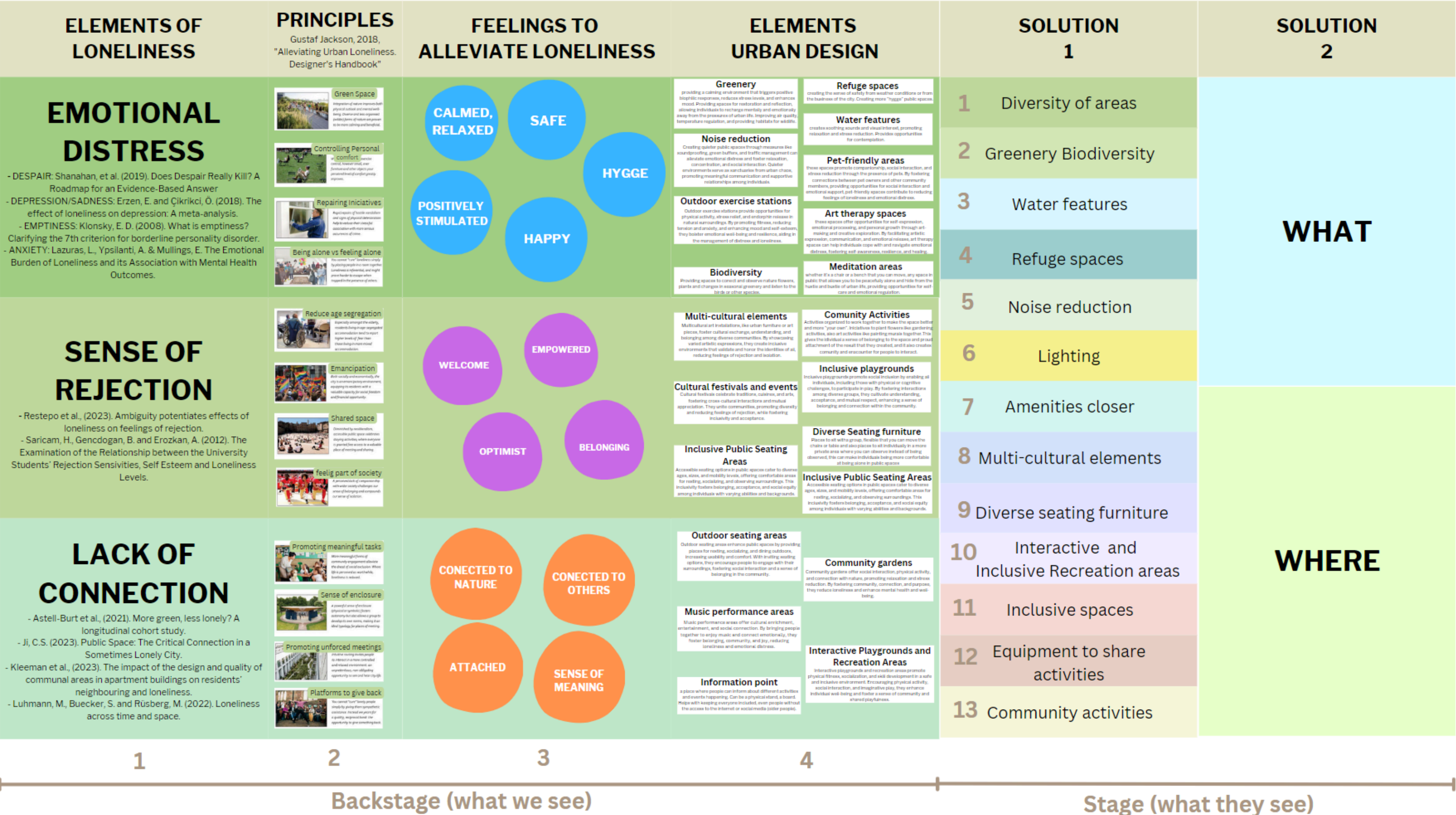
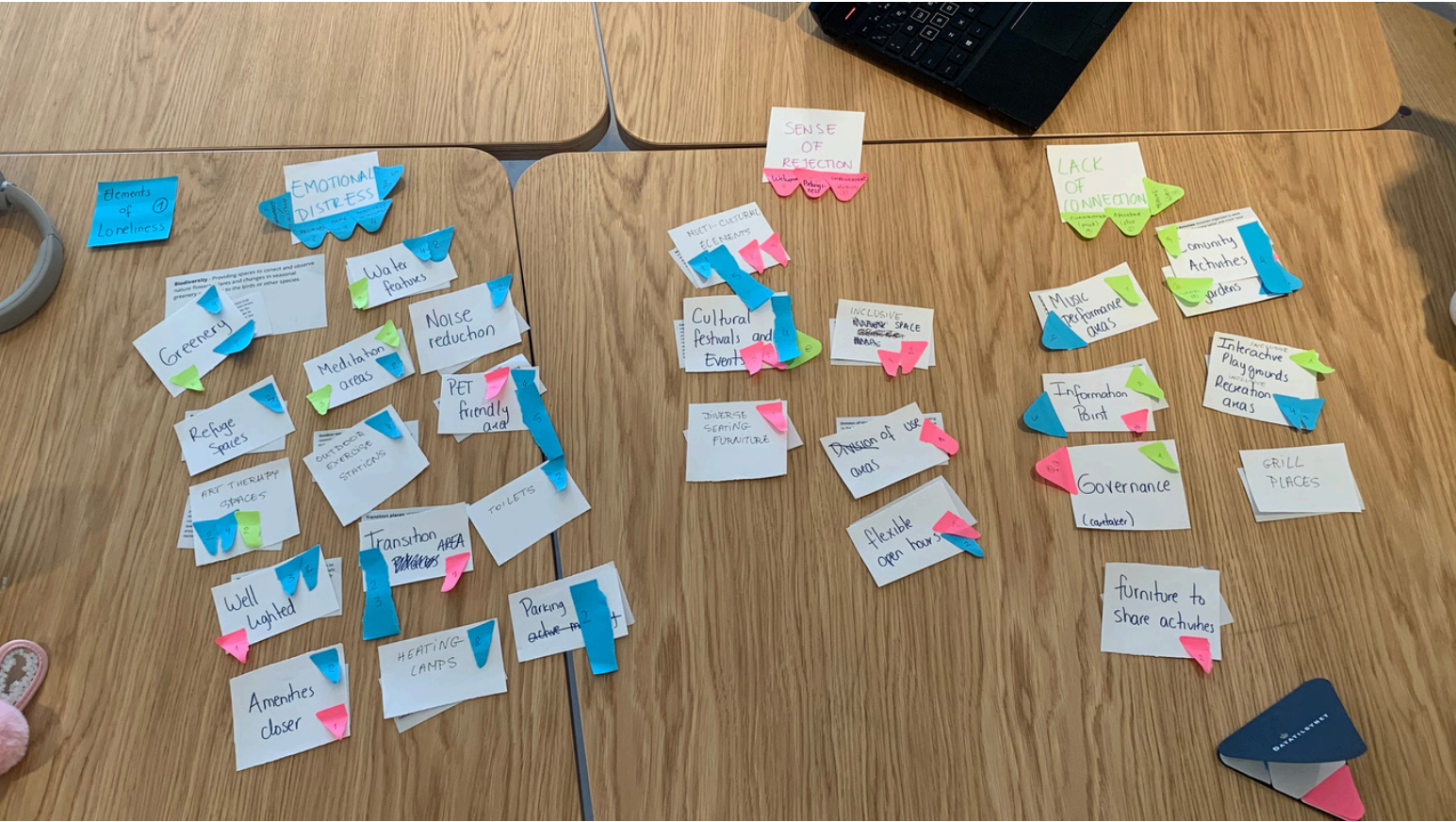


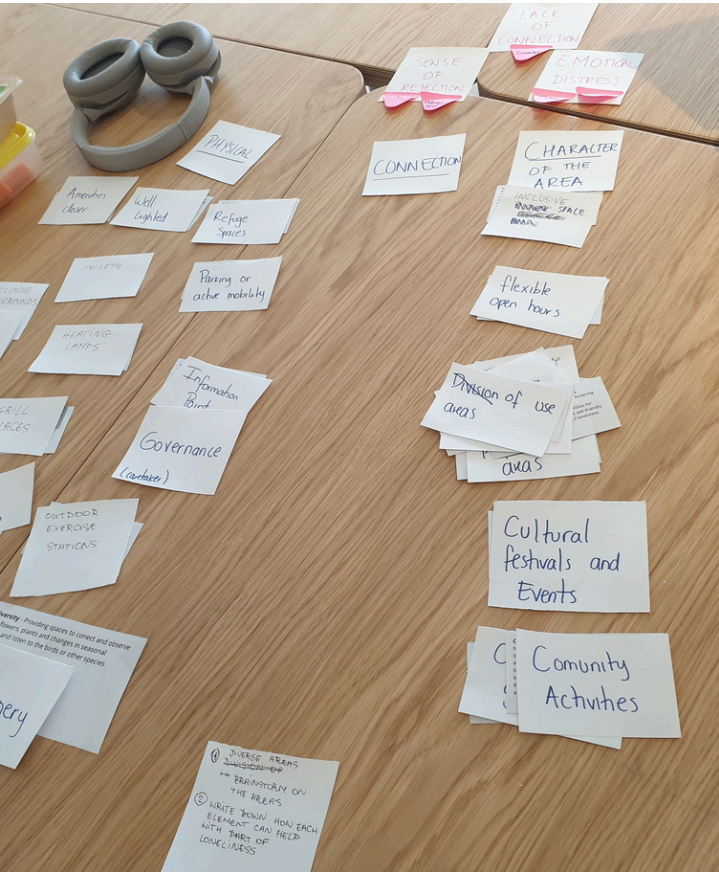
Figure 5.1.1. Stages of the design of the game. Source: Own elaboration

In the initial iteration of the design process, we came up with 83 prime factor cards representing various urban design elements that we divided into 13 categories (Option 1). These elements are illustrated in greater detail in Figure 5.1.2. In a subsequent iteration, we simplified the options into two categories “what” and “where” (Figure 5.1.3),

pertaining to the activities one would engage in when feeling lonely and the locations for these activities, respectively. This approach featured 24 cards in each category, totaling 48 cards overall (Option 2). The process of designing and classifying the cards is shown in Pictures 5.1.1 and 5.1.2.



Picture 5.1.1. Picture of the design process. Source: Own elaboration



Picture 5.1.2. Picture of the design process. Source: Own elaboration

1	Diversity of areas	Music performance areas	Meditation areas	Art therapy areas	Pet friendly areas	Skate areas	Community garden areas	Picnic and barbecue Areas	Outdoor exercise station areas	8		
2	Greenery Biodiversity	Pocket Parks	Wildflower Meadows	Urban forests	Green roofs	Street Trees	Green Walls	Green Alleys	Flower gardens	Flowering Trees	Pollinator Gardens	18
3	Water features	Fountain	Pond	Reflecting pool								21
4	Refuge Spaces	Transit Shelters and Bus Stops	Pavilion	Heating Lamps	Skybridges	Mobile Weather Shelters	Covered Plazas					27
5	Noise reduction	Sound walls	Greenery walls	Traffic calming measures								30
6	Lightning	Festive Lighting	Architectural Lighting	Pathway Lighting	Ambient Lighting	Decorative Lampposts	Focal interactive Lighting					36
7	Amenities closer	Public toilets	Water fountains (drink)	Governance	Bike Racks	Information points	Wi-Fi Hotspots	Vending machine				43
8	Multi-cultural elements	Community murals	Multi-cultural public art	Architectural styles and features								46
9	Diverse sitting furniture	Singular chairs	Picnic furniture	Benches	Hammocks	Swings	Modular / flexible seating system	PRM accessible Seating	Tables	Bean bag chairs		55
10	Interactive playgrounds and inclusive Recreation areas	Sensory play elements area	Adaptive sport courts and fields	Wheelchair-accessible Paths and Trails	Inclusive Climbing Structures	Jumping trampoline	Inclusive playground kits					61
11	Inclusive spaces	ramps, tactile paving, and adjustable seating	Multi-Generational Playgrounds	Flexible open hours	Dementia-Friendly Environments	Transition area						66
12	Equipment to share activities	Sport and exercise equipment	Tables with integrated chess boards	Board games and play equipment	Outdoor cooking and barbecue facilities	Pop-up Market Stalls and Vendor Spaces	Gardening tools	Inclusive play equipment				73
13	Community Activities	Community gardening	Musical performances	Farmers Markets	Garage sale	Community Potlucks	Neighborhood Clean-Up Days	Street Festivals and events	Cultural Workshops	Fitness Classes	Outdoor Movie Nights	

Figure 5.1.2. Option 1. Source: Own elaboration

We ultimately decided on Option 1, as it offers greater participant interest through its numerous categories, allowing for a wider range of combinations and conversation starters. However, we streamlined the original 13 categories into 10, as shown in Figure 5.1.4, to simplify and enhance the experience. Additionally, the design of the cards and the rules of the game have been refined through an iterative process, evolving during various design sessions and meetings with professionals.

Figure 5.1.5 displays the result of the new categories along with the 80 cards. After creating the categories, we designed each one of the 80 cards, initially producing high-fidelity prototypes, as shown on the left side of Figure 5.1.6. In this option, we included the "superpowers" that reflected the participants' potential feelings. The concept of fidelity in prototypes refers to the extent of detail and functionality included in a prototype, which can range from low to high (Hansen, 2022).

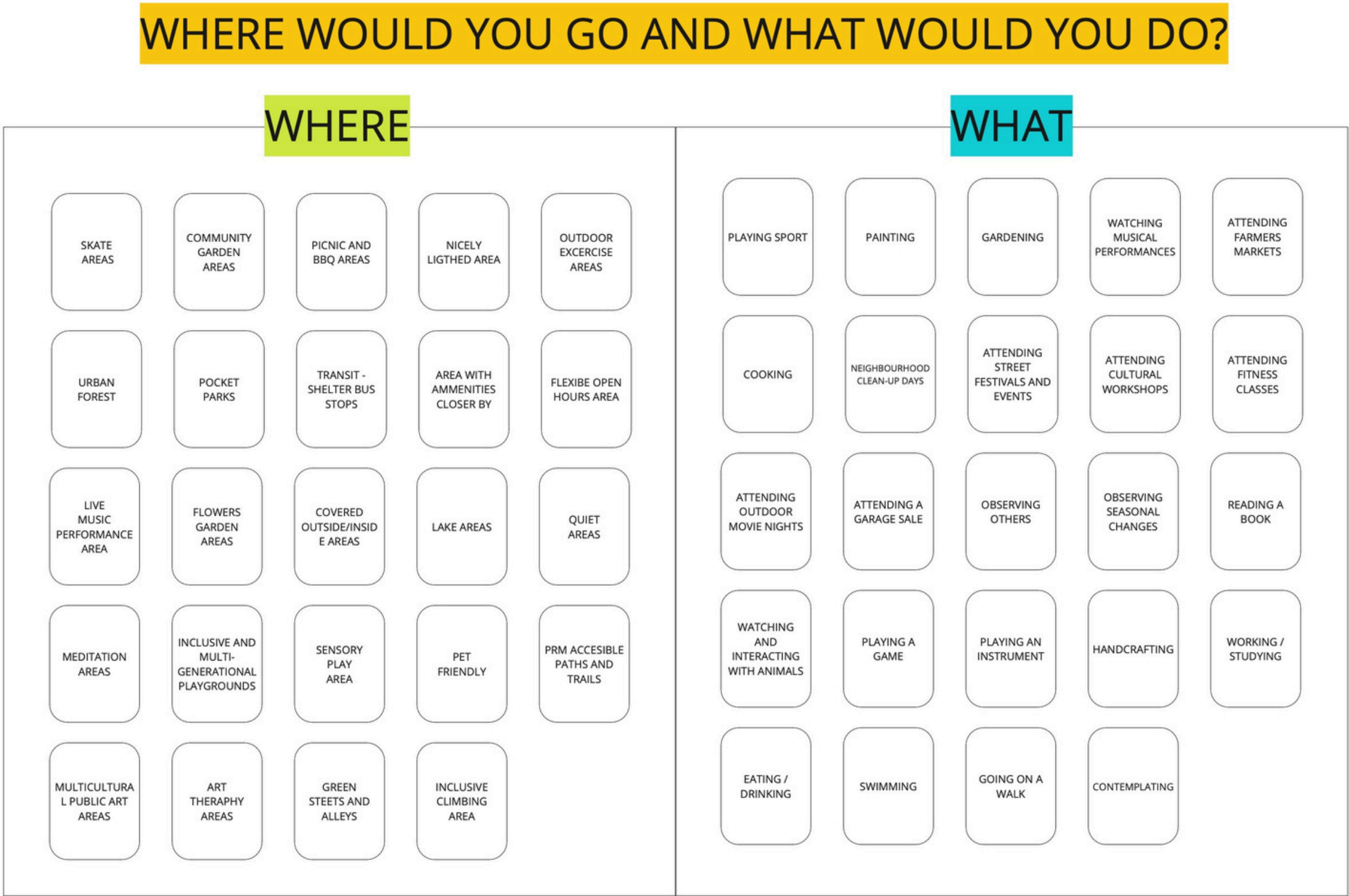


Figure 5.1.3. Option 2. Source: Own elaboration

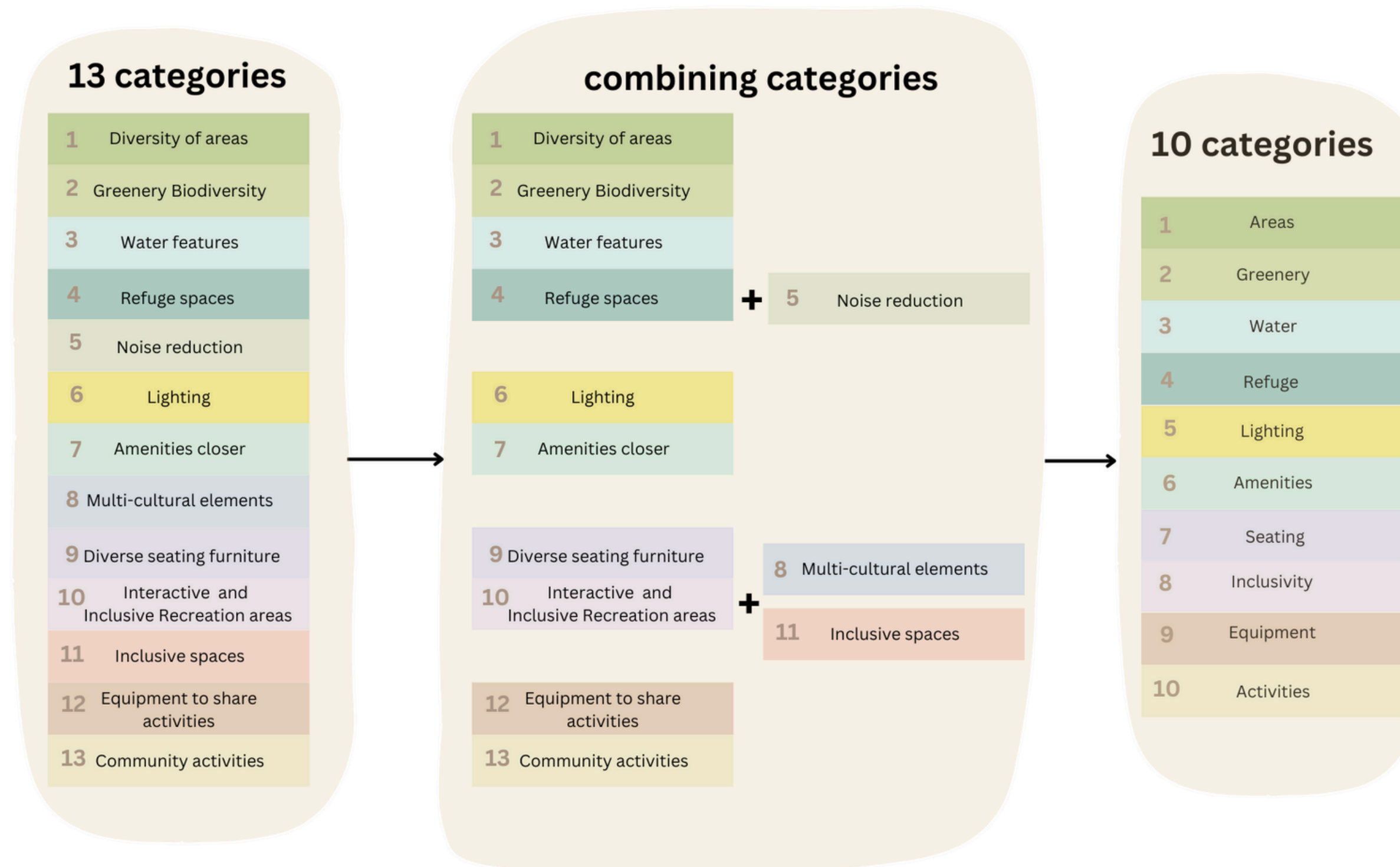


Figure 5.1.4. Simplified Option 1. Source: Own elaboration

A prototype is a limited representation of a design that allows users to interact with it and explore its suitability (Carlgren et al., 2016). Fidelity levels impact how well a prototype conveys design concepts and collects feedback. High-fidelity prototypes closely resemble the final design and are often made of the same materials as the finished product. Additionally, prototypes foster creativity and give people something tangible to discuss. The use of low-resolution prototypes in combination with an open environment that allows for failure and iterations is also considered important (Carlgren et al., 2016). After review, we shifted to 2 new types of cards: medium-fidelity prototypes and low-fidelity customizable cards. Low-fidelity prototypes, such as storyboards and mock-ups, provide basic representations and are experimental models showing the appearance of the proposed design. This shift allowed us to explore different levels of detail and functionality, facilitating better design communication and user freedom and engagement.

1	Areas	Music performance	Meditation	Art therapy	Pet friendly	Skate	Community garden	Picnic and barbecue	Outdoor exercise	Rooftop terrace
2	Greenery	Pocket parks	Urban forests	Wildflower meadows	Green rooftops	Street trees	Flower gardens	Flowering trees	Green alleys	
3	Water	Fountain	Pond	Swimming area	Lakes	River	Harbour	Waterfront walkways	Waterfront amphitheaters	
4	Refuge	Pavilion	Mobile shelters	Covered plazas	Wind protection	Quiet scapes	Semi-closed area	Cold and rain protection		
5	Lighting	Festive lighting	Architectural lighting	Pathway lighting	Hygge lighting	Decorative lampposts	Interactive lighting			
6	Amenities	Public toilets	Drinking fountains	Bike racks	Information points	Wi-Fi	Vending machine	Governance		
7	Seating	Singular chairs	Picnic furniture	Benches	Hammocks	Swings	Flexible seating	Accessible seating	Tables	Bean bag chairs
8	Inclusivity	Multi-Generational	Flexible open hours	Sensory play elements	Sport courts and fields	PRM accesible	Inclusive climbing	Jumping trampoline	Inclusive playground	Multi-cultural art
9	Equipment	Sport and exercise	Tables with games	Play equipment	Barbecue facilities	Market stalls	Gardening tools	Inclusive play equipment		
10	Activities	Community gardening	Musical performance	Farmers markets	Second hand sale	Community potlucks	Clean-up days	Festivals & workshops	Outdoor movies	Fitness classes

Figure 5.1.5. 10 categories. Source: Own elaboration

For the medium-fidelity cards, we designed all 80 cards, removing the predefined superpower tokens and allowing participants to choose their own. We also added a "justify choices" space where participants can explain why they chose each card and how it reflects their feelings.

The low-fidelity cards retain the format but leave all information blank, giving participants free space to customise their own cards. They can draw pictures, create titles, and fill in other components, allowing for complete personalisation.

We have further enhanced the game's low-fidelity aspect by providing blank tokens, allowing participants to create their own superpower tokens as well.

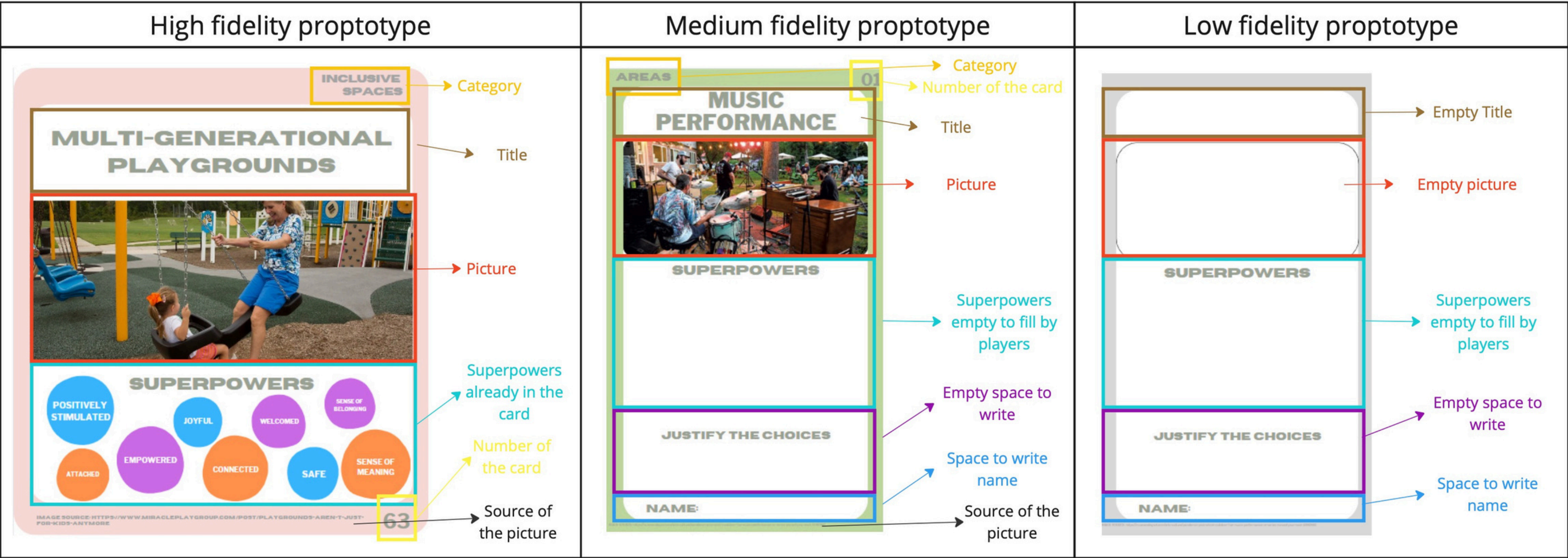


Figure 5.1.6. Fidelity of the card prototypes. Source: Own elaboration

5.2 Prototyping the workshop

The workshop is segmented into 3 parts, (shown on Figure 5.2.1), designed to run for approximately 1 hour and 15 minutes, with a maximum duration of 1 hour and 30 minutes. To commence, we embark on the introduction phase, offering an overview of our team and the thesis project. Following this, we delve into an exploration of loneliness, ensuring clarity on the concept. To infuse dynamism into the session, we have created a Kahoot game comprising 6 questions. This approach seeks to empower participants to engage directly with the topic, fostering an immersive learning experience as they endeavour to guess answers rather than passively absorb data.

The second segment of the workshop is dedicated to the game, designed to span approximately 60 minutes. This game unfolds in 4 distinct phases, each carefully crafted to facilitate an immersive and engaging experience. Further details regarding the structure and mechanics of the game will be

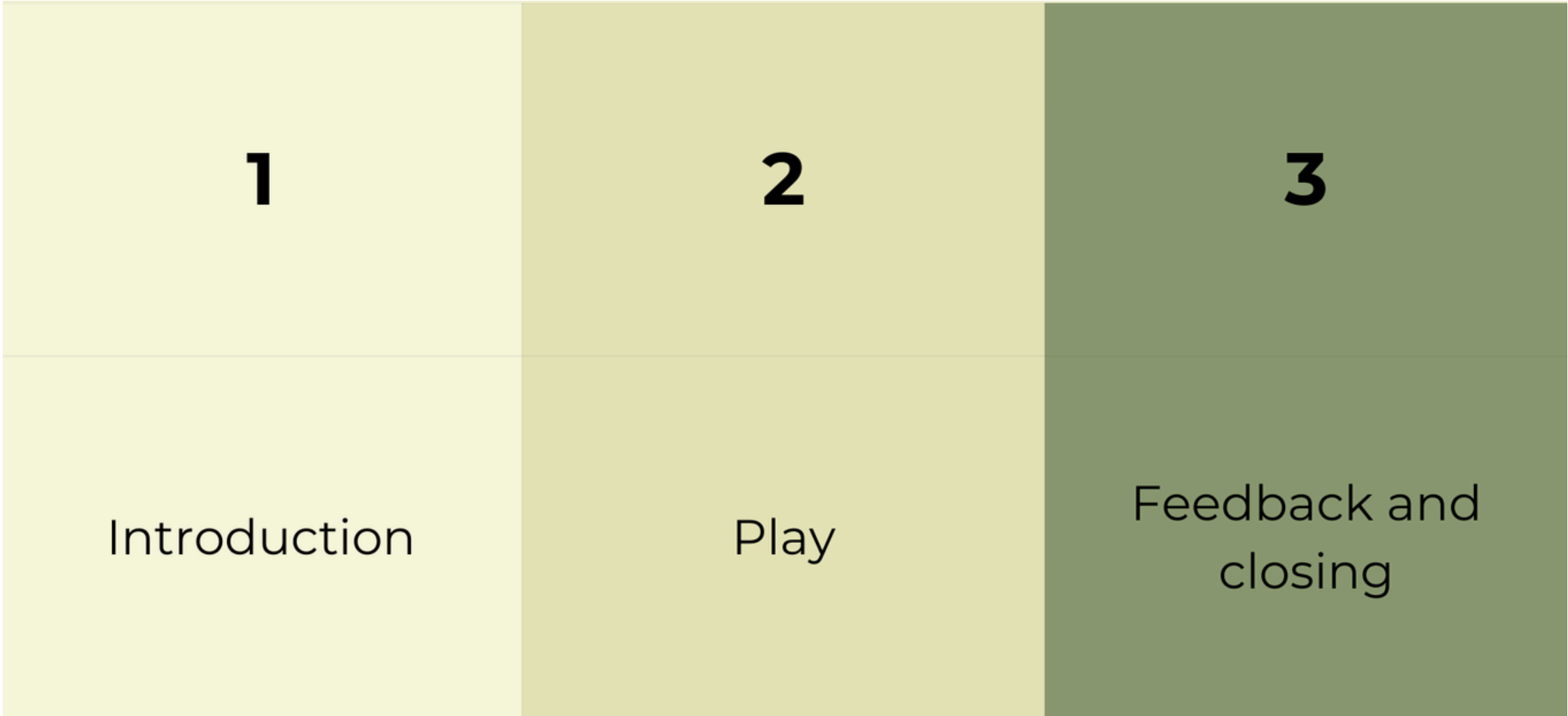


Figure 5.2.1. Parts of the workshop. Source: Own elaboration

elaborated upon in the subsequent section:
5.3 How to play the game?
Then the last phase of the workshop is the Feedback and closing session, where participants receive feedback questionnaires to share honest comments


on the game and the workshop, with 5 minutes allocated for this part. Feedback questionnaires are distributed to each participant, offering an opportunity to provide detailed comments and suggestions for improvement.


This feedback is invaluable for refining the game and enhancing its effectiveness in future iterations. Figure 5.2.2 shows the layout of the feedback questionnaire that participants will complete at the end of the workshop.

As the workshop draws to a close, participants reflect on the insights gained and the connections formed throughout the game. The facilitator emphasises the importance of continuing these

conversations beyond the workshop, encouraging participants to apply their newfound understanding in their communities.

How did you feel while playing the game?







Elaborate:

What did you gain from the game and today's workshop?

What will you suggest to improve?

Did you feel the game achieved its objective?





Other comments:

Figure 5.2.2. Feedback questionnaire. Source: Own elaboration

5.3. How to play the game?

In the game, participants are divided into groups of 3-5 people. The game is divided into 4 parts (shown in Figure 5.3.1).

1.SELECTING CARDS

Each group chooses between 3 to 5 cards per situation from a set of options. Each player should have a minimum of 6 cards and a maximum of 10 cards in total. These cards represent activities or elements that they find helpful in addressing feelings of loneliness, as well as their ideal solutions. We as facilitators are available to clarify any rules and answer questions during this phase, which lasts up to 10 minutes. These game elements, such as rules, pre-defined gaming materials, as well as materials indicating current and future possibilities, are based on the definition of participatory design game by Brandt et al. (2008).

2. INDIVIDUAL WORK

Participants write their names on the chosen cards and consider how these urban

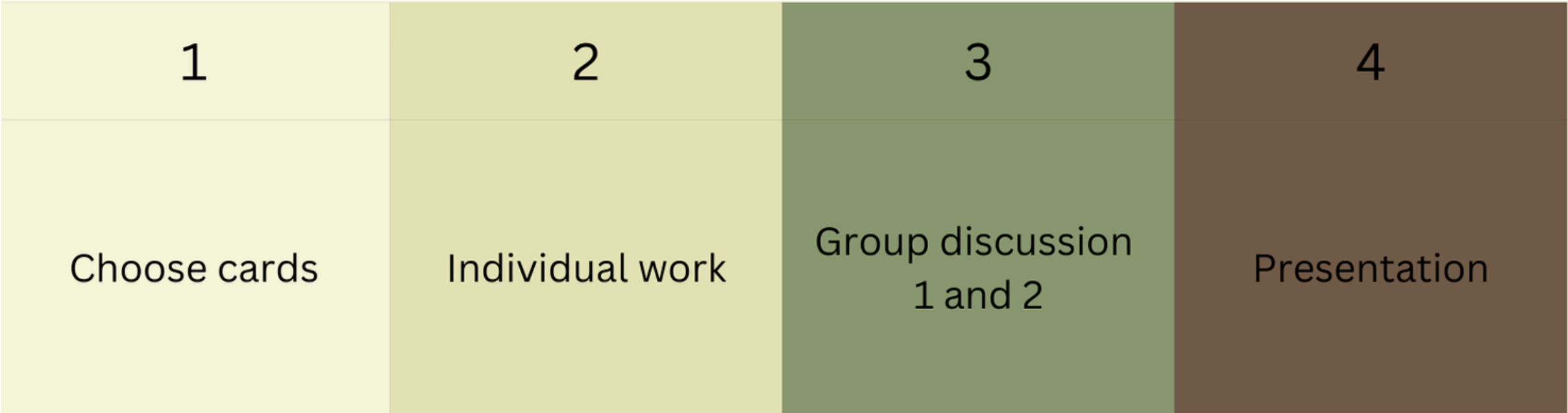


Figure 5.3.1. Parts of the game. Source: Own elaboration

environment elements impact their emotions and well-being. They attach "superpowers" tokens to each card and briefly justify their choices by writing down explanations. Again, the facilitators are available for assistance, and this phase also lasts up to 10 minutes.

3A. GROUP DISCUSSION: CURRENT SITUATIONS (MATRIX 1)

Each player takes turns starting a discussion by explaining their chosen elements/activities that help them during moments of loneliness. They place the cards on Matrix 1 to represent their current situations, and everyone is

welcome to discuss and ask questions about other people's choices. This part lasts up to 10 minutes.

3B. GROUP DISCUSSION: IDEAL SITUATIONS (MATRIX 2)

The same procedure is repeated on Matrix 2, where participants explain their ideal situations and how urban environment elements could ideally help them with the feeling of loneliness. This phase also lasts up to 10 minutes. The design of the Matrices is shown in Figure 5.3.2.

4. PRESENTATION AND DISCUSSION

Each group presents their Matrix boards, with one spokesperson representing the group. Engage in discussions with other groups, exploring differences in perceptions of loneliness and potential solutions. This part lasts 15 minutes. Participants share their observations, insights, and any surprises they encountered during the game. This dialogue encourages a deeper exploration of the urban environment's impact on loneliness and fosters a sense of collective understanding. The last part of the game refers to elements proposed for design games by Brandt et al. (2008), such as the exploration of new material configurations and their presentation.

The next chapter describes in detail the testing of our game, which took place in one of the student dormitories in Copenhagen.

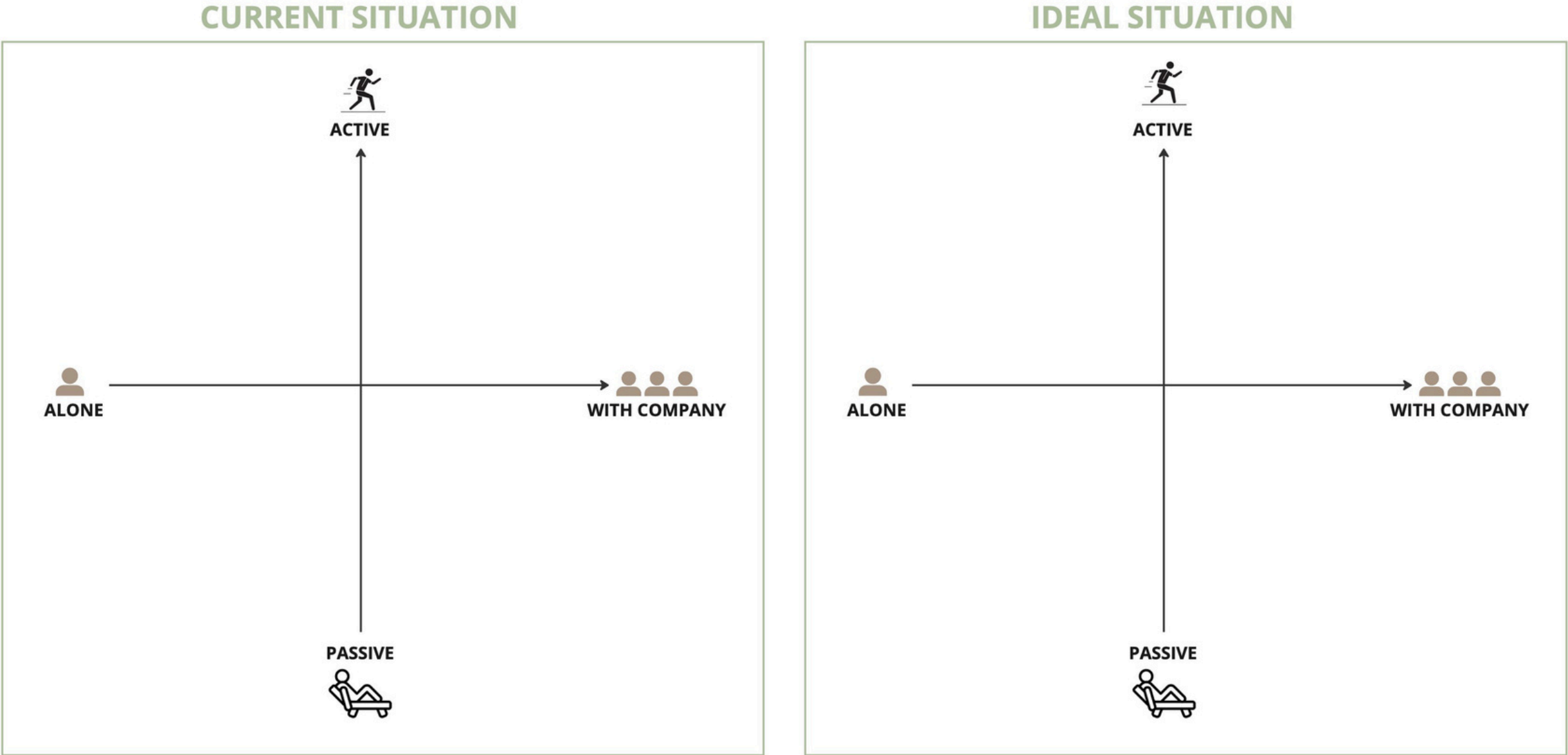
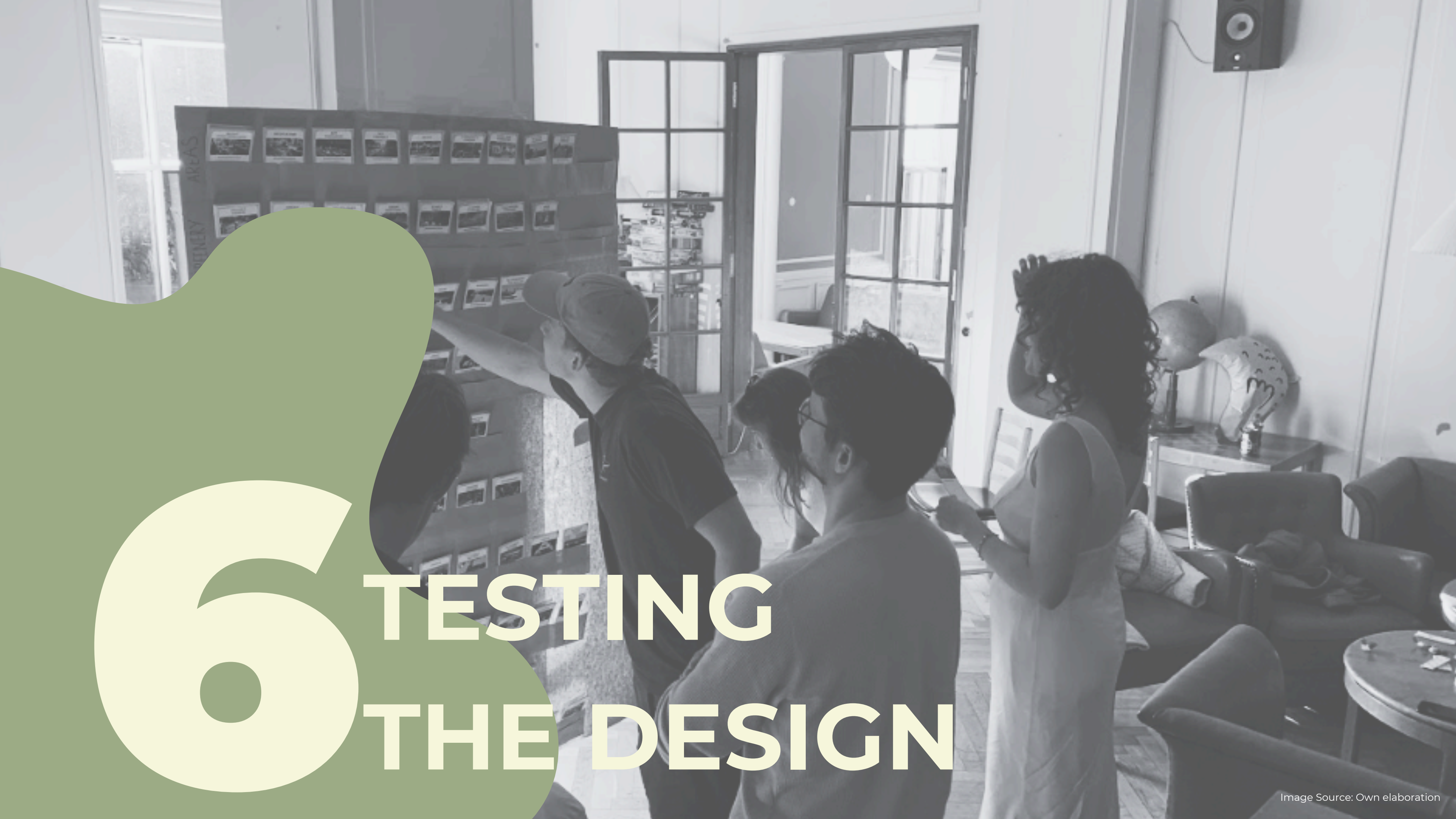


Figure 5.3.2. Matrix of current and ideal situation. Source: Own elaboration



6 TESTING THE DESIGN

In this chapter, we describe the detailed process of workshops and testing our game. We also analyse the results obtained by groups of participants, as well as how our game worked as a tool for opening conversations on the stigmatised topic. Finally, we focus on the feedback obtained from people participating in the workshops and how it can help us to develop the game further.

The workshop and game testing occurred on May 22nd at Nordisk Kollegium. We selected this location deliberately to assess the game within the study area of Østerbro and with a group of participants who already share familiarity, fostering an environment of comfort and safety. By ensuring participants lived in the vicinity, we could collectively engage with the same nearby urban setting. The workshop convened at the Kollegium library, a familiar and well-known venue for the participants, enhancing their sense of ease and familiarity.

6.1. The invitation

Three weeks prior to the workshop, we created an invitation for the event, an important step in staging as it plays a key role in framing who is invited to participate and the potential directions for exploration (Munthe-Kaas & Hoffmann, 2020). Our primary objective was to gather participants who were local residents of Nordisk Kollegium in Østerbro, aiming to cultivate an atmosphere of comfort and safety among individuals already acquainted with one another.

It was relevant that all participants hailed from the same area, given the game's intricate ties to the specific urban environment. The workshop convened at the Kollegium library, a familiar place for the participants, further fostering a sense of ease and familiarity.



Figure 6.1.1. Invitation poster. Source: Own elaboration

Our workshop aimed to engage young adults as our target demographic, a decision rooted in research highlighting their heightened susceptibility to loneliness. Studies indicate that 10% of students in Denmark report experiencing such feelings, and guidelines from Det Nationale Partnerskab mod Ensomhed (2023) suggest that young adults who already feel lonely are more likely to carry these feelings throughout their lives. Consequently, addressing loneliness in this demographic is of crucial importance. Consequently, we crafted an A4 poster invitation (see Figure 6.1.1), which we digitally shared with our contact person at Nordisk Kollegium, Kasper Hansen, for printing and strategic placement around transit information points within the Kollegium premises (see Picture 6.1.1).



Picture 6.1.1. Poster on the wall at Nordisk Kollegium. Source: Own elaboration

6.2. The Participants and time

The workshop took place on May 22nd at 19:00, a time recommended by our contact at the dormitory. This scheduling decision was influenced by the fact that more people tend to be present on weekdays, hence why we chose Wednesday. Additionally, the timing was strategically selected to coincide with the communal dinner held at 18:00 each day, ensuring that residents would already be present in the dormitory and increasing the likelihood of their participation.

We faced 2 challenges in engaging people at the workshop. Firstly, it was held at the end of May, coinciding with the exam session for many of our target audience, who were primarily students. Understandably, they were reluctant to dedicate time to our event during this busy period. Secondly, the weather presented another obstacle. With sunny skies and temperatures above 22 degrees, many people preferred to spend their time outdoors after dinner rather than participating in an indoor workshop.

Despite these challenges, we successfully gathered a total of six participants for the workshop. Five of them were student residents from the Kollegium, and we invited an additional individual to assist during the workshop. We made this decision anticipating the formation of at least two groups, as we planned for the final phase to involve each group presenting their results to the other. This spontaneous decision to include our external individual infused the workshop with intriguing dynamics, fostering differences and contrasts between the 2 groups, which we will analyse in Section 6.3. We divided the participants into 2 groups, each comprising 3 members. Group 1 consisted solely of Kollegium students, while Group 2 included two Kollegium students and one external participant. Despite residing in Rødovre, this external participant aligns with our target demographic as a Copenhagen citizen within the young adult age group.

The workshop started 15 minutes later than scheduled, allowing additional time for participants to arrive, and in total it lasted approximately 1 hour and 15 minutes.

6.3. The Stage

In theatre, "iscenesættelse", or "setting the scene" in Scandinavian, refers to translating a play script into action on stage (Kjølner, 2007). The stage director oversees this interpretation, framing the performance for the audience. Likening collaborative design to staging, the designer assumes the role of a stage director. They interpret the script (problem statement or design brief), gather stakeholders as cast members, and negotiate actions for the design "performance" (Pedersen, 2020).

We arrived at the location around 17:45, giving us an hour and a half to set up the stage and prepare all the materials. This timing proved advantageous, as the library is situated in a transitional space leading to the dining hall, ensuring that all residents passed by while we were setting up. Since we were not familiar faces in the community, our presence immediately signalled that something out of the ordinary was about to happen. We took advantage of this opportunity to engage with

residents, briefly informing them about the workshop and extending invitations as they passed by. Additionally, we stepped outside where residents were gathered for dinner. With the assistance of our contact at the dormitory, we captured their attention, introduced ourselves briefly, and invited everyone to join the workshop. We estimated that there were approximately 50 people

present during dinner at that time. When it came to setting up the space, we reorganised the furniture to establish two distinct areas for each group, equipping each with couches and a table where we positioned the necessary materials and the two matrices required for the activity (see Figure 6.3.1, Picture 6.3.1, and Picture 6.3.2).

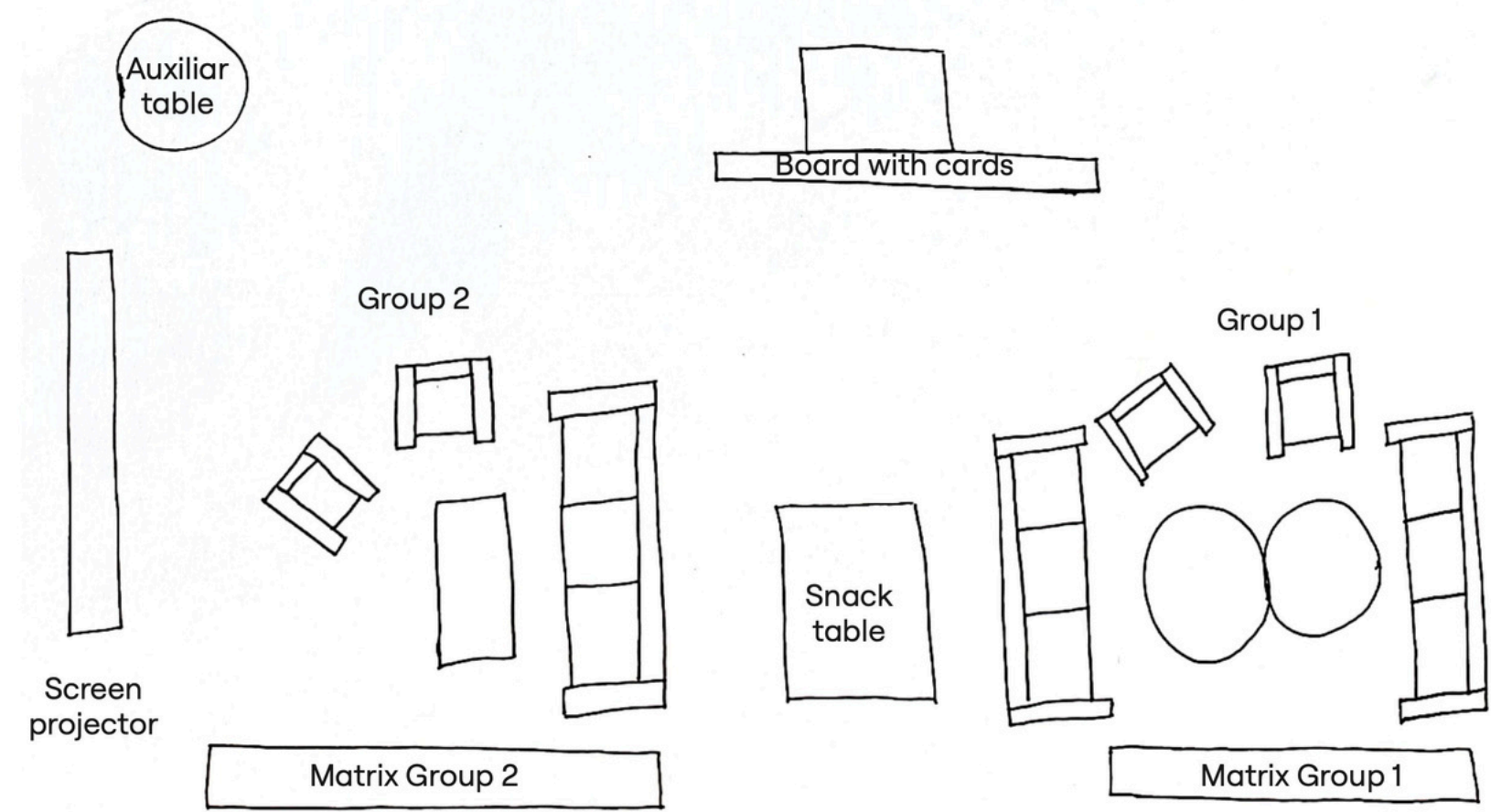


Figure 6.3.1. The Stage. Source: Own elaboration



Picture 6.3.1. Group 1 area. Source: Own elaboration

Additionally, we positioned our board with all the cards neatly arranged in a column in the centre, readily accessible for use (Picture 6.3.5). As a final touch, we placed a snack table in the middle of the room (Picture 6.3.3), serving as both a reward and an interestment device to engage participants, and we set up the projector to guide the workshop (Picture 6.3.4).



Picture 6.3.4. Projector to guide the workshop.
Source: Own elaboration



Picture 6.3.2. Group 2 area. Source: Own elaboration



Picture 6.3.3. Snack table. Source: Own elaboration

During the workshop, we functioned as negotiation facilitators, aligning with the role of designers and researchers. Our collaboration with diverse stakeholders aimed to craft solutions through active engagement in problem identification and conceptualization. Grønvallet al. (2016) underscores a shift from designers merely stating needs to orchestrating stakeholder interactions, a principle reflected in our interactive approach to workshop preparation and execution (Pedersen et al., 2022).



Picture 6.3.5. Board with the cards. Source: Own elaboration

PHASE 1

We began the workshop with an introductory presentation, where we introduced ourselves and provided an overview of our thesis project (Figure 6.3.2). To highlight data about

loneliness in Denmark, we hosted an engaging Kahoot session featuring 6 questions. Following this, we divided the participants into 2 groups. This phase lasted approximately 15 minutes.

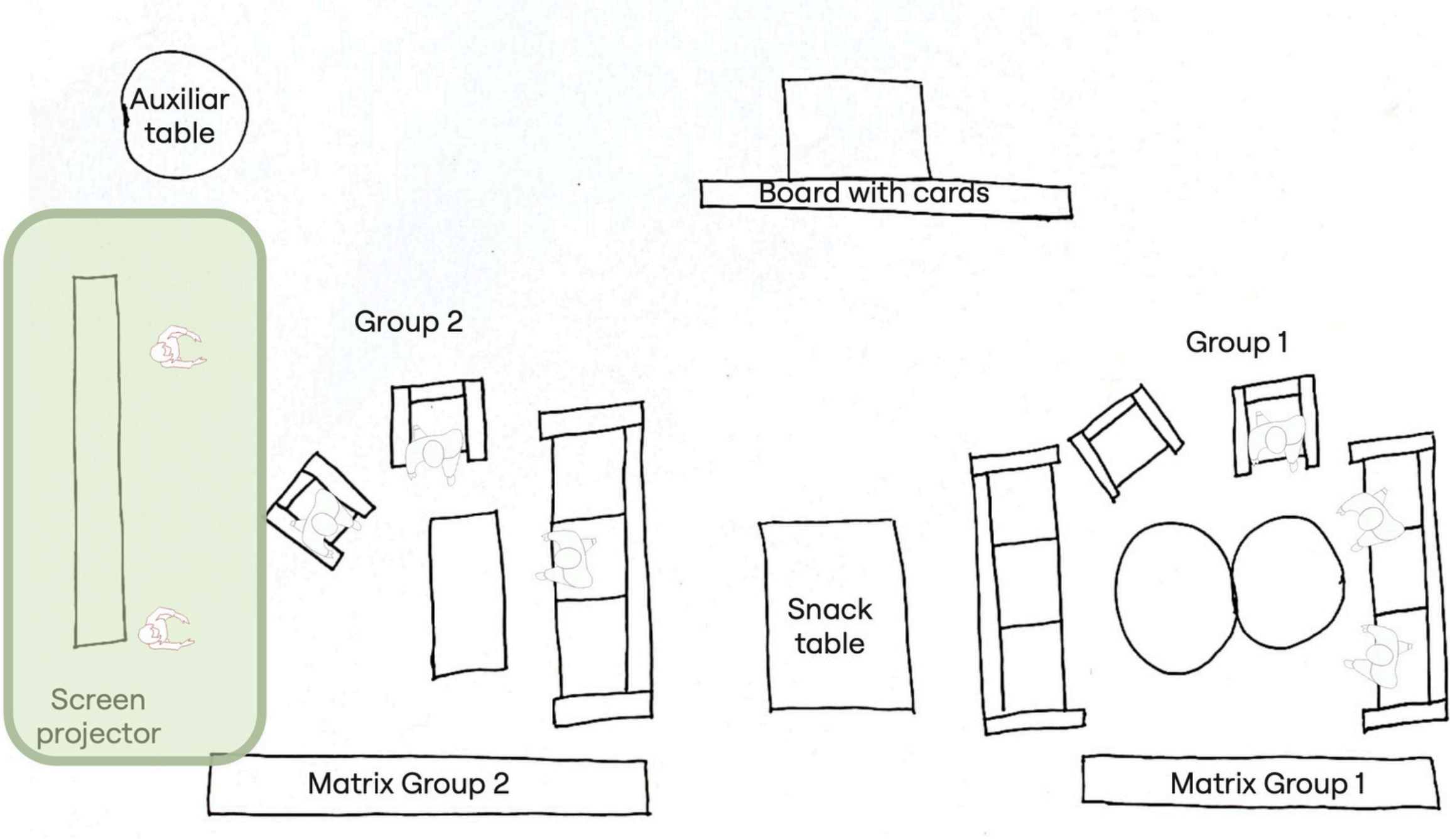


Figure 6.3.2. Phase 1 stage. Source: Own elaboration

PHASE 2

This phase began with participants selecting between 3 to 5 cards per situation from a set of 80 options (Figure 6.3.3 and Picture 6.3.6). To accommodate their needs, we allowed some participants to take an additional card if requested, demonstrating flexibility.

Additionally, 1 participant opted to create a custom card, adding an element we had not included. As facilitator-observers, we were on hand to clarify any questions. This part of the workshop lasted up to 10 minutes as planned.

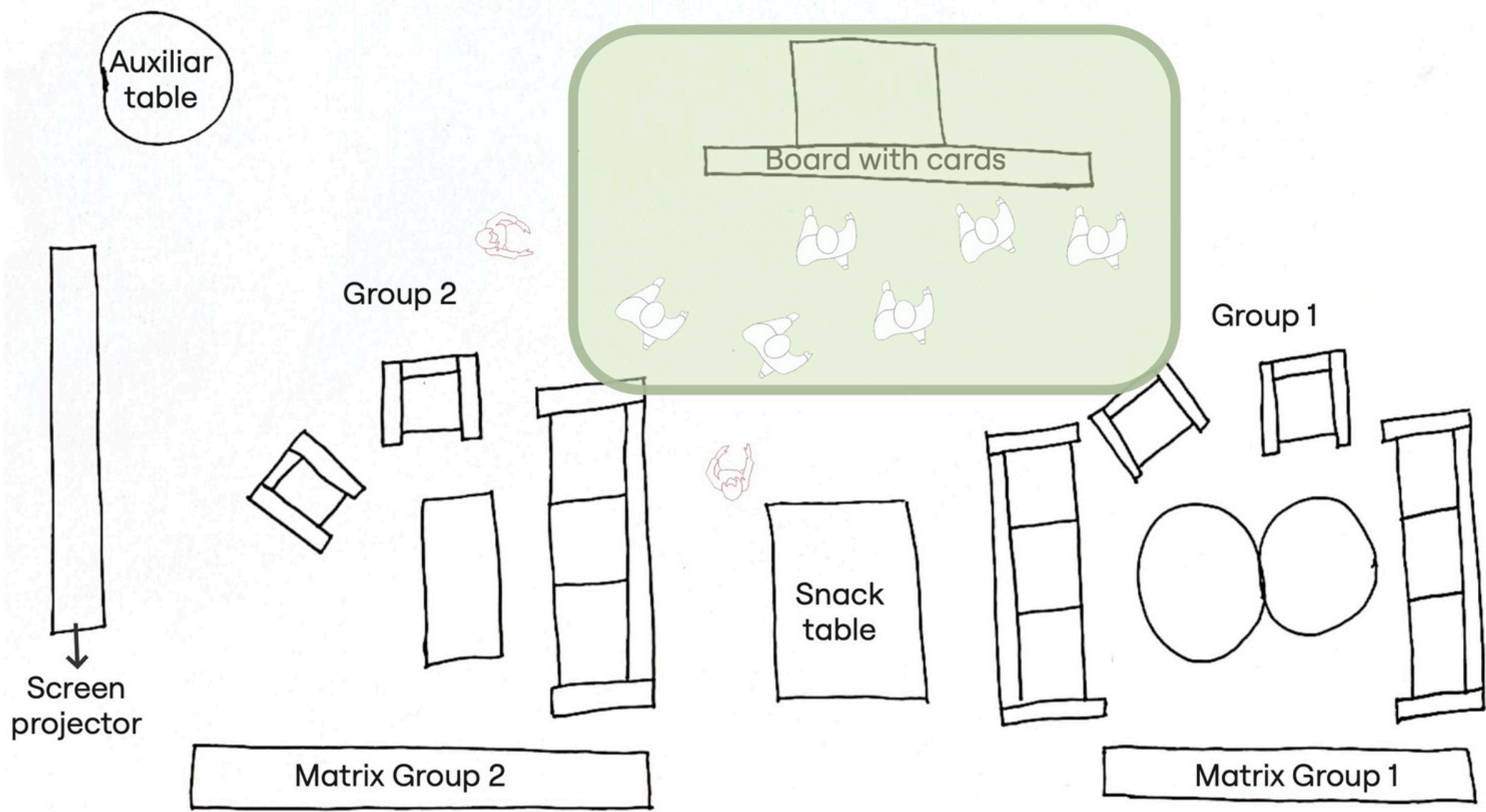


Figure 6.3.3. Phase 2 stage. Source: Own elaboration



Picture 6.3.6. Phase 2: participants choosing cards. Source: Own elaboration

PHASE 3

During that phase, participants wrote their names on the cards, attached "superpowers", and briefly justified their choices for each card they selected (Figure 6.3.4 and Picture 6.3.7). We noticed that the process was taking significantly longer than anticipated. As a result, we extended the allotted time to

approximately 20 minutes, though some participants still struggled to finish. We observed that some of them began discussing their choices early on, which was encouraging as it indicated the game's goal of fostering open conversation was working, but it also contributed to the delay. Facilitators remained available to provide assistance as needed.

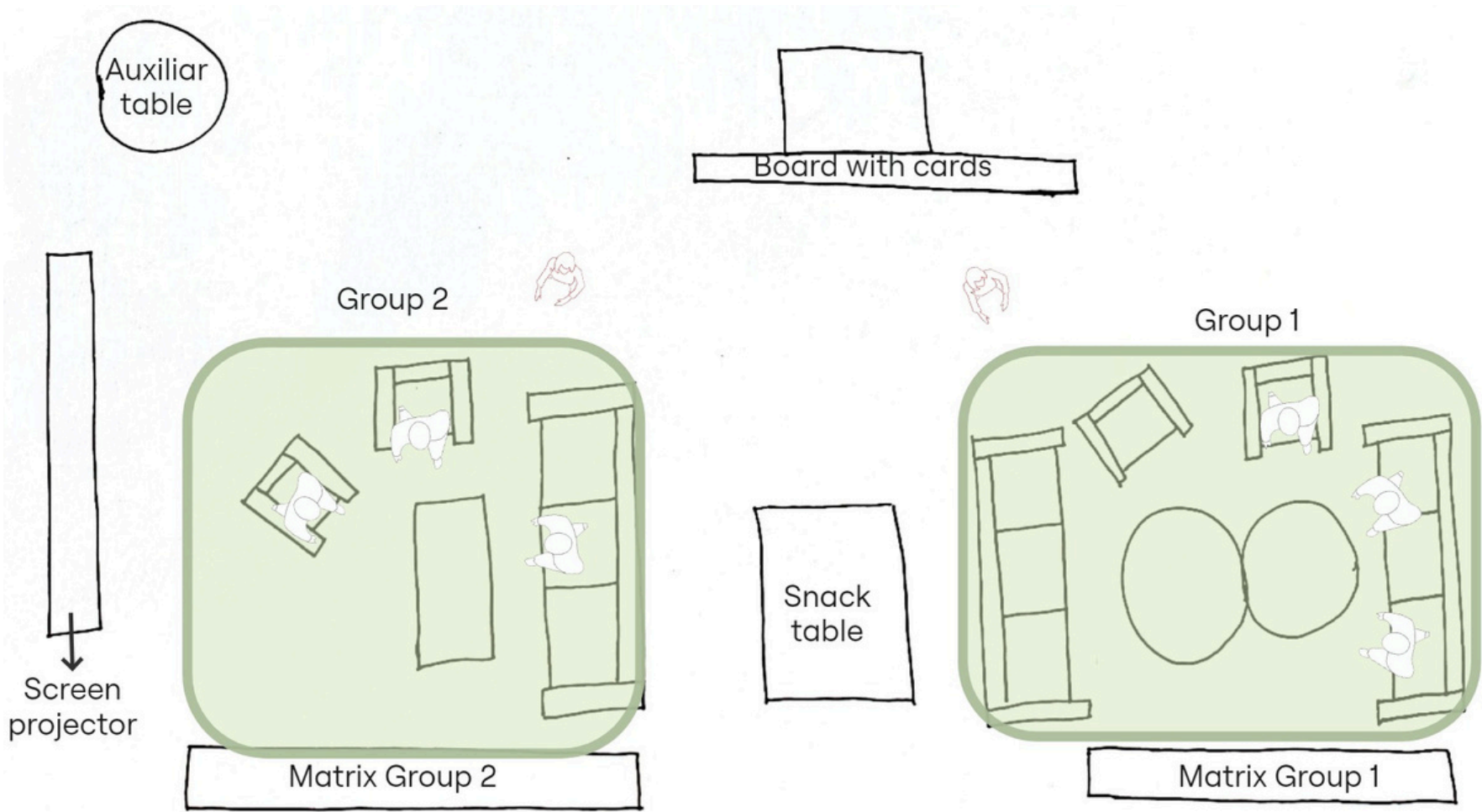


Figure 6.3.4. Phase 3 stage. Source: Own elaboration



Picture 6.3.7. Phase 3: participants working individually on cards. Source: Own elaboration

PHASE 4

In this step, each participant took turns explaining their chosen cards that help them during moments of loneliness, placing them on Matrix 1 (current situations) and Matrix 2 (ideal situations) (Figure 6.3.5). Initially, this phase was planned in 2 stages, first for current situations and then for ideal situations, but to save time, we decided to combine them. Group 1 followed the instructions by placing the cards on the Matrix while explaining their choices and the others listened (Picture 6.3.8). In contrast, Group 2 had each member

discuss their cards first and then placed them on the Matrix afterwards (Picture 6.3.9). This approach caused a shift in attention, as participants in Group 2 were multitasking rather than focusing solely on the presenter. As a result, Group 2 finished earlier while Group 1 was still engaged in the process. We extended the time to accommodate this, and we noticed that Group 2 began engaging in a casual conversation, which helped foster connections among participants. Facilitators were available to answer questions and keep participants aware of the time. This phase lasted approximately 20 minutes.

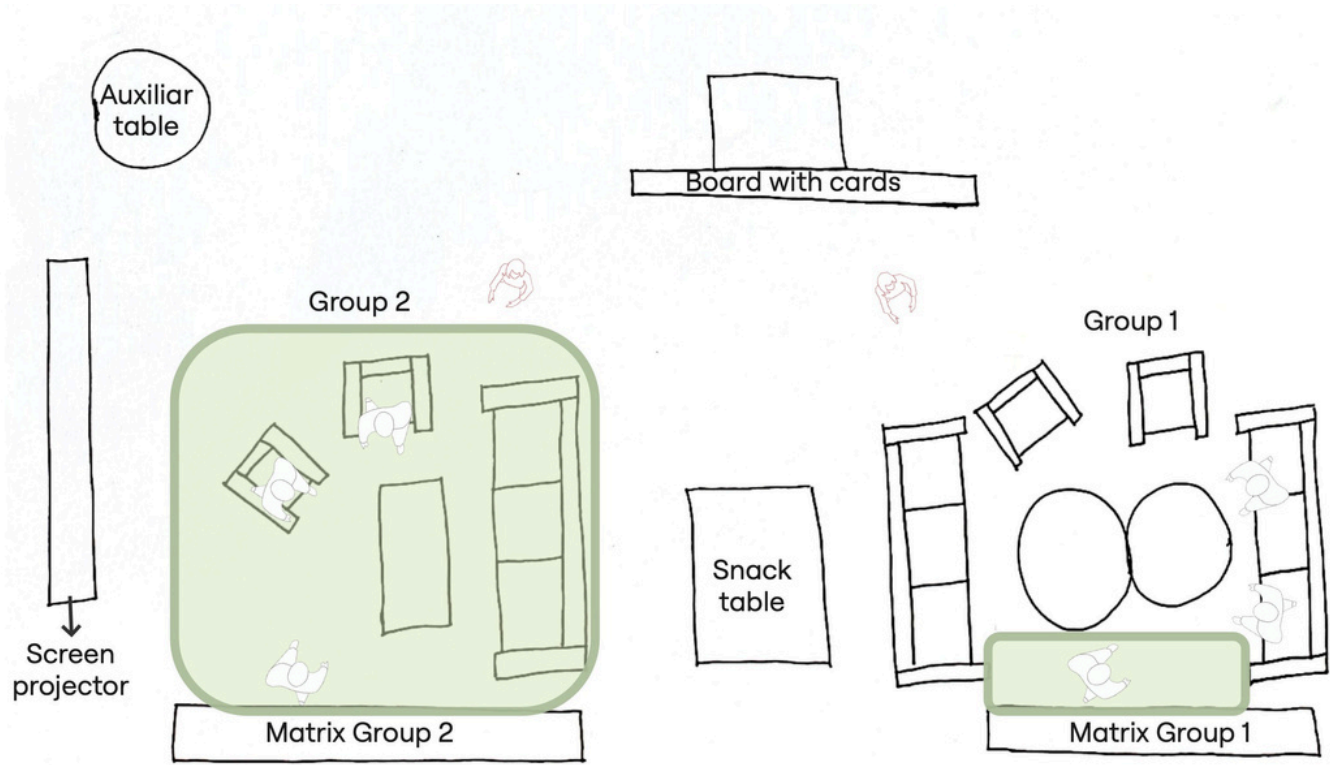


Figure 6.3.5. Phase 4 stage. Source: Own elaboration



Picture 6.3.8. Phase 4 stage: Group 1. Source: Own elaboration



Picture 6.3.9. Phase 4 stage: Group 2. Source: Own elaboration

PHASE 5

Each group took turns presenting their Matrix boards, both decided to choose 1 spokesperson representing the group (Figure 6.3.6, Image 6.3.10, and Image 6.3.11). Participants shared their observations, insights, and reflections. This step involved alternating between groups, listening to each other, and discussing the similarities and differences they found. This phase lasted approximately 15 minutes. The facilitators acted as close observers, taking notes on the process.

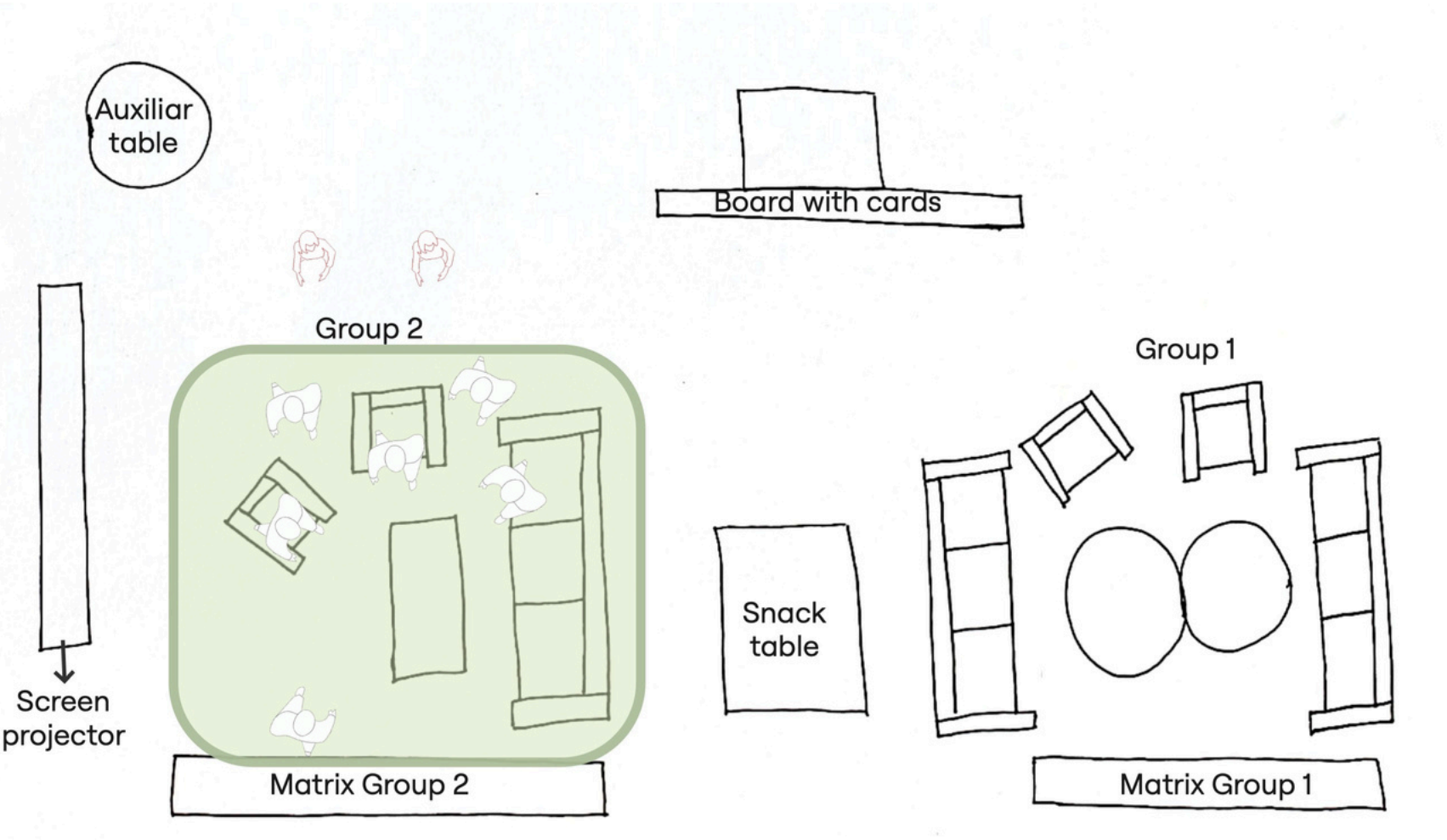


Figure 6.3.6. Phase 5 stage. Source: Own elaboration



Picture 6.3.10. Phase 5: Group 2 presenting. Source: Own elaboration



Picture 6.3.11. Phase 5: Group 1 presenting. Source: Own elaboration

PHASE 6

Participants received feedback questionnaires to share their comments on the game and the workshop (Picture 6.3.12). As the session concluded, they reflected on the insights gained and the connections formed. We, as facilitators, emphasised the importance of continuing these



Picture 6.3.12. Phase 6: participants answering feedback questionnaires.
Source: Own elaboration

conversations beyond the workshop. This part lasted around 5 minutes as expected, and the feedback results will be shared in Chapter 6.4. Before each phase, facilitators explained the tasks verbally and visually with the help of a projector and presentation, clarifying how the tasks should be performed and the time allocated for each (Picture 6.3.13).



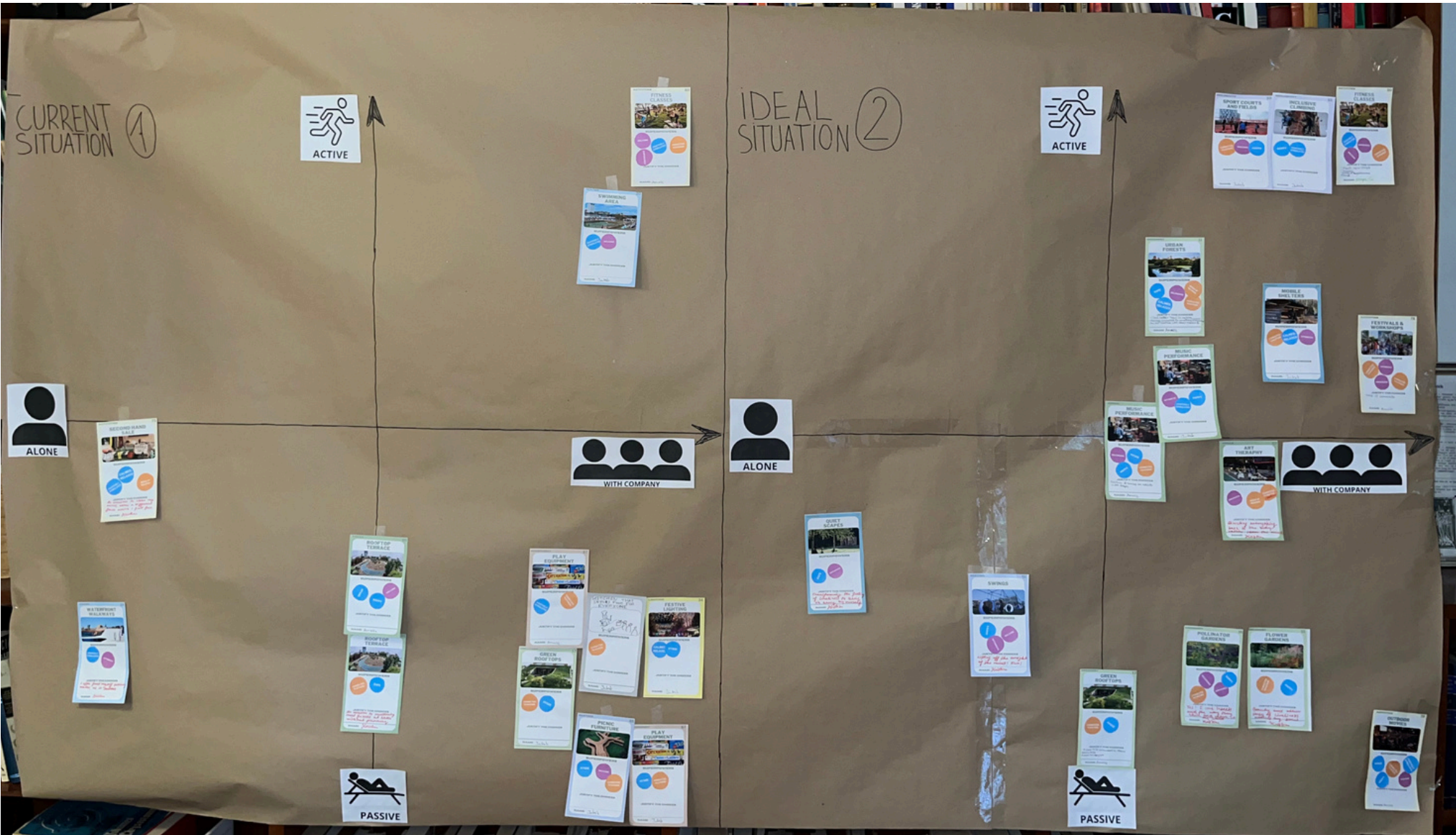
Picture 6.3.13. Facilitator explaining the phases. Source: Own elaboration

6.4. The results

Group 1 consisted of 3 people: Amalie, Kristin, and Jakob. All of them were residents of the Nordisk Kollegium. In the Group 1 current situation Matrix (Picture 6.4.1), there were 12 cards, predominantly located in the areas associated with "passive" and "with company". In comparison, the ideal situation Matrix showed a total of 15 cards, with most positioned in the "with company" area, but now almost evenly distributed between the "active" and "passive" directions. Notably, 1 participant chose to create a new card titled "kitchen that serves food for everyone". 9 cards out of 12 in the current situation lacked a written explanation of chosen superpowers, the same applied to 5 out of 15 in the ideal situation. All but 1 of the cards on both matrixes were linked to 2 or more positive superpowers depicted by tokens. Amalie decided to choose 3 cards to explain her current situation, and 6 cards for the ideal situation. Kristin opted to use 3 cards to show her current situation, and 5 cards to describe

the ideal scenario. The last person of Group 1, Jakob, chose 6 cards to elaborate on his current situation, and 4 to depict the perfect scenario. Every group member took 10 or fewer cards, adhering to the limits we established.

Group 2 included 3 people as well: Kasper, Lukas, and Lukasz. Kasper and Lukas were both residents of the Nordisk Kollegium. Lukasz was an external person initially set up to assist during the workshop.



Picture 6.4.1. Matrix with results of Group 1. Source: Own elaboration

In the Group 2 current situation Matrix (Picture 6.4.2), there were 13 cards, predominantly placed towards the "with company" edge, with a significant concentration on the "active" side of the axis. In comparison, the ideal situation Matrix displayed a total of 10 cards, which were distributed across the Matrix. Cards were placed both in the "with company" and "alone areas", with a couple of them positioned in between these two aspects. Cards were almost evenly distributed between "active" and "passive". Each card from both matrixes of Group 2 had a written explanation for the token choices. The number of superpower tokens varied from 1 to 6. Kasper decided to depict his current situation with 4 cards and the ideal situation with 5 cards. Lukasz used 4 cards for the current situation, as well as for the ideal scenario. Lukas portrayed his current situation with 5 cards and used only 1 to show his ideal situation. Each member of Group 2 adhered to the limit of cards established, having less than 10 cards in total.



Picture 6.4.2. Matrix with results of Group 2. Source: Own elaboration

6.5. Analysing the data of the workshop

The acquired data is analysed to obtain a deeper understanding of how certain elements of the environment help to alleviate the loneliness of individual workshop participants. The scope of the analysis is based on 4 aspects of the obtained data: the cards used, the feelings associated with them, the justification of choices, and the placement of the cards on two matrixes.

CARDS

There were a total of 80 different cards available on the board during the game. From these, the participants selected 30 cards, with 1 participant choosing to create their own card, reflecting the dormitory’s dynamic of collective dinners provided by the canteen every evening. All of the chosen cards and their quantity are presented on an affinity diagram below (see Figure 6.5.1). The most popular categories were "greenery" and "activities", each with 6 cards selected

multiple times, followed by "seating" with 5 cards, "areas" and "refuge", each with 3 cards selected. The most frequently selected cards were "fitness classes" and "rooftop terrace", each chosen 5 times. In second place were "second-hand market" and "music performance", each selected 3 times. The cards selected twice included "green rooftops", "urban forests", "waterfront walkways", "swimming area", "benches", "sports courts and fields", "play equipment" and "festivals and workshops".

In the case of Group 1, when comparing their current and ideal situation, several new cards were selected, indicating a possible need for changes in their environment. A significant number of new cards was added in the "greenery" category, which may indicate the need of this group to be surrounded by a green environment, which may have a positive impact on mitigating the feeling of loneliness. The desire for more greenery may

also be caused by living in Østerbro, a district with the second lowest percentage share of green areas in Copenhagen (Copenhagen Municipality, 2022).

New cards were also included in the categories "areas", "seating", and "activities", indicating the group's need for a bigger availability of choices when it comes to these elements of the urban environment. In the ideal scenario, new categories such as “refuge” and “inclusivity” emerged, recognising and highlighting their absence in the current situation of Group 1, indicating possible areas of intervention. This group proposed the need for quiet escapes and mobile shelters, together with inclusive climbing areas and sports fields. By choosing these cards, the group emphasised how important it is for them to create environments with equal access for diverse groups.

In the Group 2 choices, new categories also emerged in the ideal situation compared to

the current situation and these were the categories of "refuge" and "amenities". The cards chosen by the group concerned protection against cold and rain, as well as drinking fountains, highlighting potential deficiencies in the current situation, therefore indicating new areas for improvement in urban environment design. In the remaining categories, new cards were selected, such as different forms of seats available, or a greater variety of activities compared to those currently available to members of Group 2, implying a desire to have more choices regarding accessible options in urban environments.

Overall, summing up the use of cards from individual categories in both groups and in both situations, the most used were those from the “greenery”, “activities”, “areas”, and “seating” categories. It indicates a possible connection between these elements of urban environments now and in ideal circumstances, and the feeling of loneliness among the workshop participants, highlighting the possible key factors to

consider when designing spaces for this particular group of recipients.

TOKENS

Concerning the emotions associated with the cards, all 14 provided examples were utilised

by the participants, with one participant creating an additional token titled "hydrated". All of the tokens used by both groups are presented in Figure 6.5.2. The most frequently expressed feeling was "positively stimulated", mentioned a total of 19 times during

CATEGORIES	GROUP 1					GROUP 2					TOTAL (50)										
	CURRENT (12)		IDEAL (15)			CURRENT (13)		IDEAL (10)													
AREAS	x2 Rooftop terrace		Art therapy	x2 Music performance		x2 Rooftop terrace		Rooftop terrace			x5 Rooftop terrace		Art therapy	x2 Music performance		8					
GREENERY	Green rooftops		Green rooftops	Flower gardens	Polinator gardens	Urban forests	Urban forests	Street trees	Pocket parks			x2 Green rooftops		Flower gardens	Polinator gardens	x2 Urban forests	Street trees	Pocket parks	8		
WATER	Waterfront walkways	Swimming area				Waterfront walkways	Swimming area				x2 Waterfront walkways		x2 Swimming area						4		
REFUGE			Quiet scapes	Mobile shelters				Cold and rain protection						Quiet scapes	Mobile shelters	Cold and rain protection			3		
LIGHTING	Festive lighting										Festive lighting							1			
AMENITIES								Drinking fountains			Drinking fountains						1				
SEATING	Picnic furniture		Swings			x2 Benches		Flexible seating	Bean bag chairs			Picnic furniture	Swings	x2 Benches		Flexible seating	Bean bag chairs		6		
INCLUSIVITY			Inclusive climbing	Sport courts and fields		Sport courts and fields					Inclusive climbing	Sport courts and fields							3		
EQUIPMENT	x2 Play equipment										x2 Play equipment							2			
ACTIVITIES	Second hand sale	Fitness classes	Outdoor movies	Festivals & workshops	Fitness classes	x2 Fitness classes		x2 Second hand sale		Fitness classes	Festivals & workshops	Musical performance	Community gardening	x3 Second hand sale		x5 Fitness classes	Outdoor movies	x2 Festivals & workshops	Musical performance	Community gardening	13
WILDCARD	Kitchen that serves food for everyone										Kitchen that serves food for everyone							1			

Figure 6.5.1. Affinity diagram containing cards chosen by workshop participants. Source: Own elaboration

ELEMENTS OF LONELINESS	FEELINGS TO ALLEVIATE LONELINESS	GROUP 1	GROUP 2	TOTAL
EMOTIONAL DISTRESS - DESPAIR: Shanahan, et al. (2019). Does Despair Really Kill? A Roadmap for an Evidence-Based Answer - DEPRESSION/SADNESS: Erzen, E. and Çikrikci, Ö. (2018). The effect of loneliness on depression: A meta-analysis. - EMPTINESS: Klonsky, E. D. (2008). What is emptiness? Clarifying the 7th criterion for borderline personality disorder. - ANXIETY: Lazuras, L., Ypsilanti, A. & Mullings, E. The Emotional Burden of Loneliness and its Association with Mental Health Outcomes.	<div>CALMED, RELAXED</div> <div>POSITIVELY STIMULATED</div> <div>HAPPY</div> <div>SAFE</div> <div>HYGGE</div>	<div>x4 CALMED, RELAXED</div> <div>x9 POSITIVELY STIMULATED</div> <div>x9 HAPPY</div> <div>x3 SAFE</div> <div>x5 HYGGE</div>	<div>x7 CALMED, RELAXED</div> <div>x10 POSITIVELY STIMULATED</div> <div>x2 HAPPY</div> <div>x2 SAFE</div> <div>x4 HYGGE</div>	<div>x11 CALMED, RELAXED</div> <div>x19 POSITIVELY STIMULATED</div> <div>x11 HAPPY</div> <div>x5 SAFE</div> <div>x9 HYGGE</div>
SENSE OF REJECTION - Restepo et al., (2023). Ambiguity potentiates effects of loneliness on feelings of rejection. - Saricam, H., Gencdogan, B. and Erozkan, A. (2012). The Examination of the Relationship between the University Students' Rejection Sensivities, Self Esteem and Loneliness Levels.	<div>WELCOME</div> <div>EMPOWERED</div> <div>OPTIMISTIC</div> <div>BELONGING</div>	<div>x8 WELCOME</div> <div>x5 EMPOWERED</div> <div>x4 OPTIMISTIC</div> <div>x3 BELONGING</div>	<div>x3 WELCOME</div> <div>x3 EMPOWERED</div> <div>x6 OPTIMISTIC</div> <div>x6 BELONGING</div>	<div>x11 WELCOME</div> <div>x8 EMPOWERED</div> <div>x10 OPTIMISTIC</div> <div>x9 BELONGING</div>
LACK OF CONNECTION - Astell-Burt et al., (2021). More green, less lonely? A longitudinal cohort study. - Ji, C.S. (2023). Public Space: The Critical Connection in a Sometimes Lonely City. - Kleeman et al., (2023). The impact of the design and quality of communal areas in apartment buildings on residents' neighbouring and loneliness. - Luhmann, M., Buecker, S. and Rüsberg, M. (2022). Loneliness across time and space.	<div>SENSE OF MEANING</div> <div>CONNECTED TO OTHERS</div> <div>ATTACHED</div> <div>CONNECTED TO NATURE</div>	<div>x2 SENSE OF MEANING</div> <div>x10 CONNECTED TO OTHERS</div> <div>x7 CONNECTED TO NATURE</div>	<div>x4 SENSE OF MEANING</div> <div>x7 CONNECTED TO OTHERS</div> <div>x2 ATTACHED</div> <div>x3 CONNECTED TO NATURE</div>	<div>x6 SENSE OF MEANING</div> <div>x17 CONNECTED TO OTHERS</div> <div>x2 ATTACHED</div> <div>x10 CONNECTED TO NATURE</div>

Figure 6.5.2. Affinity diagram of chosen tokens. Source: Own elaboration

the game. Following closely was "connected to others", referenced 17 times. Subsequently, "calm" and "relaxed", "happy" and "welcome" were each mentioned 11 times. Conversely, the least utilised emotion was "attached", mentioned only twice.

The choice of tokens by both groups allowed observation and understanding of what feelings and emotions accompany different workshop participants in relation to the individual elements of the urban environment they chose.

Thanks to this, it was possible to observe the impact of given elements on each person, as well as to notice the subjectivity of the same elements selected by a few people, or a pattern in repeated feelings about the same element.

The most frequently chosen card was the Rooftop terrace card, chosen by 4 people, with 1 person selecting it twice. Amalie, Kristin, Kasper, and Lukas likely chose this card because their dormitory has a rooftop terrace available for use. Despite using the same terrace, their feelings about how it affects them varied significantly. Amalie chose 3 tokens such as “hygge”, “happy”, and “welcome”. Kristin chose to be “connected to others”, and “safe”. Lukas also chose “hygge” like Amalie, but he also added “optimistic”, “sense of meaning”, and “attached”. Kasper used the “calmed/relaxed” and “empowered” tokens twice, in the current and ideal situation. This card, representing a place accessible to all participants living in the Nordisk Kollegium, demonstrated how various feelings accompany each person when considering

the aspect of loneliness, proving the subjectivity of this state for each of them. Most of the selected tokens by both groups of participants were from a cluster of feelings alleviating the element of loneliness related to emotional distress. This might suggest that participants are self-aware of their emotions and feelings, and are prioritising them. They are capable of identifying and naming them, and able to link them to specific aspects of their environment that they believe help manage emotional distress, recognising the connection between their internal states and external stimuli. The number of selected tokens from this group may also indicate that combating the element of loneliness such as emotional distress may be a priority for the participants, as it may have the greatest impact on their well-being. Both groups chose different tokens as their second most frequently used. For Group 1, tokens alleviating the sense of rejection were used more than the ones indicating help with lack of connection. For Group 2, it was the opposite. This shows that despite

the common aspect of focusing on emotional well-being, there are still differences between participants in prioritising their feelings and solutions that allow them to cope with these states. We recognise that the difference was influenced by the participants' choice of cards. However, in both instances, this still highlights the subjectivity of combating loneliness and identifying which elements of the space assist it.

JUSTIFICATIONS

The opportunity to explain the choices of cards and tokens associated with specific elements of public places allowed for a deeper understanding of the workshop participants' decisions. This part of the game encouraged participants to open up more and reflect more carefully on how certain elements of the urban environment relate to their experiences of loneliness. Not all explanation fields were filled in, primarily due to the time limit, which was communicated by the participants during the feedback session after the workshop.

We gathered all the elaborations on the choices of individual cards and presented them in an affinity diagram, depicted in Figure 6.5.3. Each explanation obtained during the workshop certainly provides valuable insight into a person's thoughts, feelings and emotions. Therefore, all of them should be equally taken into consideration to understand the importance of specific elements in an urban environment. Of particular interest to us were the elaborations for individual cards selected simultaneously by multiple participants, and how these explanations overlapped or differed. In the case of the card most frequently chosen by workshop participants, Rooftop terrace, we managed to obtain 3 more detailed elaborations. "*An occasion to randomly meet friends at NOKO without planning*", "*Gives a lovely overview*", and "*Great place to hygge with others, full scenery*" were the explanations for selecting the given card and tokens written by Kristin, Kasper, and Lukas respectively. All these explanations focused either on meeting

friends and sharing moments together, or on the view from this terrace, pointing to similar functions of a given area. What is equally interesting is the previously conducted analysis of selected tokens for the Rooftop terrace card, which showed different choices

of "superpowers" depending on the person, and yet, the choices of 3 participants are justified in a very similar way. This demonstrates that although workshop participants describe the functions of the area and the justification for its choice in a very

similar way, it evokes different feelings in each person. Regarding the Fitness classes card, which we previously analysed in terms of token used, we obtained 2 explanations from Amalie and Kasper. For Amalie, the activity was an element to “*meet new people, socialize, feeling togetherness, exercise*”. For Kasper, it “*felt as a part of a whole, something achieved together*”. For both Amalie and Kasper, the activity focuses on the sense of belonging and feeling of togetherness, soothing their perception of loneliness. And yet, the tokens they choose describe the states of feelings that accompany them in a completely different way, again indicating how subjectively individual urban environment elements are perceived in terms of feelings and emotions helping to alleviate loneliness.

PLACEMENT ON THE MATRICES

For both groups, the arrangement of cards on the Matrix and their changes took on completely different dynamics.

CATEGORIES	JUSTIFICATION OF CHOICES									
AREAS	Rooftop terrace			Art therapy	Music performance					
	"An occasion to randomly meet friends at NOKO without planning"	"Gives a lovely overview"	"Great place to hygge with others, full scenery"	"Directly everything to the body rather than the mind"				"Having an activity with others"		
GREENERY	Urban forests			Flower gardens	Polinator gardens	Green rooftops		Street trees		Pocket parks
	"I feel better in nature, conected to living things, interact with other creatures"		"Ultimate get away from the city"	"Beauty and other senses of liveliness fill my soul"	"I love insects and the way they chill and move in the world"	"Nature help, place to be sorrouned by others and hang out"		"Beautiful, calming, break from looking at screen"		"Chill places to be with others"
WATER	Waterfront walkways			Swimming area						
	"I often find myself feeling water, as it"		"Beautiful and calming"				"Provides me activity for warm days, attachment to city"			
REFUGE	Quiet scapes			Cold and rain protection						
	"Transforming the feeling of loneliness to being ok being by ourselves"							"Would be great to combine this + sport courts and fields"		
AMENITIES	Drinking fountains									
					"Clarifies my mind"					
SEATING	Benches				Swings	Flexible seating		Bean bag chairs		
	"Gives me time to relax and take a break"		"Nice place to relax in good weather, Gratis"		"Lifthing off the weight of the mind, fun"	"Good place to stop and connect"		"Interesting alternative to benches"		
INCLUSIVITY	Sport courts and fields									
					"Sports for me is best activity for clearing mind and spend time with others"					
ACTIVITIES	Second hand sale			Fitness classes		Festivals & workshops		Musical performance		Community gardening
	"An occasion to clear my mind, allow a different focus which I find fun"	"Fun, rush, the good feeling of getting a bargaing"	"Feels good to do and you interact with others"	"Meet new people, socialize, feeling togetherness, exercise"	"Felt as a part of a whole, something achieved together"	"Sense of community"	"Good mood with other people"	"Meeting new people"		"Community, hygge, good vibes"

Figure 6.5.3. Affinity diagram with justifications of participants’ choices of cards. Source: Own elaboration

As mentioned before in Chapter 6.4, Group 1, consisting of Amalie, Kristin and Jakob, for the current situation placed most of their cards between the "passive" and "with company" axes, and for the ideal situation, the cards were spread almost evenly between the "passive" and "active" activities, but still "with company" (Picture 6.4.1). This indicates a desire to utilise the urban environment elements in a more active way, but still mostly in the company of other people. This reveals the importance of being surrounded by others to combat the feeling of loneliness, in both the current and ideal situation, turning this aspect into a key indicator for addressing loneliness within Group 1.

For Group 2, consisting of Kasper, Lukas, and Lukasz, the current situation contained cards mostly placed between the "active" and "with company" axes, and for the ideal scenario some of these cards were moved between "alone" and "with company", also appearing in the "passive" area (Picture 6.4.2). The repositioning of their cards may indicate a desire to find a balance between utilising the

elements of urban environments either alone or with others, or recognising the importance of solitary moments in combating the feeling of loneliness. This approach differs from that of Group 1, choosing social interaction over time spent alone. Remarkably, the contrast between groups illustrates different strategies for alleviating the feeling of loneliness with the use of urban environment elements.



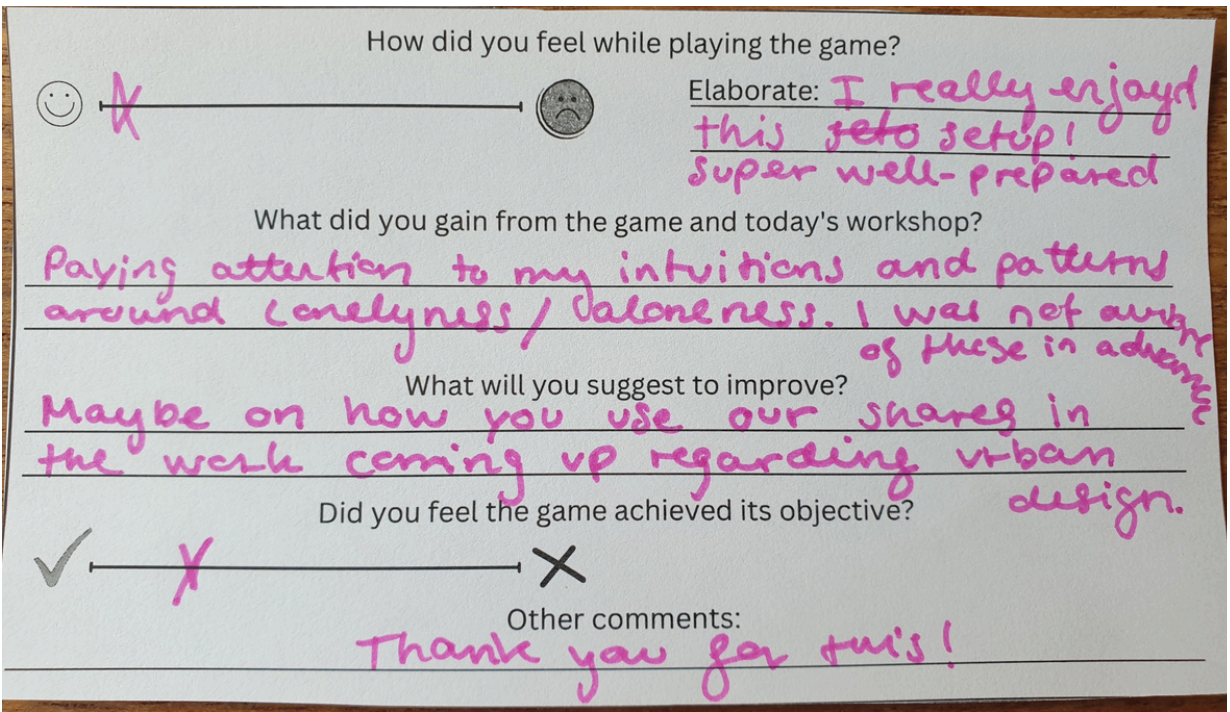
6.6. The feedback

At the end of our game testing session, we expressed our gratitude to the individuals for their participation and asked them to stay in the room for 5 additional minutes to complete a short feedback questionnaire about the game and the workshop. The questionnaire consisted of 4 questions and 1 additional text box for other comments that participants might have.

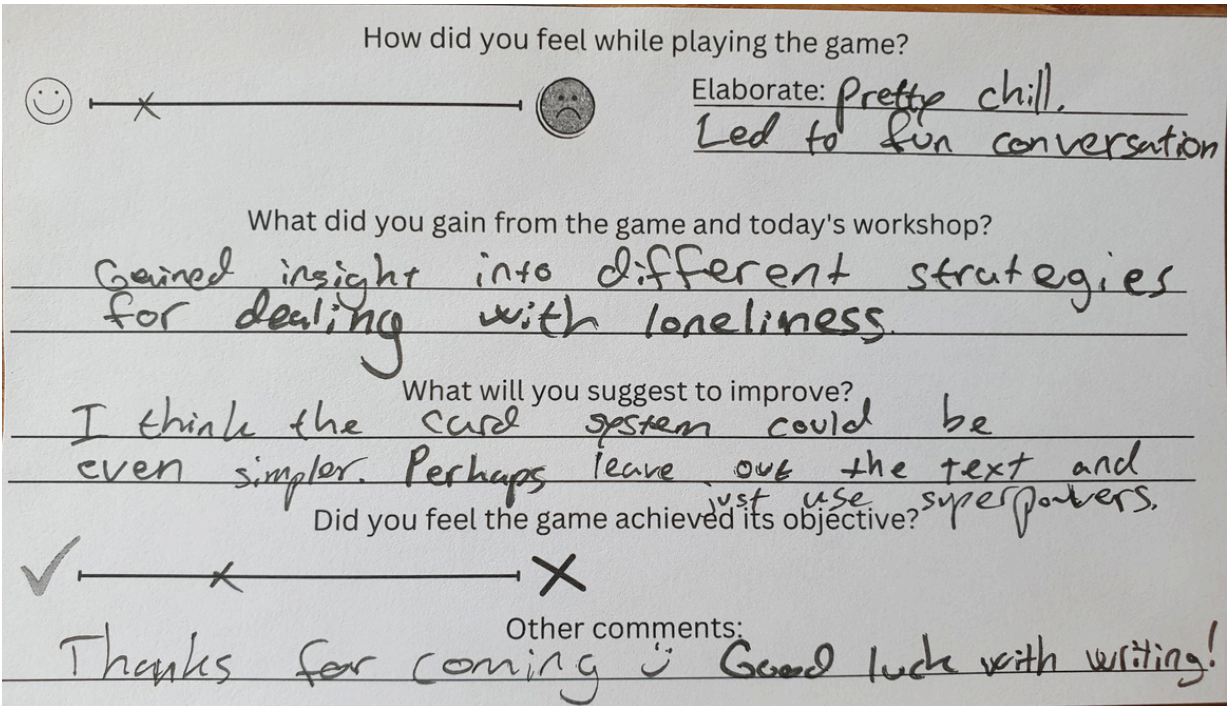
The first question was about *how they felt while playing the game*. Their task was to graphically mark their mood on the axis between a smiling and a sad emoticon, and then verbally explain why. All responses depicted graphically were very close to the happy emoticon, indicating positive emotions during the workshops. Participants mentioned reasons such as “super well-prepared” (see Picture 6.6.1) relating to the setup of the workshop, “led to fun conversations” (see Picture 6.6.2), “cosy and simple” (see Picture 6.6.3), “fun to see how different people think” (see Picture 6.6.4),

“fun to talk about what makes us happy” (see Picture 6.6.6), “happy to meet new people” (see Picture 6.6.5), and “safe place” (see Picture 6.6.4) relating to the environment we held the workshop. The feedback indicates that both the organisation of the workshop and the overall atmosphere were well-received. However, we recognise that the chosen location itself was already a familiar and safe place for individuals, presumably strengthening the sense of ease and security. Our contribution to this feeling involved enhancing the space with additional arrangements, providing refreshments, and creating a cosy atmosphere with gentle background music.

The second question was open and focused on *what they gained from playing the game and participating in the workshop*. The responses mainly concentrated on 2 aspects: recognising and understanding loneliness, own emotions and patterns, and discovering new ideas to combat loneliness. Participants



Picture 6.6.1. Feedback from Participant 1. Source: Own elaboration



Picture 6.6.2. Feedback from Participant 2. Source: Own elaboration

mentioned things like gaining “awareness of my current situation (passive). I need more active activities.” (see Picture 6.6.4) and “thoughts on what I prefer in terms of being “not-alone”. And now I know why I like some places!” (see Picture 6.6.3). They also brought up the idea of “paying attention to my intuition and patterns around loneliness. I was not aware of these in advance” (see Picture 6.6.1). Regarding the aspect of discovering new ideas on how to mitigate the feeling of loneliness, individuals stated that they “gained insight into different strategies for dealing with loneliness” (see Picture 6.6.2) and found “interesting ideas for myself for how to spend free time and tackle loneliness” (see Picture 6.6.5). The answers to this question were important for us to determine whether participants made insightful new observations, became more open about their experiences with loneliness, or noticed discrepancies between their current situation and their ideal urban environment. In general, the responses can be considered satisfactory, indicating that participants had anticipated

How did you feel while playing the game? *Kasper*

Elaborate: *It was cozy and simple with good vibes.*

What did you gain from the game and today's workshop?

Thoughts on what I prefer in terms of being "not-alone". And now I know why I like some places!

What will you suggest to improve?

The time we got was super!! Music was good! cannot really come up with anything to improve.

Did you feel the game achieved its objective?

Other comments:

I was a bit confused of what the idea was with the Kahoot! Maybe motivate it more :)

Picture 6.6.3. Feedback from Participant 3. Source: Own elaboration

How did you feel while playing the game?

Elaborate: *It was fun to see how different people think. Also a safe place! At home people I feel safe with*

What did you gain from the game and today's workshop?

Awareness of my current situation (passive). I need more active activities. I also reflected on new ways to counter loneliness.

What will you suggest to improve?

Perhaps more time. We were very ~~happy~~ focussed and had a lot in our hearts.

Did you feel the game achieved its objective?

Other comments:

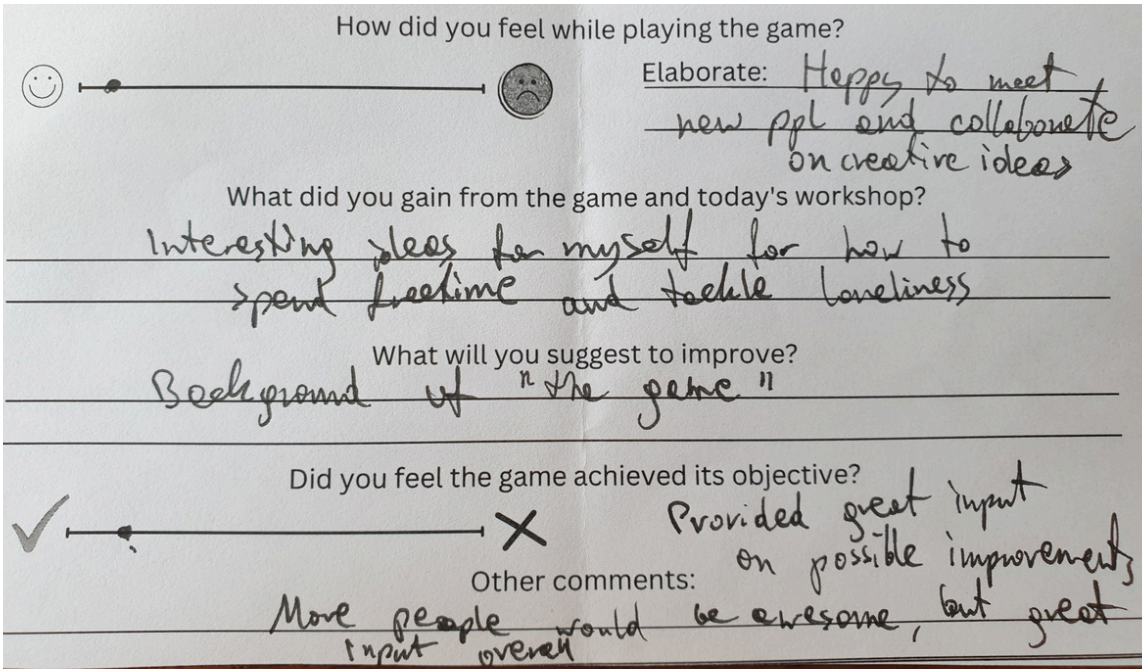
Picture 6.6.4. Feedback from Participant 4. Source: Own elaboration

reflections and gained new insights, implying the effectiveness of the game. The third question was also open and focused on what participants would suggest to improve. The answers to this question were important to us in terms of improving the game, its elements or the way the workshop was conducted. 5 out of 6 comments focused on improving workshop elements, and only one suggested changes to the game. One participant suggested that “the card system could be even simpler. Perhaps leave out the text and just use superpowers.” (see Picture 6.6.2), which may suggest that many aspects of the game (number of cards, complexity of tasks and time to complete them) may have been too demanding within the available time constraints. The rest of the participants pointed out elements like “more time. We were very focused and had a lot in our hearts.” (see Picture 6.6.4), lacking the explanation of the “background of the game” (see Picture 6.6.5) and “how you use our shares in the work coming up regarding urban design” (see Picture 6.6.1).

Two of the participants commented on the misunderstanding of the elements or our inaccurate explanation of them: “*I was a bit confused of what the idea was with the Kahoot.*” (see Picture 6.6.3) and “*highlight that you pick stuff that are good and stuff that need improvement*” (see Picture 6.6.6). It definitely helped us take a critical look at the preparation of the workshops in terms of content. Due to time constraints, we were not able to present all important information, which, however, turned out to be crucial for some to understand our project and how we want to use the game results, possibly influencing the approach to playing and understanding the topic.

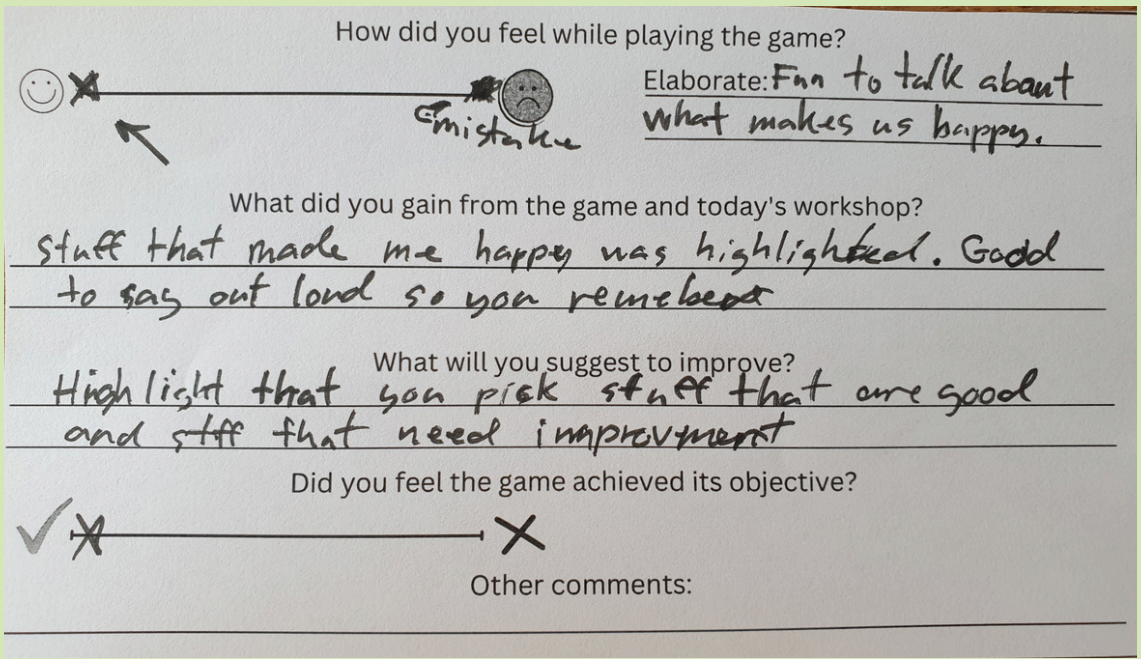
The last question was *whether they thought the game achieved its objective*, where the participants were asked to visually indicate their emotions. The results obtained were closer in most cases (4 out of 6) to being between the centre of the axis and the graphic "checkmark" that is associated with an affirmative answer to the question. 2 out of 6 individuals were more inclined to say

that the game fulfilled its purpose presented at the beginning of the workshop. Regrettably, we chose not to ask them for a direct explanation, assuming that our prior question regarding suggested improvements would be sufficient enough to clarify their opinions. However, we did not anticipate that most of the feedback would focus on the workshop rather than the game itself. Due to our approach, we missed the opportunity to



Picture 6.6.5. Feedback from Participant 5. Source: Own elaboration

gather feedback specifically on how to enhance the game to better achieve its intended purpose.



Picture 6.6.6. Feedback from Participant 6. Source: Own elaboration

Despite this, 1 person decided to support their opinion with a short explanation that the game “*provided a great input on possible improvements*” (see Picture 6.6.5). The remaining text box on the questionnaire was left for other comments. In 2 instances, this field was left blank (see Picture 6.6.4 and 6.6.6). In another 2 instances, we received expressions of gratitude for organising the workshops (see Pictures 6.6.1 and 6.6.2) and 1 suggestion that having more participants would be beneficial (see Picture 6.6.5). Also, 1 of the participants used this place to add part of the answer to the question of what we should

improve (see Picture 6.6.3).

Overall, the feedback we received gave us insight into how our workshop and game were received, what emotions they evoked and what they brought to the participants' lives. We believe these opinions will be useful in improving the conduct of the workshops. We note that while the feedback received regarding the improvement of the game is limited, this may be attributed to the way the questions were formulated. We appreciate the benefits the game provided to the participants in our workshop, although the current feedback is not enough to guide significant changes to the game itself.

6.7. The game as a tool

In addition to analysing the results of the game conducted during the workshops at Nordisk Kollegium, it was crucial for us to assess how well the game fulfilled its intended tasks as a conversation tool. During the duration of the workshop, we also acted as observers and secretaries, taking notes from the event. It is important to highlight that we have observed a greater need for a more deliberate division of roles for the presenters throughout the workshop in the future, as moments of uncertainty did arise.

Observations were carried out from the beginning of the game to its conclusion. Notes were only taken when interesting elements were observed, to ensure they were not forgotten.

Based on observations and notes, each participant was engaged in the game, demonstrating interest and willingness to clarify unclear information by asking questions. We recognise that questions about the process of playing the game may also

indicate that the rules and individual stages of the game were presented in an unclear manner. During the game, participants' behaviour aligned with the game's requirements: some stages necessitated independent work and reflection, while others required group discussions. Each individual engaged in personal reflection while working on the cards they chose. During the group work stages, all participants undertook joint discussions and shared their emotions, experiences and choices. However, the conversations conducted by both groups had several different aspects.

Group 1, consisting of Amalie, Jakob and Kristin, conversed exclusively in Danish, which made it difficult for us to obtain more detailed information about their conversations, as none of the observers spoke Danish. It was also not clearly communicated that conversations should be in English, and it was wrongly assumed that since the workshops were conducted in English, the conversations

would be as well. However, judging from the body language and the use of playing cards during the conversations, we believe that the discussions were conducted in relation to loneliness and the urban environment, which was largely confirmed when Group 1 presented their outcomes, emphasising that they talked a lot about loneliness and various possibilities of combating it.

Group 2, consisting of Kasper, Lukas, and Lukasz, conducted their conversations in English. To a large extent, the conversations were about loneliness and how they deal with it, but there were moments when the conversations diverged completely from this topic, focusing more on getting to know each other, what they do on a daily basis and where they study. We also consider such conversations a success of the game as it influenced the creation of new connections, possibly creating new networks and positively influencing one of the elements of loneliness that we mapped before (lack of connections).

Additionally, when presenting their results, the group confirmed that they managed to notice similarities and differences between how others struggle with loneliness compared to them, which gave them better insight into the topic of loneliness, which is also a beneficial outcome of playing the game, i.e. expanding their knowledge and broadening their perspectives.

Observing the outcomes of the workshop and the game through our ANT lenses, the testing carried out resulted in the beginning of building a network between the workshop participants and our game, the creation of which was one of the goals of the project. Thus, we hope that our tool strengthens the connection between people feeling loneliness and the urban environment. Thanks to a deeper comprehension of what in the city helps them alleviate the loneliness, as well as identifying potential resources they were not aware of before, we hope to foster completely new relationships between them and certain elements of the city.

Growing connections were also observed

between participants, resulting in the possible formation of new bonds within the group of actors experiencing loneliness. Therefore, our game might have served as a tool in a shared “matter of concern” related to connecting people. However, further steps are needed in the development of the tool supporting other "matters of concern", as we have not been able to observe any firmer signs of establishing such connections or the tool providing support in these matters. We hope this initial step will facilitate connections with other actors involved in the network and strengthen the overall connections that we introduced in Chapter 3.2.

In conclusion, we have noted the positive impact of our game in stimulating discussions about the feeling of loneliness and the role of urban environments that extended beyond its initial focus. As mentioned before, it also helped to foster dialogues on everyday subjects and get to know each other better. We consider these outcomes a significant success, to some extent validating the game's fulfilment of its

intended purpose of opening the conversations.



7

DISCUSSION AND PERSPECTIVATION

In this chapter we focus on discussing the strengths and weaknesses of our project, future possibilities of research, as well as the alternatives of how our game can be used and by whom.

7.1. Strengths and limitations of the project

The strengths lie in the game's utility as a conversation starter, as evidenced by insights concluded from workshop observations. Whether used in groups to foster shared experiences and perspectives on loneliness, or individually as an inspirational self-guidance tool, it serves as a tool for problematising loneliness, allowing individuals to explore their perspectives on the issue. By encouraging them to step beyond their comfort zones, it attempts to alleviate the stigma associated with loneliness. By gamifying the exploration of loneliness, it offers a more engaging approach, particularly appealing to younger adults while having the potential to be adapted to different demographics and by consequence remaining accessible to all. This innovative tool not only facilitates dialogue on stigmatised topics such as loneliness but it also simplifies complex research concepts into playable formats.

The limitations lie in the challenge of translating outcomes for architects into actionable design guidelines or frameworks. Our discussions with architects revealed a desire for more direct guidelines, indicating the need for additional elements to enhance the tool's effectiveness in creating design principles. There is a gap in strengthening and creating networks to unite stakeholders, while we engage with them individually in true semi-structured interviews, we recognise that a collective workshop involving representatives from various categories (architects, health professionals, environmental advocates, loneliness organisations, academics and the citizens performing in Copenhagen) has not been organised during the project. Another limitation is that the empirical data sample is limited, derived from only 1 workshop involving 6 participants, and also from 1 online questionnaire involving 41 participants.

While this may not provide comprehensive data for enhancing urban environments, the game as a tool does serve as an impulse for conversation and a means of discovering their experiences.

7.2. Opportunities for future studies

This thesis project was of the duration of 4 months, addressing a broad and complex topic of mental health. The individuality and subjectivity of the issue offers numerous opportunities of further research in the field of urban loneliness. This research could provide a new approach to our tool on how to initiate the conversations with young adults, and how to problematize urban loneliness and share it with various actors, showing aspects that lack attention and could be relevant to research further.

In future research there is a potential to develop a second part of the tool working as a translation framework aimed at transforming game outcomes into practical solutions for professionals. Additionally, there is a possibility of broadening testing to involve a diverse range of professionals, including architects, health professionals, municipal organisations, loneliness organisations, academics, and citizens, all together in collaborative sessions, in order to strengthen

the connections and work together to create and improve the urban environment.

Furthermore, exploring testing with alternative target groups, such as the elderly (second age group more prone to feel lonely), has a potential to offer valuable insights into various facets of loneliness. Lastly, it could be of interest testing the tool across different demographics beyond Denmark acknowledging the cultural variations influencing loneliness experiences in other parts of the world.

7.3. Exploring alternative applications for the tool

This research project's outcome could be used in various contexts beyond the workshop as it was initially used, as well as by a variety of actors. Individuals feeling lonely could utilise the game as a self discovery tool and a guide on how to alleviate feelings associated with loneliness and enhance their urban environment experiences. Architects and urban planners could put the tool in practice in their work. It could function as a conversation starter on the topics of urban loneliness, potentially fostering open dialogue among community members and professionals engaged in site specific design projects, taking into consideration their matters of concern. Moreover, it could serve as a valuable instrument for collecting insights into loneliness, providing a deeper understanding of the diverse perspectives within the community, helping academics and researchers to gather data for their studies on urban loneliness. Large organisations, such as environmental,

governmental and political entities, could use the tool when initiating projects and wanting to involve the citizens in the processes, showing a willingness to take into account the opinions of the residents for whom these projects are being created.



CONCLUSIONS

8



The goal of this master’s thesis was to address how participatory design can facilitate conversations about the urban environment and loneliness among young adults in Copenhagen, contributing to the removal of the stigma. The main research question to be addressed is:

How can participatory design methods facilitate open dialogues about urban loneliness among young adults, thereby contributing to destigmatising this issue?

In order to fill the research gap in the topic of urban loneliness, the focus has been put on using participatory design methods, such as our design game, to establish an open and safe space for dialogue on the challenging topic of loneliness, fostering an environment where individuals feel comfortable sharing their experiences. By actively involving young adults in the design processes, these methods promote a sense of inclusion and empowerment, ensuring that their voices are heard and valued.

Participatory design methods use creative mediums, such as games, to facilitate discussions, making it more accessible and enjoyable for participants. Through gameplay and collaborative discussions, participants have the opportunity to build supportive communities and connections, fostering empathy and understanding regarding the complexities of urban loneliness. Ultimately, these methods contribute to breaking down the stigma surrounding loneliness and promoting a culture of openness and support within communities.

Next, we address 2 research sub-questions:

How can young adults’ perspectives and experiences with loneliness be integrated into urban environments design processes?

Integrating young adults’ perspectives and experiences with loneliness into urban design processes involves several approaches. Utilising boundary objects, fostering negotiation spaces, and using participatory games can facilitate engagement. By giving

young adults a voice and involving them in all design phases, their insights and experiences are directly incorporated. Organising workshops that utilise games and various tools allows for collaborative efforts on common issues, emphasising that their opinions are valued and considered in the final design. Additionally, using technology, such as mobile applications, enables young adults to share their experiences in urban spaces related to loneliness, especially when they do not have the opportunity to participate directly in project meetings or are not yet ready for it. This data can then inform the design processes, ensuring that the designs are relevant and responsive to their needs. Engaging with youth organisations and educational institutions also creates more opportunities for young adults to be heard, fostering a sense of empowerment and inclusivity in urban planning. Examples like the 'Mind My Mind' programme and the 'GirlTalk' chat demonstrate how technology can successfully support such initiatives, suggesting that similar approaches could be

adapted to address loneliness in urban environments.

How can insights gathered from participatory games and extensive research be translated into actionable guidelines for professionals?

Insights gathered from participatory games and extensive research could be effectively translated into actionable guidelines for professionals through a systematic process. This process should start with the collection and organisation of results, utilising tools such as affinity diagrams, mind maps, or fishbone diagrams, which facilitate the analysis and synthesis of the information. Subsequently, the consolidated knowledge could be translated into formats that are easily comprehensible to ensure their broad accessibility. This can be achieved by designing a new method or a framework as an additional part of a participatory game. This framework could translate the results into guidelines based on, for example,

the most frequently recurring patterns among game users, or create various combinations of guidelines from all results obtained, giving the possibility of choosing the most suitable option to apply. Adapting these guidelines and frameworks to suit various professional contexts would ensure their relevance and applicability. Finally, it is equally relevant to initiate pilot projects to test the guidelines and assess their effectiveness, as it could guarantee that the insights are not only actionable but also impactful in real world applications.



9

**HOW IS OUR PROJECT CONTRIBUTING TO THE
FIELD OF SUSTAINABLE DESIGN ENGINEERING?**

Image Source: Own elaboration

As we have built this research project upon the knowledge from the Sustainable Design Engineering field, it is important for us to explain how our work might contribute to that discipline.

We understand the concept of overall sustainability as creating an essential balance in various aspects of our lives, providing opportunities for everyone while taking care of our irreplaceable planet. With that in mind, we approach existing issues as navigating points guiding us towards a better future. As Sustainable Design Engineers, we work with sustainability in a transdisciplinary way, connecting various design skills with a wide array of knowledge. We focus on facilitating people's ability to design better solutions (Hansen, 2022).

To describe in more detail the contribution of our project to the field of sustainability, we recognise the 3 pillar concept of sustainability, consisting of social, economic, and environmental parts (Purvis et al., 2019). As our project contributes to the social pillar of sustainability, we would like to explain how

social sustainability looks like in our understanding.

Based on Sachs' work (1999), *a strong definition of social sustainability must rest on the basic values of equity and democracy, the latter meant as the effective appropriation of all human rights – political, civil, economic, social and cultural – by all people* (p. 27). Drawing inspiration from that and the work of McGuinn et al. (2020), we recognise that social sustainability is all about empowerment of people, ensuring equity, allowing active participation, and providing accessibility in various terms. Our project begins the work around destigmatising the topic of loneliness among young adults with the use of urban environment elements, empowering people to speak openly about their experiences. We help individuals to discover available solutions and facilitate a process of reflections, strengthening their consciousness on what elements of cities help them alleviate the feeling of loneliness. Furthermore, we are taking first steps towards enabling the use of our method by

different stakeholders, such as design professionals like architects and urban planners, as well as municipal organisations, in terms of gathering data to improve their solutions, strengthening the aspect of social sustainability throughout the cities, and also emphasising the importance of citizens' involvement. This allows us to contribute to the equity aspect of social sustainability, as well as the active participation of citizens in design processes, and ensuring access to various solutions helping them to alleviate the feeling of loneliness.

In terms of designing for sustainability, we would like to use the framework proposed by Ceshin and Gaziulusoy (2020) to show where the scope of our project lies, as well as how we frame the problem (see Figure 9.1).

We see our work placed within the socio-technical-ecological system level, focusing on the systemic intervention in between human-centric and earth-centric problems. This project focuses primarily on the human aspect by empowering individuals to speak openly about their experiences of loneliness in relation to the urban environment.

Therefore, we aim to contribute to the destigmatisation of the topic, challenging systemic beliefs and stereotypes related to it. Additionally, by working towards integrating the health aspect into urban planning, we expect to disrupt the current approaches with sustainable and health conscious urban solutions, influencing both the human and environmental aspects of the multidimensional system that is the city. Lastly, we recognise that our project has been assessed only once within a local community. However, it has a lot of flexibility in terms of application, where it can be used on many systemic levels, challenging views and approaches of many, from individuals, through urban planning professionals, to municipal organisations. Our goal as Sustainable Design Engineers is to foster innovation that supports sustainable transitions.

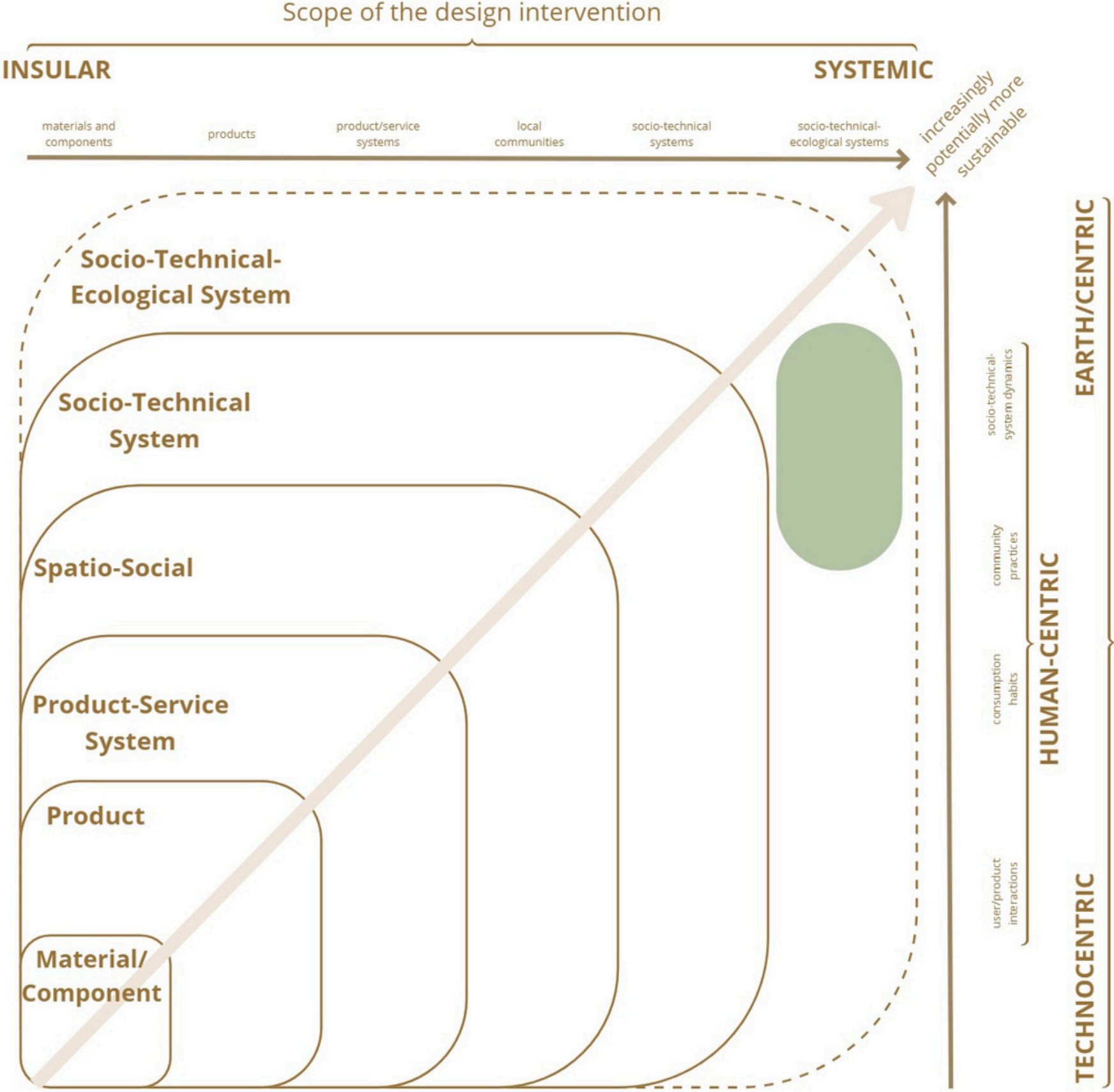


Figure 9.1. “Design for Sustainability” framework by Ceshin an Gaziulusoy (2020). Source: Own elaboration



10 REFLECTIONS

While developing the thesis, we learned many things that made us reflect on our approach to the topic of loneliness and our decisions for the project. We also identified several aspects that are worth taking into account for someone considering further research or exploring a similar topic to our project.

The first and one of the most important things we learned from this 4 month work on our project is the complexity and sensitivity of the topic of mental health, as well as the subjectivity of loneliness and dealing with it. Even with our genuine aspiration to help all individuals, we cannot create a solution that would alleviate all the problems associated with urban loneliness among young adults, given the diverse range of issues faced by individuals. However, we should try to create options in public spaces that will offer opportunities to support people's well-being, giving them a chance to alleviate feelings of loneliness alone, while being surrounded by people, or in the company of other people.

Another aspect worth reflecting on are the strengths and limitations of our approach to the project. Our approach to project work is very much rooted in working on the problem, building a logical solution on information and scientific research from reliable sources, which is definitely its strong point. A key challenge with our approach is that we have narrowed our focus to a very specific target group. By concentrating only on young adults in Copenhagen, especially those in the Østerbro district, we might not have tested our tool widely enough.

Lastly, based on our experience, we would advise people who decide to continue the research we started or explore a similar topic to examine your projects in a wider group of audience, ideally multiple times. This will make it easier to iterate the process of improving results and allow for drawing more justified conclusions about the performance of your solutions.

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APPENDICES

APPENDIX 1

GAME CARDS

COMMUNITY GARDEN

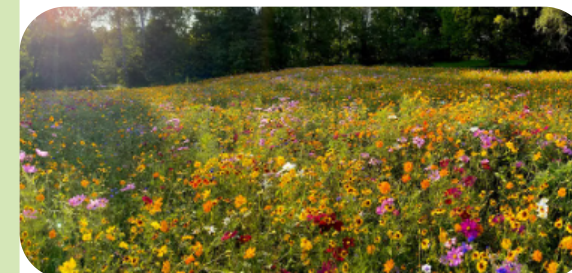


SUPERPOWERS

JUSTIFY THE CHOICES

NAME: _____

WILDFLOWER MEADOWS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME: _____

13

GREENERY

GREEN ROOFTOPS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://parametric-architecture.com/energy-efficient-buildings-transforming-cities-with-green-roofs-and-facades/>

14

GREENERY

STREET TREES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/parks-green-spaces-and-biodiversity/trees-and-woodlands/london-tree-map>

15

GREENERY

FLOWER GARDENS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.thespruce.com/flower-garden-ideas-417411>

16

GREENERY

POLLINATOR GARDENS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.dammannsgarden.co/blog/creating-a-pollinator-friendly-garden>

17

GREENERY

GREEN ALLEYS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://globalnews.ca/news/5703800/green-alleyways-sprouting-up-across-montreal-boroughs/>

18

WATER

FOUNTAIN



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://pxls.com/featured/kids-playing-in-the-fountains-in-battery-park-in-new-york-city-807114-030114>

19

WATER

POND



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://premierpond.com/pros-and-cons-backyard-pond/>

20

WATER

SWIMMING AREA



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.thecademybydri.com/globalnews/2018/06/copenhagen-denmark-best-city-in-the-world-for-swimming>

21

WATER

LAKES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: http://en.wikipedia.org/wiki/The_Lakes_Copenhagen#/media/File:Boating_at_the_Lakes_Copenhagen.jpg

22

WATER

RIVER



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: http://thebestwaterlocksau/index.php/denmark/101/denmark_resilient

23

WATER

HARBOUR



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.visitcopenhagen.com/copenhagen/seeing/copenhagen-harbour-gb067076>

24

WATER

WATERFRONT WALKWAYS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.danish.com/2012/05/06/danish-walkways-by-jls-architect/>

MULTI-CULTURAL ART



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

39

INTERACTIVE LIGHTING



SUPERPOWERS

JUSTIFY THE CHOICES

NAME: _____

VENDING MACHINE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME: _____

SWINGS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME: _____

SEATING

52

SEATING

53

SEATING

54

SEATING

55

INCLUSIVITY

56

INCLUSIVITY

57

FLEXIBLE SEATING



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.youtube.com/watch?v=street-furniture/>

INCLUSIVITY

58

INCLUSIVITY

59

INCLUSIVITY

60

INCLUSIVITY

61

INCLUSIVITY

62

INCLUSIVITY

63

SENSORY PLAY ELEMENTS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.hellandbelong.com/portfolio/garden-of-senses-fairfield-park-norwich-open-haven-source>

ACCESSIBLE SEATING



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://happshoppingbay/products.aspx?name=accessible-benches-table&id=23>

TABLES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://craftingpapermatters.com/articles/how-to-refinish-a-picnic-table-with-paint/>

BEAN BAG CHAIRS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.shutterstock.com/search/bean-bag-park>

MULTI-GENERATIONAL



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.micapsplaygroup.com/post/playgrounds-aren-t-just-for-kids-anymore>

FLEXIBLE OPEN HOURS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.dreamstime.com/illustration/bean-sign-open-24-7-light-vector-background.html>

SPORT COURTS AND FIELDS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://playground-landscape.com/en/articles/2466-public-spaces-health-promoting-and-future-proof-exercise-and-sports-before-the-covid-19-pandemic.html?c>

PRM ACCESIBLE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.nytimes.com/2023/06/19/travel/accessible-hikem-park-guide.html>

INCLUSIVE CLIMBING



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.ablitas.com/community/adaptive-climbing-wall.html>

JUMPING TRAMPOLINE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.augie.com/articles/ground-trampolines-provide-safety-source.html>

INCLUSIVE PLAYGROUND



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://playworld.com/inclusive-play/tangram>

EQUIPMENT

65

EQUIPMENT

66

EQUIPMENT

67

EQUIPMENT

68

EQUIPMENT

69

EQUIPMENT

70

SPORT AND EXERCISE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.cornwall.gov.uk/sports-equipment-for-sale-2024/07/06/>

TABLES WITH GAMES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://dribbble.com/illustrations/table-with-integrated-chess-game-in-urban-midwest/>

PLAY EQUIPMENT



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.hindustannews.com/ent-and-culture/news-a-why-south-games-are-the-coolest-top-in-tomberry-at-2024/07/06/07/06/>

BARBECUE FACILITIES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.salturban.co.uk/blog/let-urban-lunches-a-safe-and-sustainable-way-to-eat-in-the-city/>

MARKET STALLS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.qashy-group.co.uk/blog/pop-up-market-ideas-for-summer-2024/>

GARDENING TOOLS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.gardenersworld.com/garden-how-to/what-not-to-buy-for-garden-and-barn-cleaning/>

EQUIPMENT

71

ACTIVITIES

72

ACTIVITIES

73

ACTIVITIES

74


ACTIVITIES

75

ACTIVITIES

76

INCLUSIVE PLAY EQUIPMENT



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.compostproducts.com/products/playground-equipment/inclusive-playground/>

COMMUNITY GARDENING




SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://torabes.com/articles/what-is-community-garden/>

MUSICAL PERFORMANCE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.youtube.com/watch?v=spjwv20250870>

FARMERS MARKETS




SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.discoverlosangeles.com/things-to-do/los-angeles-farmers-markets/>

SECOND HAND SALE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.canva.com/photos/a-garage-sale/>

COMMUNITY POTLUCKS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.hello-neighbor.co.uk/photos/hello-neighbor-hosts-its-annual-community-potluck/>

EQUIPMENT

65

EQUIPMENT

66

EQUIPMENT

67

EQUIPMENT

68

EQUIPMENT

69

EQUIPMENT

70

SPORT AND EXERCISE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

TABLES WITH GAMES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

PLAY EQUIPMENT



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

BARBECUE FACILITIES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

MARKET STALLS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

GARDENING TOOLS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

EQUIPMENT

71

ACTIVITIES

72

ACTIVITIES

73

ACTIVITIES

74


ACTIVITIES

75

ACTIVITIES

76

INCLUSIVE PLAY EQUIPMENT



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

COMMUNITY GARDENING




SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

MUSICAL PERFORMANCE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

FARMERS MARKETS




SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

SECOND HAND SALE



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

COMMUNITY POTLUCKS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

ACTIVITIES

77

CLEAN-UP DAYS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.cleantownsinfo/blog/2019/07/how-to-organize-a-neighborhood-clean-up/>

ACTIVITIES

78

FESTIVALS & WORKSHOPS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.cuddymat.com/blog/best-events-in-berlin/>

ACTIVITIES

79

OUTDOOR MOVIES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://medium.com/@gokulmishra/my-first-outdoor-movie-night-experience-16756589d5>

ACTIVITIES

80

FITNESS CLASSES



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.washingtonpost.com/express/wp/2017/06/where-to-find-a-free-outdoor-workout-in-d-c-for-nearly-every-day-of-the-week/>

SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://www.eventyot.com/arts-culture/pandemic-pick-which-outdoor-live-music-performance-or-series-mixed-you-most-3310363/>

SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <https://naturepath.com/en-ca/blog/post/elements-meditation-garden>

SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

IMAGE SOURCE: <http://www.urbanlab.org/programming-4pr-public-space/4pr-mat/>

APPENDIX 2

KAHOOT QUESTIONNAIRE

FROM WORKSHOP

Who experience feelings of loneliness in Denmark ?



15



▲ 8% of elderly individuals aged 65 and above feel lonely

◆ 23% of unemployed individuals experience loneliness

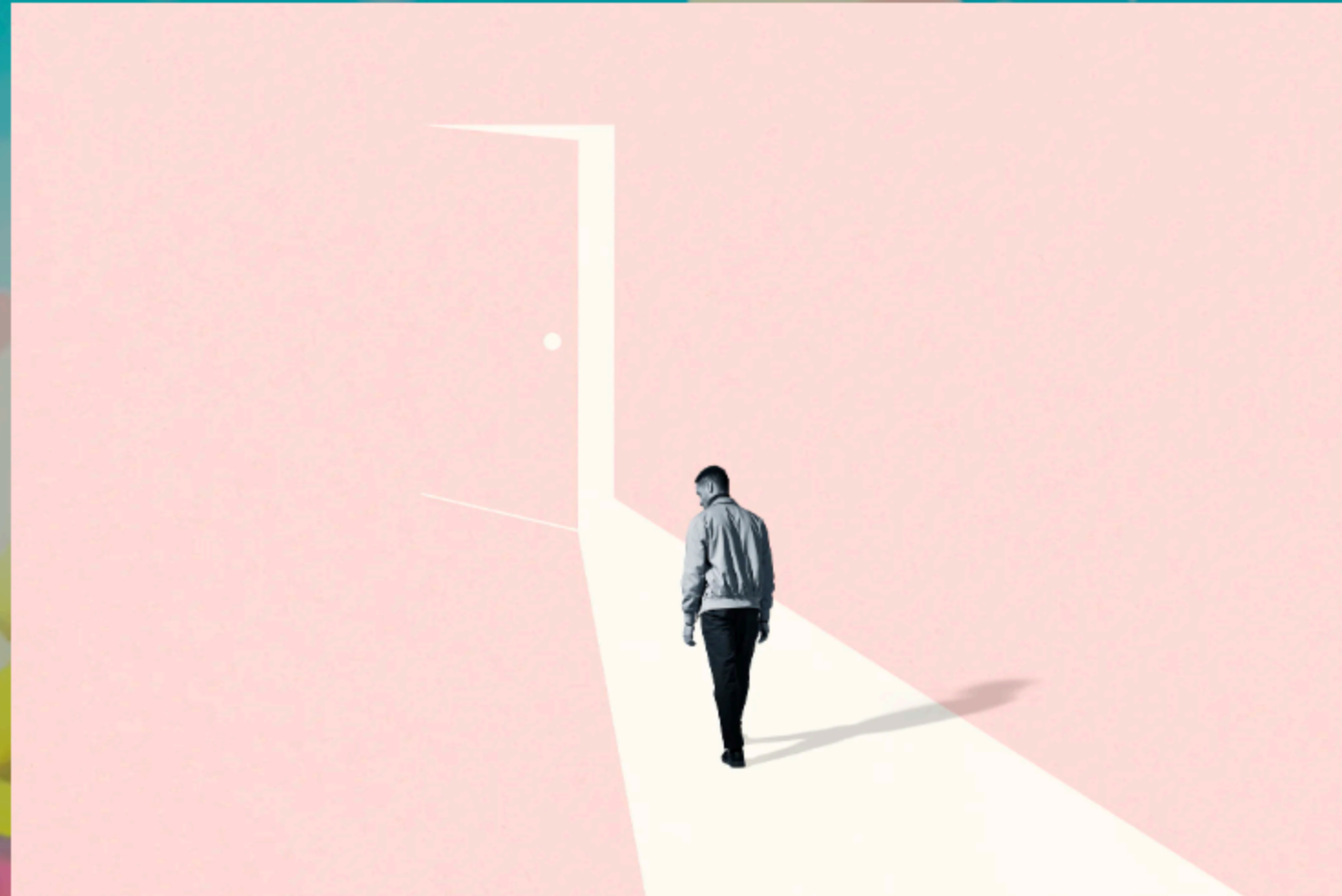
● 9% of children in grades 5-8 feel lonely

■ All the above are correct

How many individuals aged 16 and above have experienced loneliness in Denmark?



19



▲ 600,000

◆ 145,000

● 50,000

■ 400,000

What percentage of people aged 16-29 felt lonely all or most of the time in 2022?



18



▲ 20%

◆ 15%

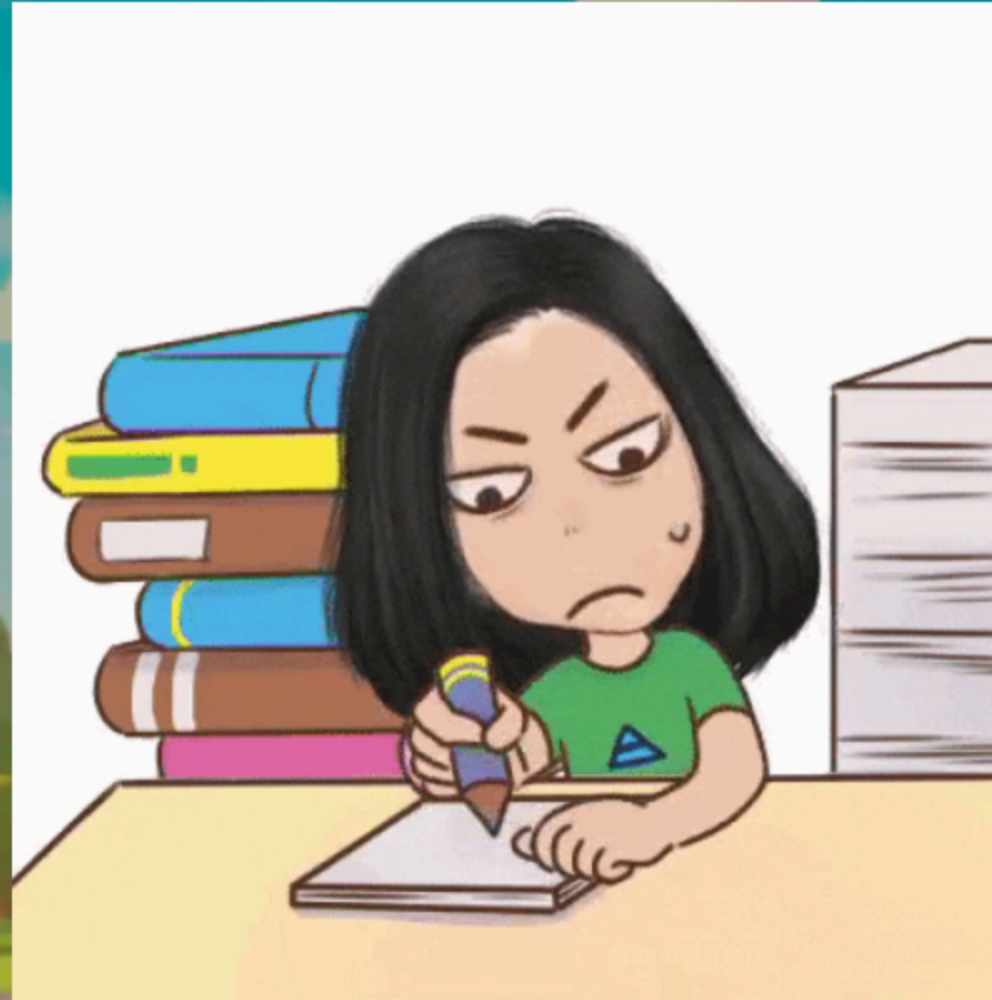
● 5%

■ 9%

What percentage of students claim to feel lonely?



3



▲ 15%

◆ Students don't feel lonely

● 10%

■ 5%

How do people living in green environments generally feel compared to those who don't?



19



▲ They feel less lonely

◆ They feel more lonely

● There is no connection between loneliness and green environments

■ They feel equally lonely

Does a thoughtfully designed green public space positively influence alleviating loneliness?









9



◆ True

▲ False

Results

Question ▾		Type ▾	Correct/incorrect ▾
1	Who experience feelings of loneliness in Denmark ?	Quiz	 100%
2	How many individuals aged 16 and above have experienced loneliness in Denmark?	Quiz	 60%
3	What percentage of people aged 16-29 felt lonely all or most of the time in 2022?	Quiz	 0%
4	What percentage of students claim to feel lonely?	Quiz	 40%
5	How do people living in green environments generally feel compared to those who don't?	Quiz	 100%
6	Does a thoughtfully designed green public space positively influence alleviating loneliness?	True or false	 100%

APPENDIX 3

WORKSHOP SLIDES

WORKSHOP

LONELINESS & URBAN DESIGN

WELCOME!

Kahoot PIN

5705607

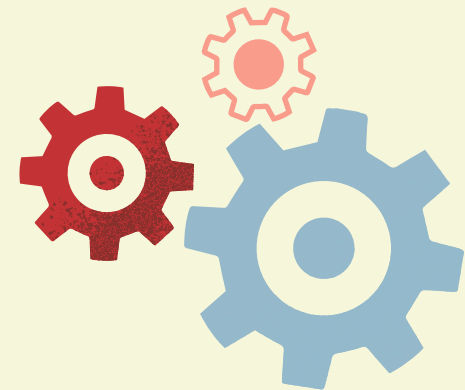
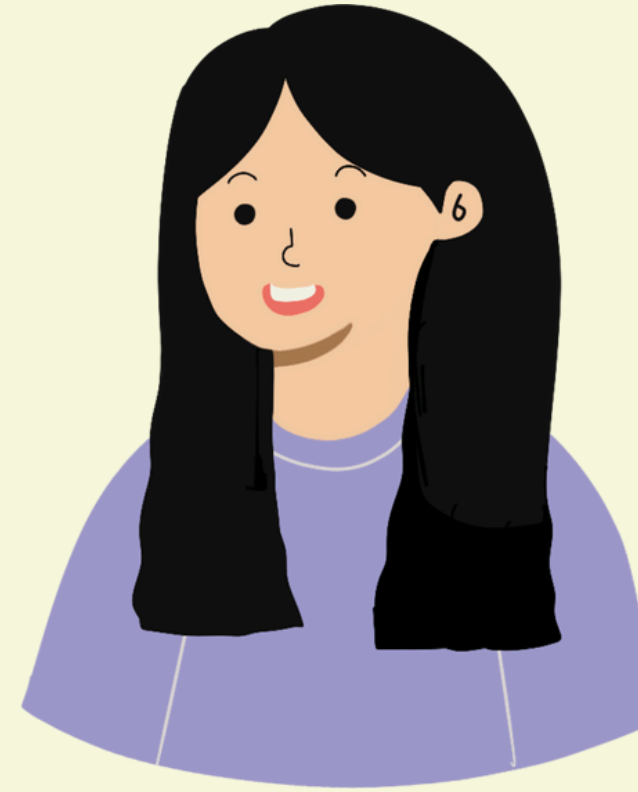


INTRODUCTION



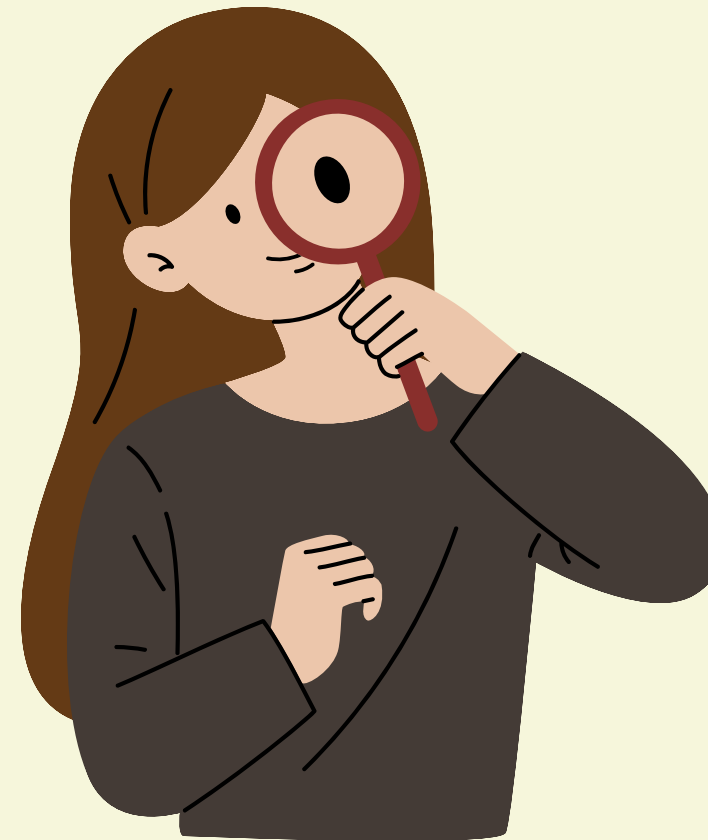
CRISTINA CAMPOS

An architect pursuing her Master degree in Sustainable Design Engineering at Aalborg University in Copenhagen.



DOMINIKA PANCERZ

A mechanical engineer pursuing her Master degree in Sustainable Design Engineering at Aalborg University in Copenhagen.



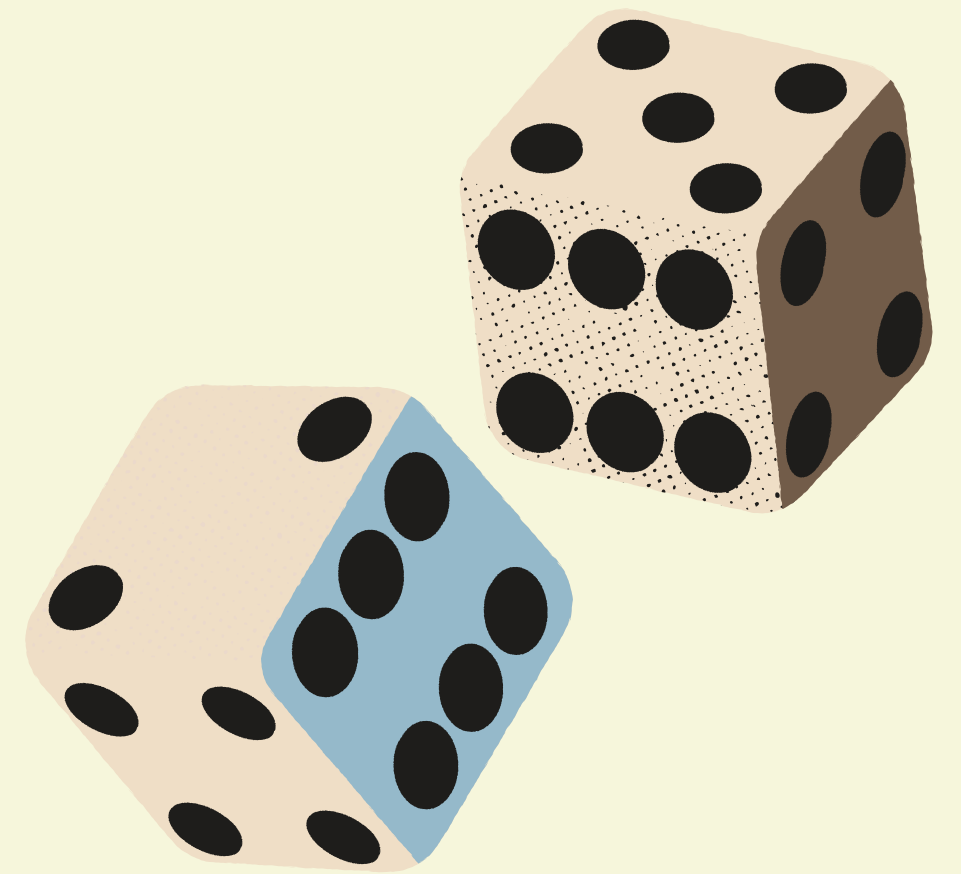
**WHO
ARE
WE?**

WHAT IS LONELINESS?

Loneliness is a **subjective, unpleasant feeling** that occurs when one's desired social relationships do not match one's actual social relationships.

Loneliness can be about both the **number and the quality of one's social relationships**, for example whether one experiences them as trusting and intimate.





OUR PROJECT

Our thesis focuses on the interconnection between **loneliness**
and the urban environment young people live in.

We investigate how urban environment elements can serve as
a catalyst for alleviating loneliness, and how we can help to
facilitate this process with gamification.

GOAL OF THE GAME



Opening the conversation between young people on the stigmatised topic of loneliness.



Understanding how elements of urban environment work for different young people and their loneliness.

GOAL OF THE WORKSHOP

Testing the game to gather feedback on how to improve it.



Gathering data on how various urban environment elements work for young individuals and their loneliness.



THINK OF





WHEN WAS THE LAST

TIME YOU FELT

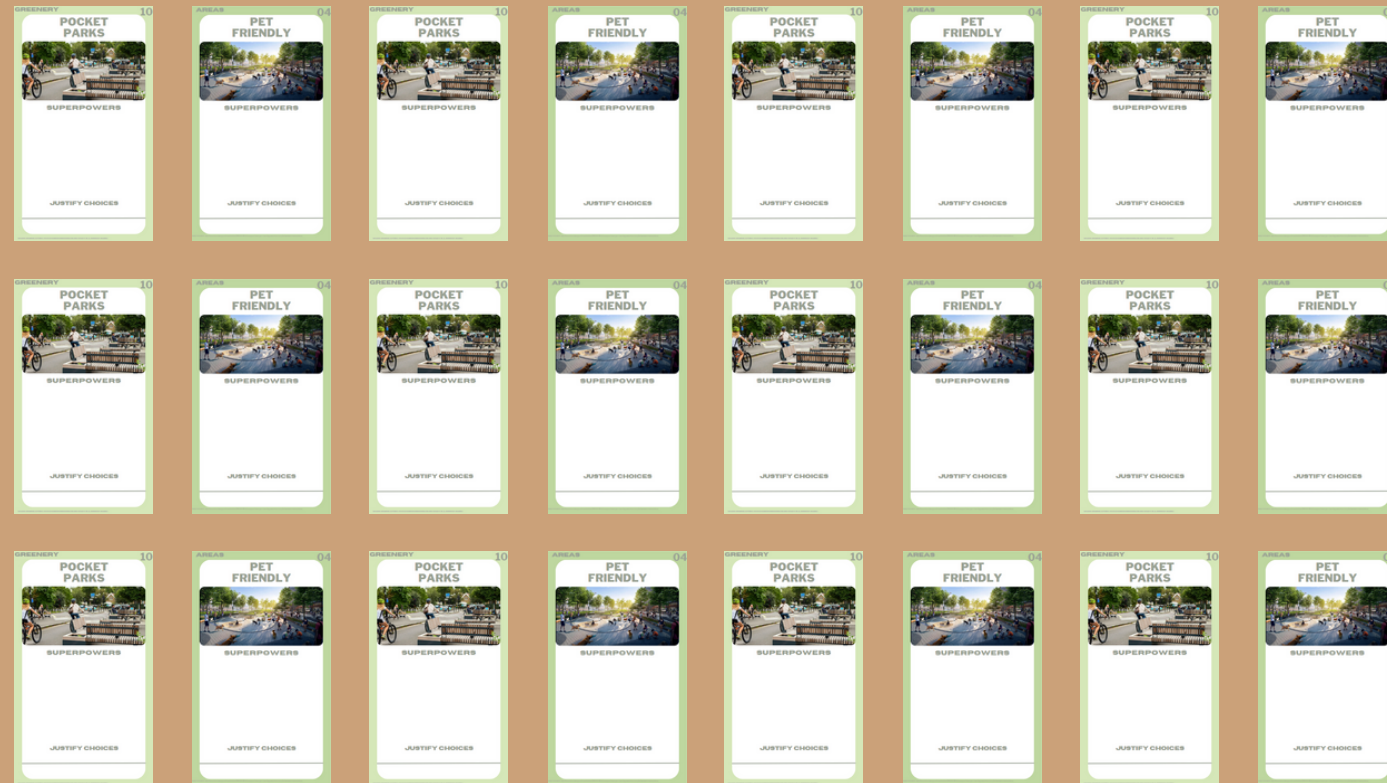
LONELY?

PLAY

THE GAME

1	2	3	4
Choose cards	Individual work	Group discussion 1 and 2	Presentation
			
10 min	10 min	20 min	15 min

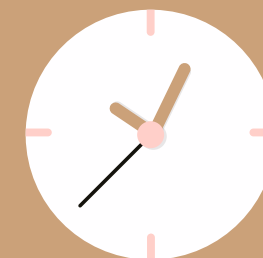
CHOOSE CARDS



Players pick cards that represent activities or elements that they find helpful alleviating feeling lonely their **current** situation, as well as what they envision as **ideal**.

Choose 3 to 5 cards per situation
(Min. 6 and Max. 10 per person)

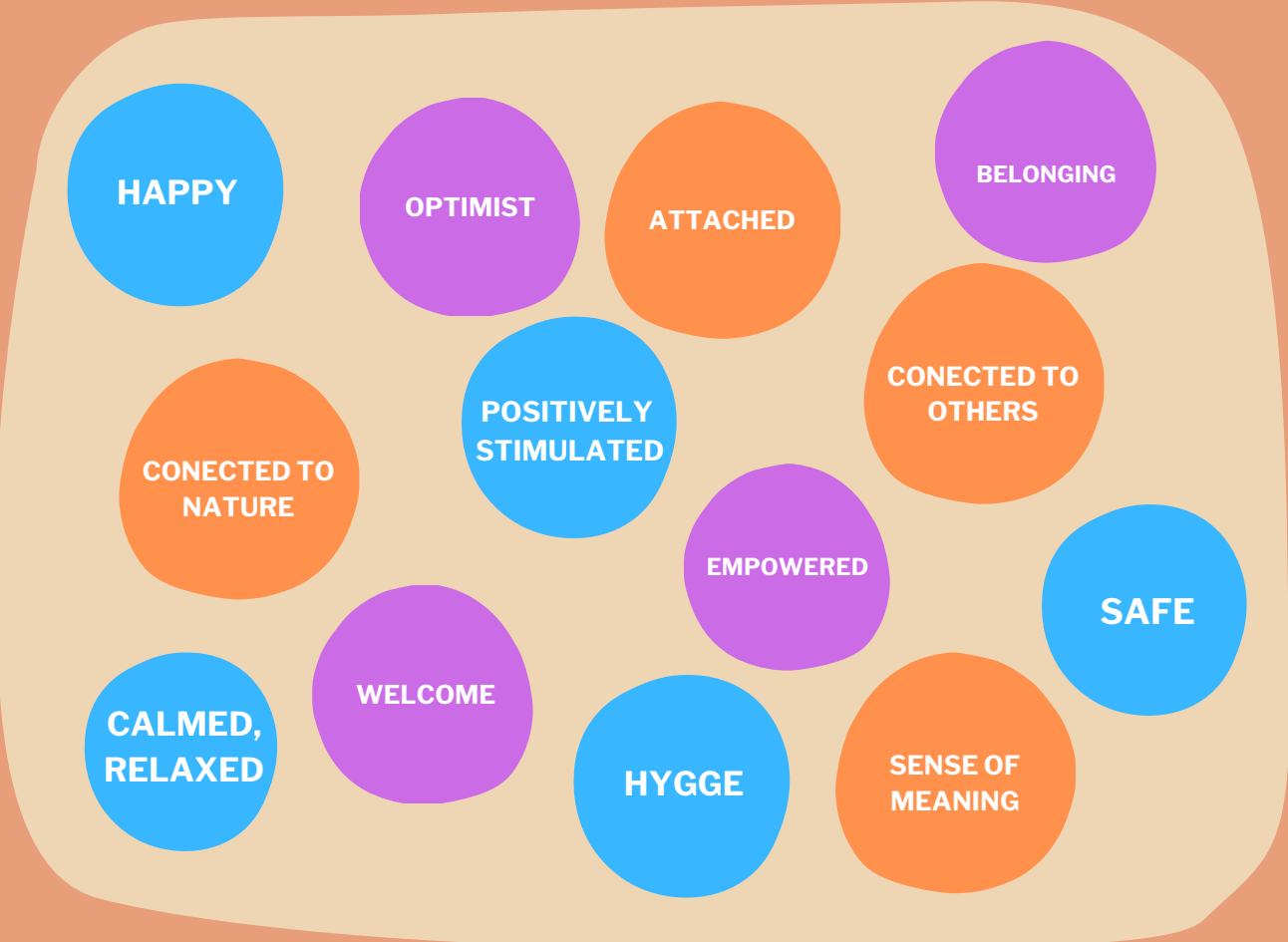
You have 10 minutes



1

INDIVIDUAL WORK

Add superpowers



GREENERY 11

URBAN FORESTS



SUPERPOWERS

JUSTIFY THE CHOICES

NAME:

USE SOURCE: <https://www.urbanforests.eu/news/health/benefits-and-challenges-of-urban-forests/>

Write how these urban environment elements impact your emotions and well-being

Write your name

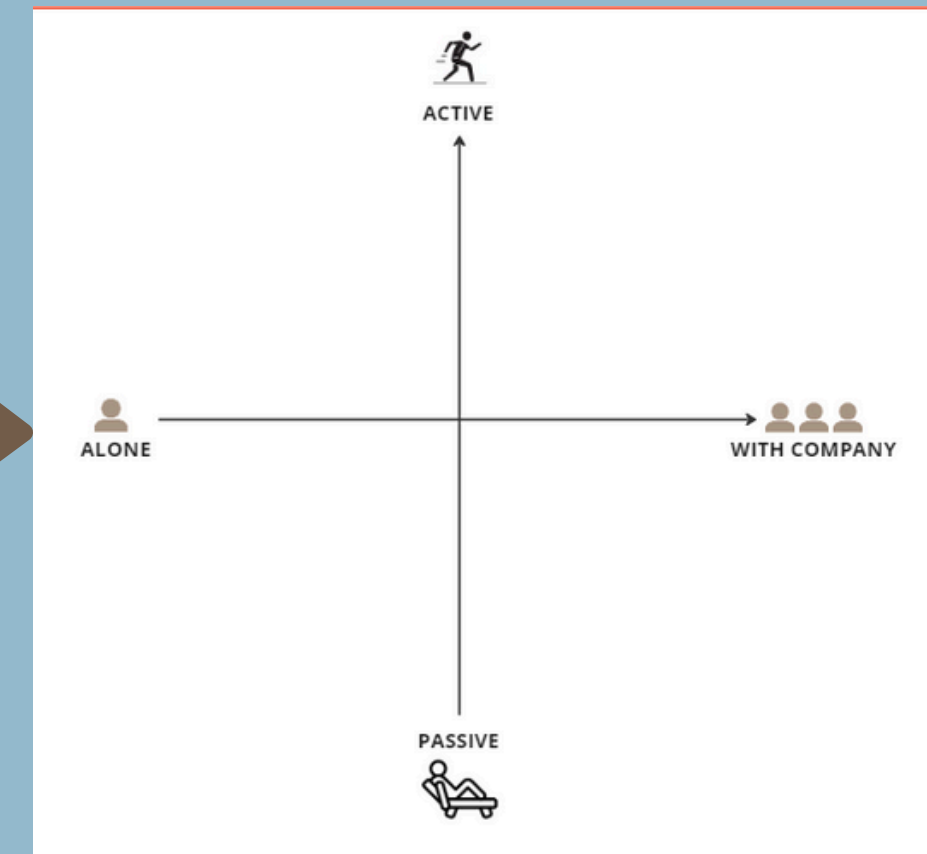
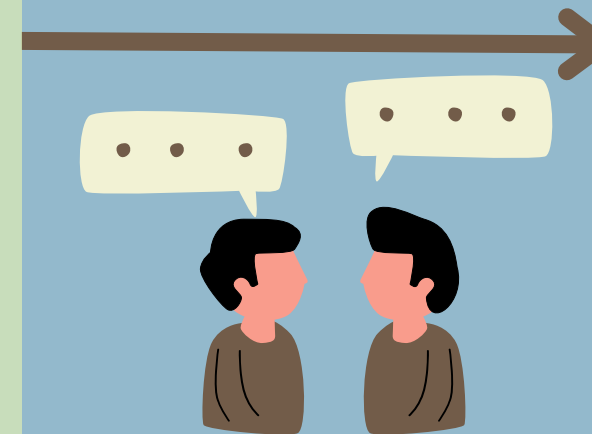
You have 10 minutes



2

GROUP DISCUSSION 1

CURRENT SITUATION



Players discuss chosen elements for loneliness relief, placing cards on **Matrix 1** to represent current situations. Open discussions are encouraged.

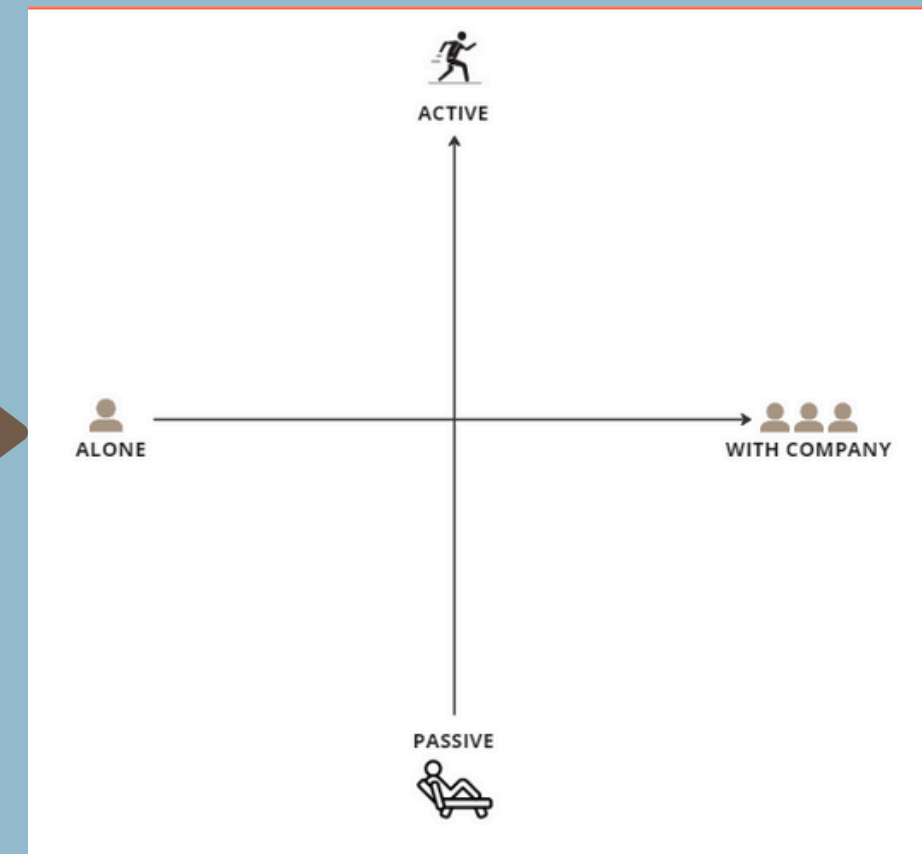
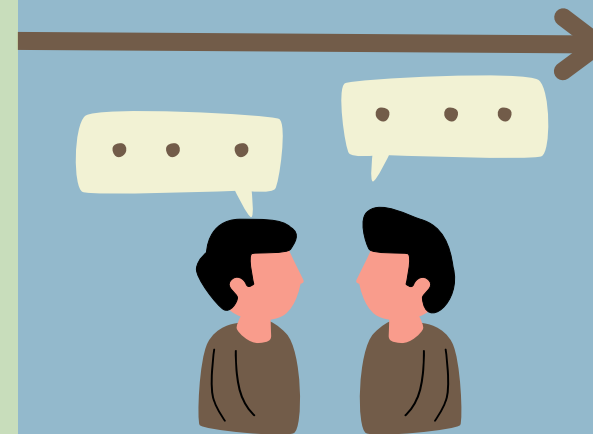
You have 10 minutes



3

GROUP DISCUSSION 2

IDEAL SITUATION



Players discuss chosen elements for loneliness relief, placing cards on **Matrix 2** to represent current situations. Open discussions are encouraged.

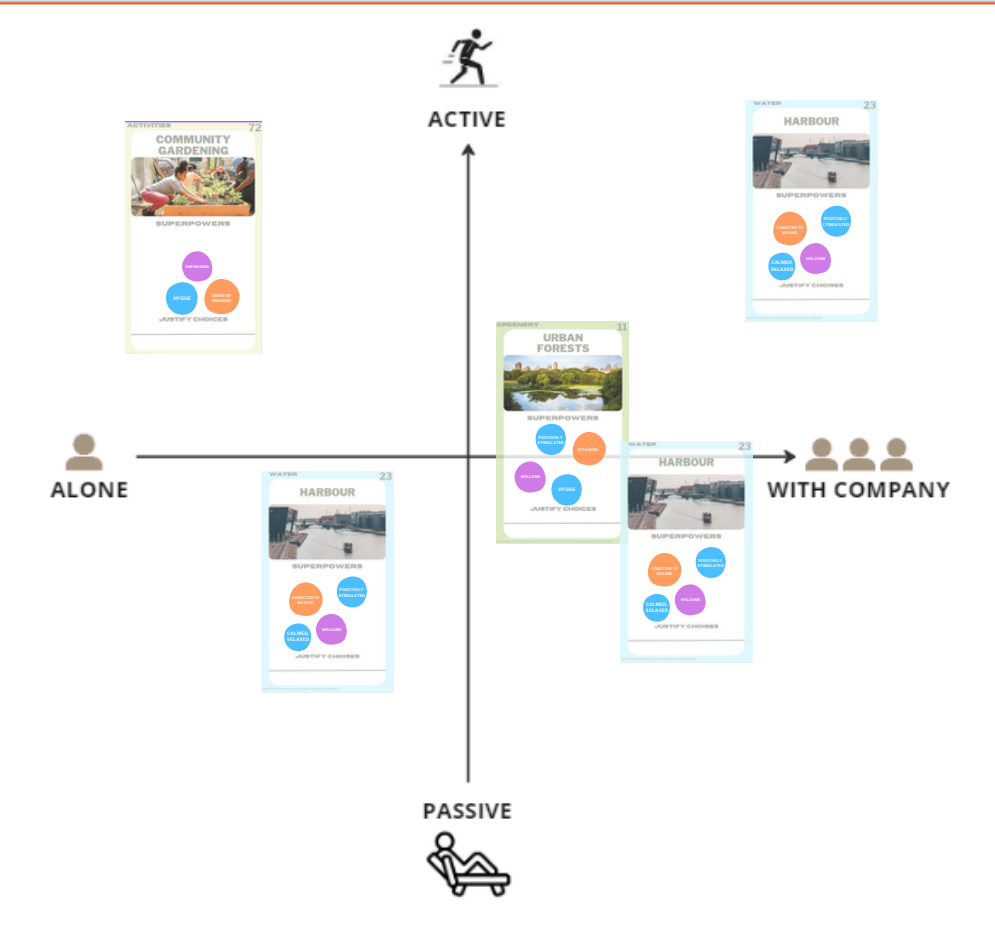
You have 10 minutes



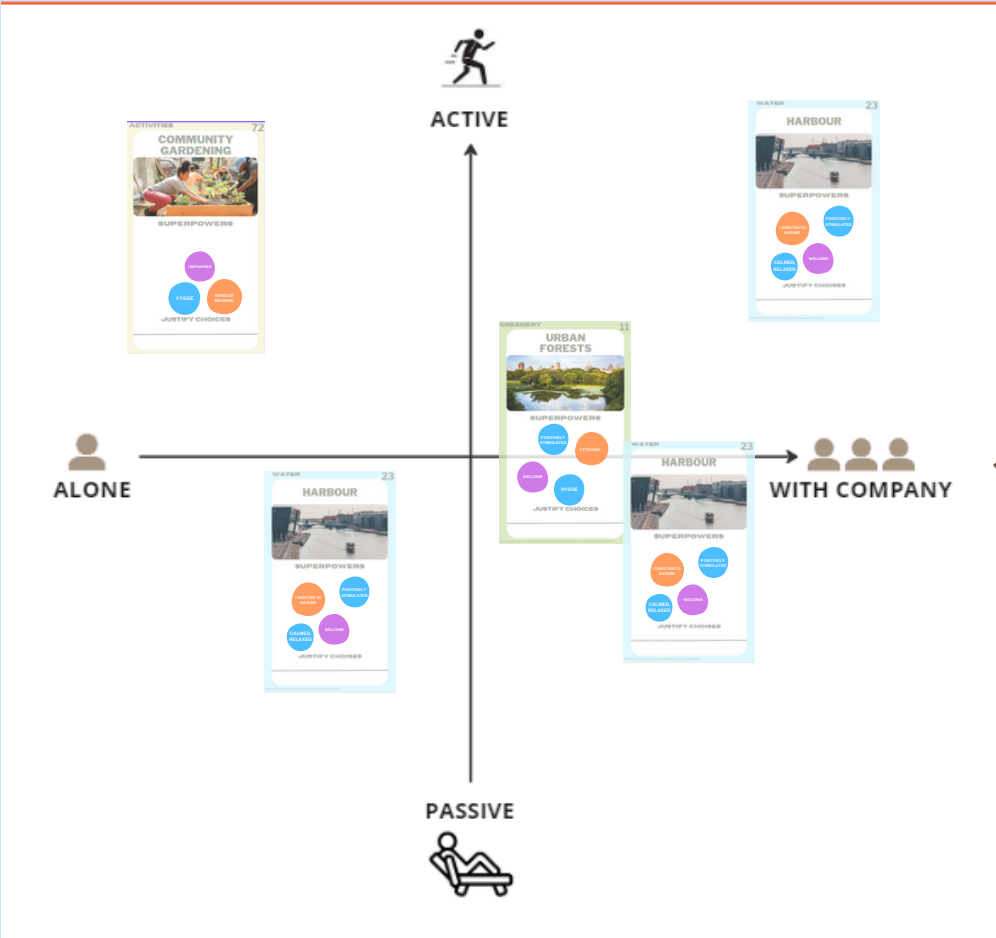
3

PRESENTATION

CURRENT SITUATION

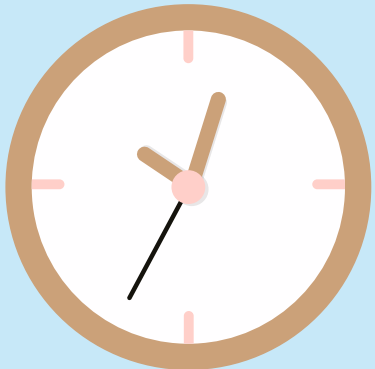


IDEAL SITUATION



Each group will present their Matrix boards, with one person representing the group.

You have 15 minutes



4

FEEDBACK

How did you feel while playing the game?



Elaborate:

What did you gain from the game and today's workshop?

What will you suggest to improve?

Did you feel the game achieved its objective?



Other comments:

You have 5 minutes



WORKSHOP
LONELINESS
& URBAN DESIGN

THANK YOU!



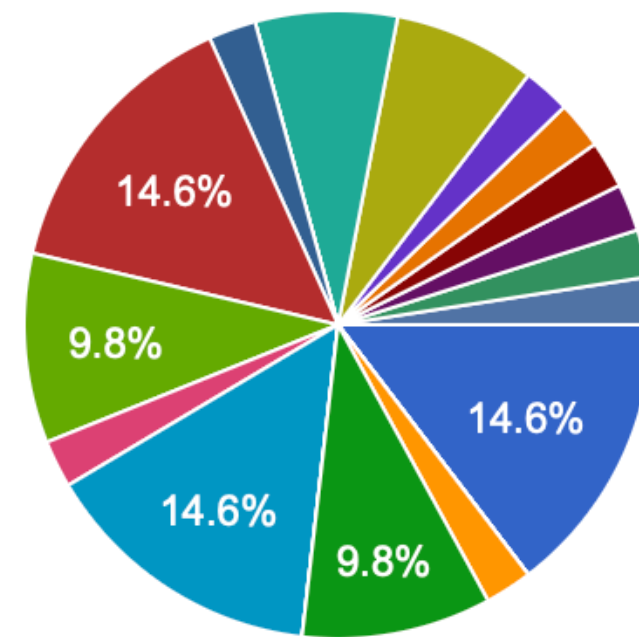
APPENDIX 4

ONLINE QUESTIONNAIRE

In what area do you live?

 Copy

41 responses

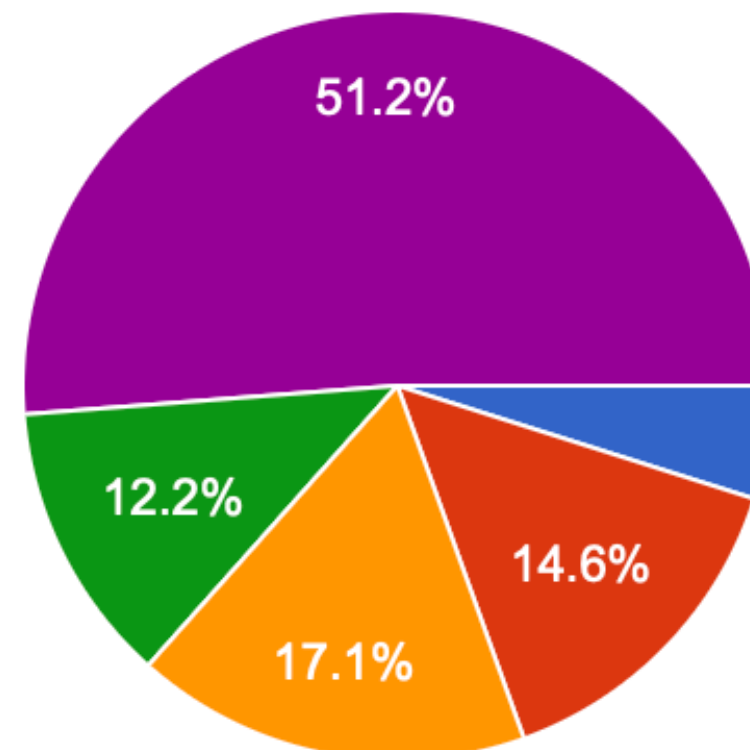


- Østerbro
- Brønshøj and Husum
- Vesterbro / Kgs. Enghave
- Nørrebro
- Bispebjerg
- Amager
- Vanløse
- Frederiksberg Kommune

1/3

How often do you spend time outside?

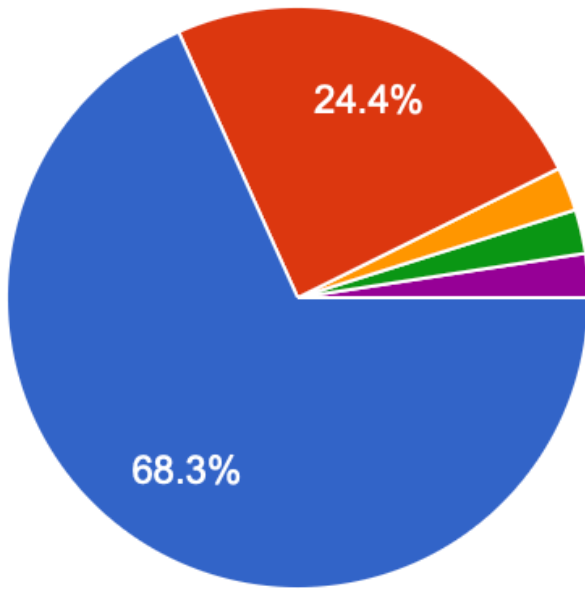
41 responses



- Once a month
- Once a week
- Three times a week
- Five times a week
- Everyday

Does the frequency change seasonally?

41 responses



- Yes
- No
- usually in summer i spend more time outside in the parks (:
- the time outside changes seasonally, on short days it might just be a bikeride to school
- Not really since I have a dog, but i just moved somewhere with very little outside area so i have started going o...



Co

If so, how could this be improved?

24 responses

Less outside with colder, darker, more rain, snow

I am not sure how to improve it. I spends most time outside when the weather is nice and warm

Better weather

Summer it's easier to do things outside so it's closer to once a week then!

More "warmly" designed spaces for outdoors in colder seasons. Not everyone wants to sit on a deck chair and drink outside a bar in winter, so cozy spaces that are friendly for all ages made with materials like wood and solar panel/other environmentally conscious heating would be something I would like.

Better weather, more cheap but clean places

When it's cold I go out less time, but I still go out

the weather could be better 🤖

Yes, public areas protected from the cold

It is due to weather conditions

more lights in the parks for winter season, more structures around the city than can be use for "shelter " when its cold with sits to read or small tables

Greener areas that can be used all year around

More cafes or "life". The area is peaceful and quiet which is nice but for someone living alone in her 20s, it can be boring.

Working at home

Build routines around activities outside (e.g., regular coffee walks, etc.)

It's hard to spend time outside when it's raining haha. I wish we had more green spaces where I live though. Nicer parks, similar to Kongens Have kind of thing. It's pretty depressing in Vesterbro

Being part of an association or similar

Actual green areas would be nice. In the winter is difficult to find the so called green areas. I'd say not paved areas is not enough but winter is winter...

In wintertime I will only seek the larger green areas, to sense the nature, where I in the summertime also enjoy the smaller urban green areas. I guess it is easier in the summer, when all the trees are blending in with the buildings, but when they are naked in wintertime the same area suddenly seem cold and less cosy. So would it be possible to create green urban areas that are cosy and more suitable for the danish weather? Shelter from wind and rain fx. Also, it would be great to design some green walking routes in every areas, so that it's easy to acces a nice trail that is created with nature in mind.

Perhaps by providing some kind of facilities encouraging outdoor activities in winter. Here it would be important to me that it is free/cheap. Maybe even better possibilities for shelter and warmth during bad weather, without having to buy something.

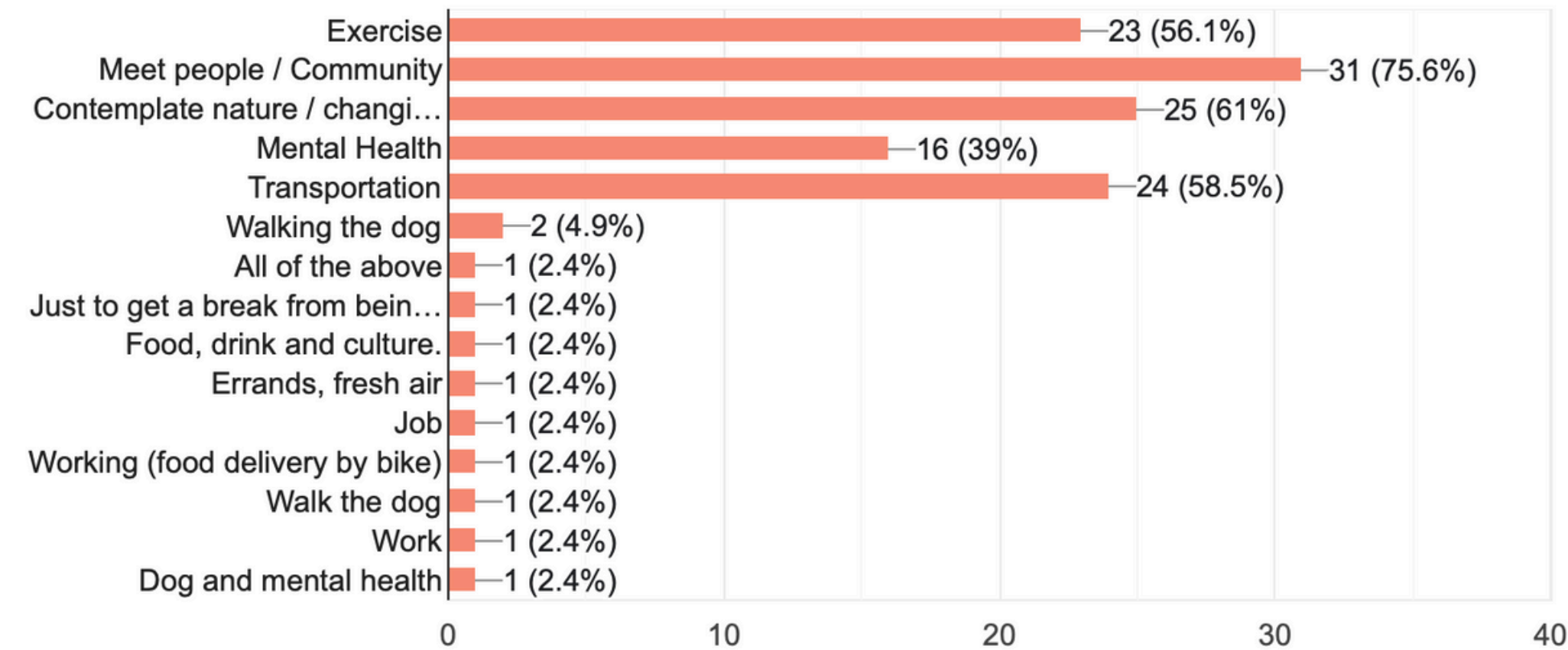
Longer hours with sun during the winter ;-) Or snow

More parks, and nature that gets too just be and is not so sterile.

What is the purpose of you spending time outside?



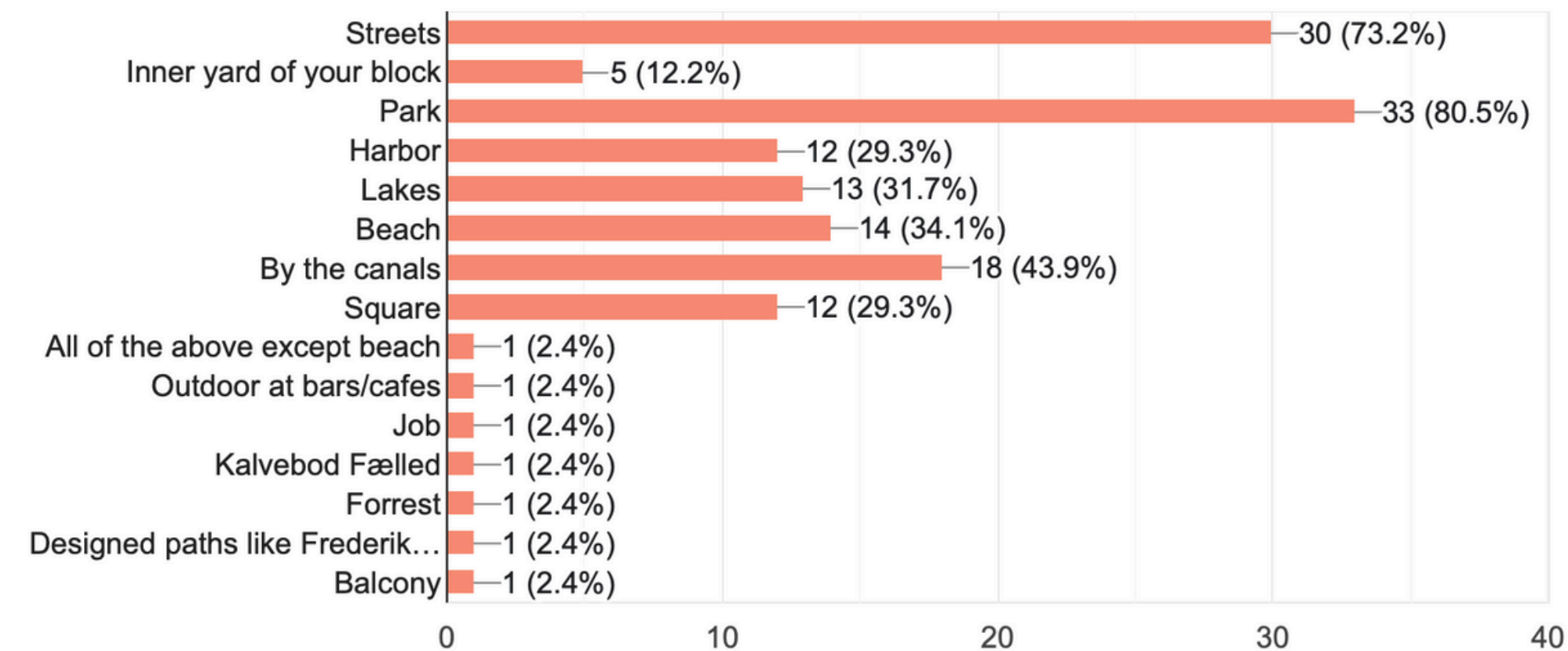
41 responses



Where do you usually go to spend time outside?



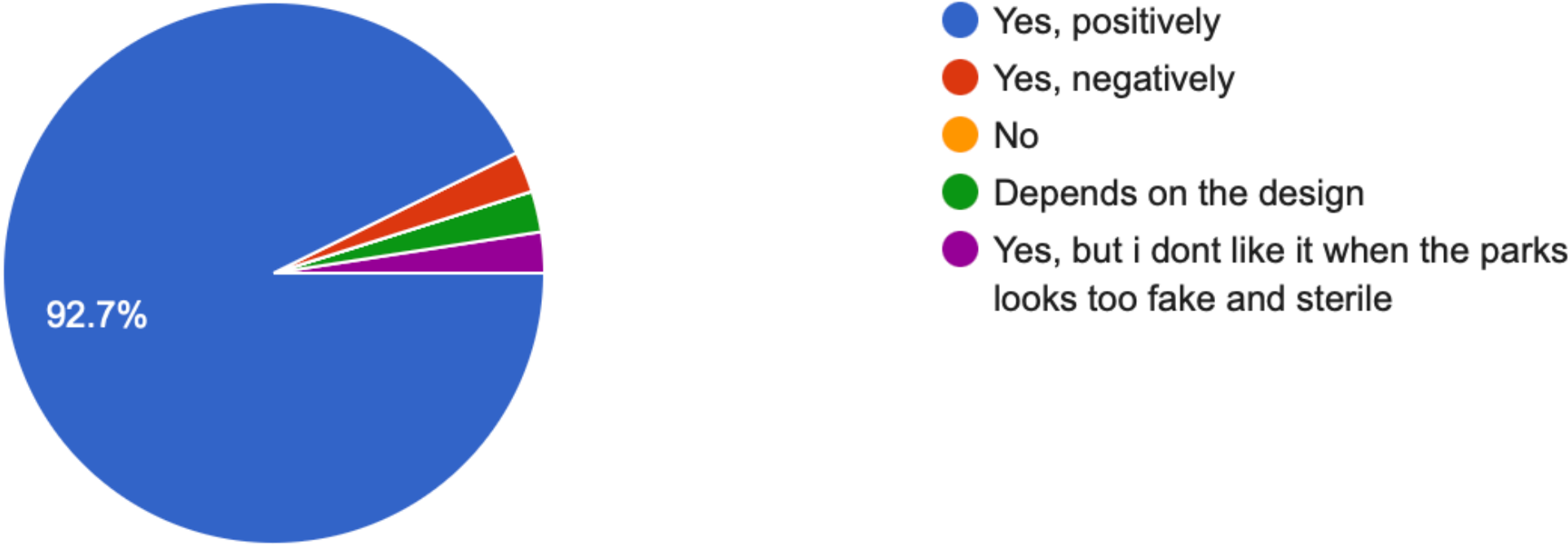
41 responses



Does spending time outside in a nicely designed urban area influence your mental state?



41 responses



Is there any area/street in your district that in your opinion could be transformed into a good public space? If yes, please state the address.

41 responses

No
no
Outside Valby Kulturhus would be a nice place to transform into a more cozy place
Grønttorvet
Balders Plads
No public space, people Can go to Strøget and Kgs have, i gatekeep.
Not really
I think I have quite a few public spaces nearby
mozarts plads

Is there any area/street in your district that in your opinion could be transformed into a good public space? If yes, please state the address.

41 responses

Øster Voldgade 4A, 1307 København
-
not sure
1. parking lot by Royal Arena (Hannemanns Allé 15) 2. parking lot behind the Cabinn Hotel (Arne Jacobsens Allé 4)
Yes, at fanøgade/Skarsgade
Nørrekær playground and football/basketball court
We have a great park nearby that serves our needs really well (Søndermarken). We often walk along the Banevolden street and that could be improved. Although it's for bikes and walking only, its quite chaotic.
Mozarts plads

Is there any area/street in your district that in your opinion could be transformed into a good public space? If yes, please state the address.

41 responses

I believe Christianshavns Torv could be significantly enhanced
Christiania, for sure. It would have a lot of potential to be a better place for people to hangout or go for walks etc.
i dont know
Gunnar Nu Hansens Plads
Not really.
None that come to mind
In terms of nature, I think Charlottenlund already has good nearby public space such as parks and the beach.
Amagerbrogade

Is there any area/street in your district that in your opinion could be transformed into a good public space? If yes, please state the address.

41 responses

Legrevsparken - it has potential but it's depressing atm
Around Fisketorv
X
Gandhis Plæne could be so much more interesting. But otherwise I would say that the streets of Nordvest also has a lot of potential - it just requires more plants and natural materials.
Damhustorvet
Some parts in Nordhavn are filled with ugly office buildings, which would otherwise be nice to visit especially in the summer, if it had more greenery
Habor places: Langelinie, amerika kaj, Pakhuskaj. Parks: Amor parken, Fredens park.
Langelinje: Langeliniekaj 5

I don't know

I live in Grønttorvet which is quite an isolated little community of newly build apartments. But i think around Copenhagen South st. that they could improve the amount of trees and green since its such a big area. Grønttorvet is very sterile and there is a looooot of people using it and because of the big buildings you feel watched. On the positive they have a lot of community activities. So its not a private experience anymore when i walk with my dog. I lived close to Sydhavnstippen and Valby beach before moving and it was soooooo niiiiice.

Tagensvej

Rentemestervej

How could the mentioned street/area be improved? Are there any services that you are missing?

41 responses

No
more roof for sitting outside when it is raining
Made it into a place that is nice to just sit and chat - more trees and greenery
Against the rain
It needs more life, it always feels so industrial/empty/concrete
There is a bar and just an empty square + childrens playground. More community facilities would be nice. A genbrugs container could fit, even just a community library (leave a book, take a book) - something that draws people together and makes the neighbourhood want to build up more of a cozy area to enjoy.
:)
Not really

How could the mentioned street/area be improved? Are there any services that you are missing?

41 responses

Too many shops, cafes, restaurants are closed down and it's becoming a ghost town, even though it's super close to the center. That doesn't make you spend time around the area, even if you would have enough seating areas, because the vibe is not there. Having diversity it's an important factor.
-
N/A
Both of these parking lots are grey, ugly, and completely devoid of people. Such areas are common in my home country but they are virtually non-existent in Denmark. Whenever I pass by them, I feel like they don't fit in Copenhagen/Denmark and I am surprised that they were built here at all.
I think both places should be completely transformed into something else, for example a nice park where people could chill, hang out, play sports, walk dogs, kids could play there, there could be events, concerts, etc. Another suggestion is to build a new shop here (e.g. Føtex) as there are not enough shops nearby for the amount of people that live here (and the population of Ørestad is growing as new residential building are being built every year).
What I am missing in general in Ørestad is a greater variety of shops, restaurants, and services in general,

How could the mentioned street/area be improved? Are there any services that you are missing?

41 responses

more grocery stores, more cafes and hangout spots
Need more interesting things
More greenery, better cleaning
Its cleanliness should definitely be improved. Probably more cozy cafes or hangout spaces to be built within that area as well
i dont know):
There could be more greenery and more seating areas that are public (and maybe less pigeons)
Not really.
N/a
As stated in the beginning, I would suggest more cafes or establishments

How could the mentioned street/area be improved? Are there any services that you are missing?

41 responses

as well as more events/activities. When this district was first built 20 years ago, it was primarily meant to be an area for people to live in. However, the result of this design is that the residents of Ørestad have to commute elsewhere if they want to go for a cup of coffee, meet friends, go to an event, etc. It is a very beautiful area and I'm not saying that these options are not here at all, but they are limited as this area wasn't designed for it. So these parking lots could provide space to improve these aspects of life.
As for the cars that are currently there, they could be moved to a vertical garage, which can be built nearby. That way, they are stacked on multiple floors instead of being spread out on a flat surface, like it is the case right now. This leads to a more efficient use of space, and what's left of the parking lots can be transformed into something else.
There is some grass sorrouned by hences that is now mostly for dogshit. It could be a a move spot.
Add roof to the facilities, so that the playground and court are usable during the unfavorable weather e.g. precipitation. Light sources so the facilities can be used in the evenings - especially during winter when it gets dark early.
There is no designated bicycle path and there are only bits of pavement along the street. It's not convenient and quite dangerous to walk there with a stroller.

How could the mentioned street/area be improved? Are there any services that you are missing?

41 responses

Greenery
Social gathering spaces
Good benches, more greenery,
Less cars
X
It is a very open space right now - also towards the busy road. Close it a bit and make it more cosy, with smaller areas where you can also get some privacy. And a few areas where it's possible to find shelter.
Well it is right besides a well-known Lake, so it could be a Nice spot for seating areas and cozy cafés
Less gigantic buildings, more parks or access to the ocean
Habor places: It is areas with acces to water and open space. The water body between Pakhuskai and

How could the mentioned street/area be improved? Are there any services that you are missing?

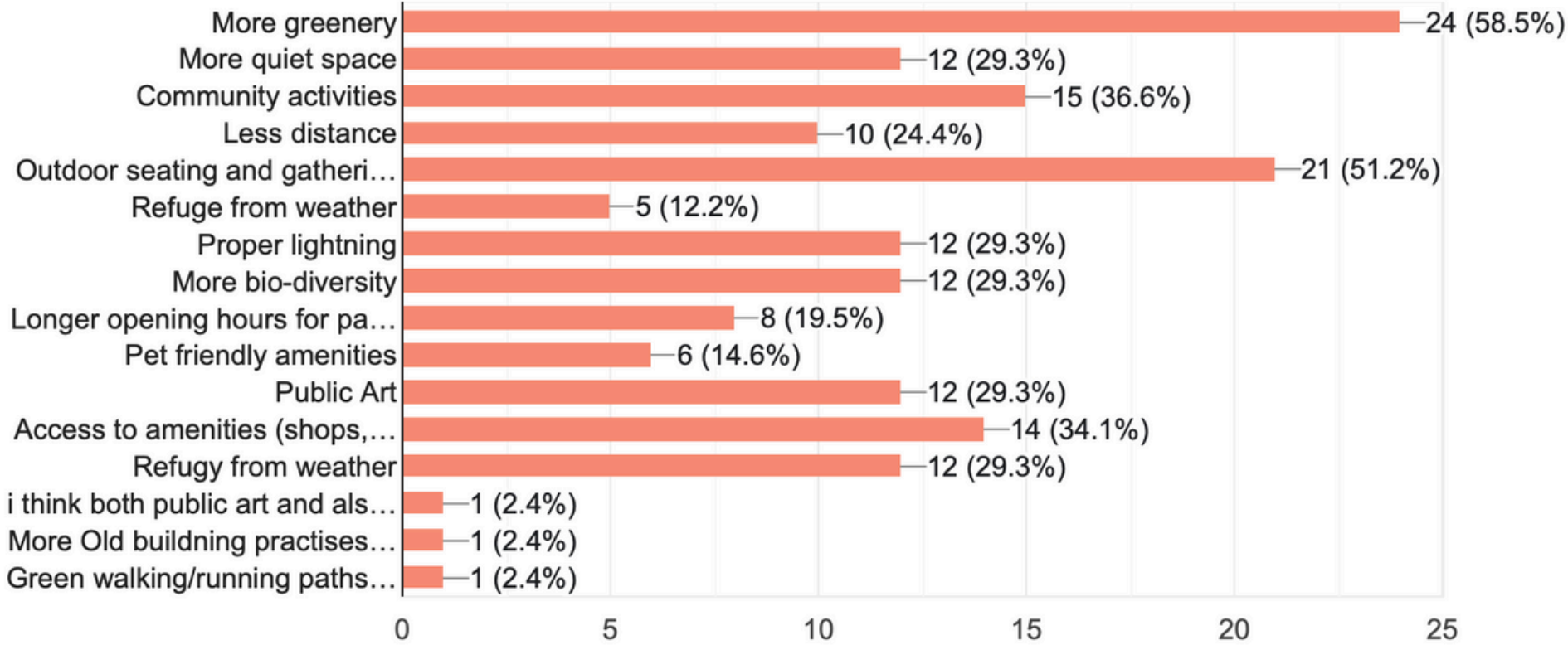
41 responses

Ammerlaan is currently not accessible for swimming as only boats can use it. Nordermarkt just near by is bussing with life and some people living in the area are annoyed by this. These streets mentioned has some apartments and a lot of offices, and great potential to create facilities for people to come out and enjoy some more open space and perhaps a swim. It is missing the service of toilet access and areas dedicated to picnic/hangout.
Parks: both parks border up the the hospital and KU and has great potential to be a nice break for people to enjoy the outdoor. But they are boring and lack stimulation. They are just next to the big road, so making them more cozy and isolated.
More trees and greenery!
I don't know
Just anything that is not flat grass with no biodiversity.
More trees, roaddiet, pockets for stay and pause
Less cars, less car parking, more shared spaces for people, pocket parks

What could make you spend more time outside in your neighbourhood?

 Copy

41 responses



Describe shortly your ideal public space.

41 responses

green, broad streets,
I like the idea of refuge from bad weather, I had not thought of that, but that would be nice. A lot of greenery, good walk paths and good places to sit. Also protected from traffic so you don't feel like you are sitting right next to cars driving by
Green, quite, close to my place
in a city but nice and open with lots of greenery/ cafes and shops near by, and places to sit/walk:)
Described above - kind of like a sauna without the sauna? Something we can use to relax and get shade in summer, and stay warm in winter. A closed or semi-closed design. However, i feel that Københavns Kommune is sceptical of building things like these due to fears of being "abused" by "homeless" people. I understand that it can be difficult to monitor but who cares? Public spaces aren't just for rich people.
Old renovated buildings with greenery, a bakery, nessesary facilities, cheap but clean/ good cafés and bars and natural.

Describe shortly your ideal public space.

41 responses

A green area where you can sit and preferably with some wildlife with ex birds. In the winter time it could be great if there were less wind and maybe heat lamps
More connection within the metro.
A park with natual areas and also with space for outdoor activities and sports
A space that promotes relaxation and offers recreational activities, can benefit all age range and types of communities (families, singles, young professionals). With a design that is visually interesting and close to nature. Has accessible practical utilities and a safe environment.
I feel like Vesterbo is a good example. You have so much diversity in shops, cafes, restaurants that you don't need to go to another neighbourhood for what you need. And then there are plenty seating areas on the street, parks, between buildings etc. Good ex. of public space: Litauens Plads.
It would be enough if everyone could access it.

Describe shortly your ideal public space.

41 responses

Green and beautiful
Good light and nature
Lots of green, water(a fountain, a river, maybe a lake) lots of trees, an skatepark, a bar nearby, and a coffee shop as well
many amenities in close proximity, trees and cultural venues around, many grocery options, bakery and cafes, shopping mall in close proximity
.
Compared to most public spaces, it is more quiet, more green, and very sunny in the summer
Cozy cafe with good seatings, and not too crowded.
cover from weather when its cold, maybe public art and space to chill or gather alone or with friends

Describe shortly your ideal public space.

41 responses

Green (grass & trees), open, wide, some space fore activities / events (e.g., a stage, fireplaces, etc.), long opening hours
Somewhere where there is nice bio diversity with plants and flowers (the more the better)
A quiet and clean area (most probably a park) with no cars (only pedestrians and bicycles), lots of trees, benches, beautiful buildings to look at, where people hang out, talk, drink coffee/beer, play games (e.g. table tennis, frisbee), have pick-nicks, etc. There are also options to get coffee/beer/juice/ice cream and there are events happening rather often (e.g. local bands playing music, workshops). This place is easily accessible for people by foot or by bike, and also for people with disabilities.
-
Green, relaxing, with visual/sound separation from traffic, well-lit and protected from bad weather conditions, multipurpose for serving communities at different ages, safe.
Lots of green, places to seat, places to have bonfire or grill and more areas for dogs and to Play sports
Green: dog. kid and stroller-friendly: with a space for sitting and eating: where you can find a quiet spot

Describe shortly your ideal public space.

41 responses

Green; dog, kid and stroller-friendly; with a space for sitting and eating; where you can find a quiet spot (e.g. for reading).
Nice view, greenery, something to explore
a nice mix of both urban as well as natural qualities
Victoria park in London is a great public space in the middle of a dense (and well-polluted) city
Calm, nature, less cars and traffic.
X
A wild green, quiet place/path with room for dog walkers, runners etc. Also, a place to get a cup of coffee or hot chocolate wouldn't hurt ;)
A place that is thought out well for people to get stimulated in a Nice Way by color, Nature, and options for food and drinks

Describe shortly your ideal public space.

41 responses

Nice architecture, good lighting, sole trees
Gives possibility to enjoy open spaces, have exposure to sunlight. Free to use after need (read book, play ball, drink beers), and have access to basic necessities so i doesn't require planning the get food, water and go to the toilet. Preferably give access to nature and looks appealing.
A place without noise from traffic with wild greenery (read not just af football field like Fælledparken), flowers, a nice café and a safe atmosphere
Green, quiet and accessible to all !
Sydhavnstippen and Valby beach: biodiversity (no matter if its wetland, forrest or what), the possibility of actually exploring (small roads you can switch between so its not the same everytime), possibility to let dogs loose, some kind of water or beach nearby.
Sun, Nature, People, Coffee, Possibilities to move a chair ;-)
Sunlit, cozy, seating, lively with people