

Reframing loneliness:

an intervention proposal for
a holistic and preventative
approach to loneliness in
the high school context



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In de supermarkt



UND

Gemeenschap

Gemeenschap



Gemeenschap houdt in dat je het gevoel hebt erbij te horen, dat je in een groep past, en dat je op een vredige en prettige manier kan omgaan met de mensen om je heen.

NEEDS

Verwante

Vrolijk

Vertrouwd

Eenzaam

Nutteloos

Impact

Moraliteit



Preface

Working on a complex, fulltime project, all by yourself, in the middle of a pandemic, is not easy. But even with all the challenges that this project brought, I thoroughly enjoyed working on it. I would think my experience is best described as an expedition. I stepped into this project like I was stepping onto new grounds, but gradually I found my way. In this case it was not just a journey into the world of loneliness in the high school context, but also a discovery of myself, as a designer and as a person. Expeditions are rarely done solo, as you always meet people along the way. For me, there were a few people who helped me immensely along the way.

First of all, I want to thank my supervisors, Mieke and Nynke. Your experienced view on complex problems, critical questions and refreshing ideas always made me want to aim higher. I can say that you definitely mastered the art of giving constructive feedback which always helped me to move forward, so for that I am super grateful.

I want to thank Laura, for guiding me through the project from the perspective of Gemeente Delft. From the beginning you showed great interest in the field of design, which really gave this project the necessary creative space. Thank you for always being so enthusiastic, open for questions and thinking along with me.

Next, I would like to thank all the people that contributed by sharing their experience and ideas. Irene, siona, Gerine, Jolanda, Jolanda, Laura, Madelinde, Dominique, Lois, Ivor, Jeanna, Mignon en Kirsten. Without you this project would have not existed. A special thanks to the high school students that joined the contextmapping sessions or the user test, but also a massive thank you to Jeanna from Christelijk Lyceum Delft, who went out of her way to assist me in finding participants and making me feel welcome at the school.

I want to thank my graduation group, for keeping up with our regular check-ins and always being open to provide (mental) support. Specifically I want to thank Esmeralda for being there as my friend and study buddy throughout basically the whole project. Thank you for always being open to discuss my project and for feeding me a coffee addiction.

But of course my greatest support has been my boyfriend Dave, thank you for always being so loving and patient with me. And last but not least, I want to thank my family and dear friends, who all contributed in their very own way.

Happy reading!
Franca



Executive summary

This thesis set out to research the problem of loneliness among adolescents in the high school context. For a long time, loneliness has mainly been recognized as a problem among elderly. Only in the last few years, people have been starting to realise that this is a concerning problem among adolescents too. A report from the GGD Haaglanden (2016) states that 42% of Delft's adolescents feel lonely. In order to get a better grip of what loneliness is, and what the role is of the high school context, extensive research was done in order to answer the main research question: *Following the current situation in Delft, which steps should be taken next in the high school context to better deal with loneliness among adolescents?*

Four sub questions were formulated in order to define the challenges and opportunities for the design phase:

1. *What is loneliness?*
2. *What kind of challenges that relate to loneliness are the current and upcoming generation dealing with?*
3. *What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?*
4. *What can we learn from the current situation in Delft regarding loneliness among adolescents?*

Answers to the sub questions were found through various research activities, like literature research, expert interviews and contextmapping sessions.

Analysis of the data led to seven main insights:

1. Loneliness can be seen as a feeling caused by unfulfilled fundamental human needs.
2. The current approach is disconnected from the current life-world of high school students.
3. The current approach only deals with it when it's already a problem and is therefore unsustainable.
4. Adolescents feel ashamed and therefore hold back from opening up.
5. Adolescents don't identify with the image and therefore cannot relate to loneliness.
6. The mentor-student relationship is important for the social cohesion in the classroom as well as for providing individual support.
7. High school comes with a sense of togetherness that can positively influence the group dynamics and atmosphere in the class

Following these seven insights, it was explored what a better way was to look at the problem of loneliness in the high school context.

Currently, loneliness among adolescents is framed as problematic, because it can progress into chronic loneliness with severe consequences. Existing initiatives that aim to solve this problem often help adolescents to step out of social isolation or help them improve their social skills. Besides that, loneliness is also framed as something that does not happen to young people, which makes adolescents struggle with identifying with the word, or they feel ashamed to admit when they do feel lonely.

In order to find a new way to approach loneliness in the high school context, several potential new frames were formulated. The new frame was formulated based on the three most promising frames. In order to take steps towards a more preventative and holistic approach regarding loneliness among adolescents in the high school context, loneliness should be framed as: **“a problem of ignorance, by not treating the feeling as something we all experience and that teaches us about our underlying human needs.”**

Following this new frame and additional exploration, the design statement was formulated:

“We want to show high school students how feelings like loneliness are indicators of underlying, fundamental human needs by letting them collectively reflect on these needs and their relation to emotions while also making them aware of the universality of those needs.”

A creative design process followed this design statement. Potential design directions were explored through brainstorming. Four varying ideas were then presented during a focus group session, in order to get feedback from several stakeholders. Following the focus group, it was decided to further develop the idea for a tabletop game.

For further development of the tabletop game the Persuasive Game Design method (Srirriaya, et al., 2018) was applied. Games have a certain motivational power that can be used to stimulate behavioural change. In persuasive games, this motivational power is used to realize a pre-determined transfer effect.

The desired transfer effect was set to: **Encourage introspection of an individual’s emotion and underlying needs throughout their high school career by collectively reflect on real-life situations.**

Next to this, the various game elements were elaborated on and tested through a gameplay test with design students.

The concept then got taken into the Validation phase. Validation was done through a user test with high school students and by interviewing stakeholders and experts. Rather soon it became clear that just a boardgame would not be enough to establish the intended transfer effect. The concept was therefore detailed further and the Under-Needs toolkit was introduced.

The Under-Needs toolkit contains tools for an educational programme which takes place during the first couple of months of the first year of high school.

The toolkit provides the tools for the high school context to educate students on their emotions and underlying needs. While it does not directly tackle loneliness, it aims to teach students how to reflect on feelings like loneliness and trace them back to their underlying needs. This will help them to make better sense of feelings like loneliness, because they get taught how to see them in the bigger picture and what it tells them about their underlying needs. Besides that, it makes them aware of the universality of the underlying needs.

Message of the Under-Needs toolkit:

Feelings like loneliness can be traced back to thirteen underlying human needs, which are the same for everyone.

Intended effect of the Under-Needs toolkit:

Encourage introspection of an individual’s emotion and underlying needs throughout their high school career by collectively, as well as individually, reflecting on day-to-day situations.

This thesis ended with a discussion on the project process and results, next to providing a list of recommendations regarding the concept and the implementation. The Appendix contains all the additional information and data, as well as the different elements of the toolkit.

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Reading guide

This thesis is a report that navigates the reader through a research and design process. The process is structured chronologically as it shows how one activity or decision led to the other. The chapters are organised by sections. Each section describes a different part of the design process. A section starts with an introduction on what to expect to read in those chapters and ends with a conclusion that contains the most interesting insights and decisions. The chapters follows a similar format. Information, data and design elements that contribute less to the main process can be found in the appendix, which is made into a separate document. Some information is included in a separate, confidential appendix, to secure the privacy of the participants.

Definitions

Adolescents

According to the World Health Organization, adolescence is: “the phase of life between childhood and adulthood, from ages 10 to 19.” This thesis has a focus on the high school age, so adolescents will be referred to as people aged 12-18.

Social cohesion

Social cohesion refers to the extent of connectedness and solidarity among groups in society. It identifies two main dimensions: the sense of belonging of a community and the relationships among members within the community itself.

Social isolation

Social isolation is defined as a state of complete or near-complete *lack of contact* between an individual and their environment.

Social skills

Social skills will be defined as the skills we use to communicate and interact with each other, both verbally and non-verbally, through gestures, body language and our personal appearance.

Social well-being

Social wellbeing will be defined as people’s ability to make and maintain *meaningful positive relationships* with other people in our environment.

Chapter 1

Introduction

This chapter explains how this design project was initiated. The relevance of the topic of loneliness among adolescents is described, as well as the context. Next, the scope and design objective will be defined, followed by an elaboration on the research questions and design approach.

Introduction

1.1 The relevance of this topic

Personal motivation

In the beginning of 2020, the world got caught by a pandemic following the outbreak of the COVID-19 virus. Everyone was forced to stay at home and to put their lives on hold. Suddenly I started hearing more and more stories about loneliness. Only this time it was not just the elderly, but also adolescents. The pandemic had a significant impact on their social lives, because schools closed, gyms closed and they were not allowed to meet up with their friends anymore.

*“Suddenly it seems normal to have a ‘coronadip’ and to not feel like doing anything, but that is not normal.”
Hart van Nederland, March 2021*

I felt a certain sense of recognition while reading the news headlines, because I saw those ‘coronadips’ happening everywhere around me. However, there was also something that bothered me. Just like Wieke, I caught myself thinking: young people can feel lonely regardless of the isolated situation that we find ourselves in now. The COVID-19 crisis had caused an increase of media coverage around the issues of loneliness among adolescents, but that did not mean that it was not there before.

A few years ago, I was alone in my room, in a house that I shared with eight other students, thinking: What is this feeling that is bothering me? Why do I feel lonely, while I’m surrounded by people? It certainly was not because of a lack of social life. I went to the faculty every day, had dinner with my housemates every night, and my week was always filled with social gatherings and meetups with friends. So, what was the problem then? And why did it take me months to admit what I struggled with to family and friends? The more research I did, the more intrigued I became. What started as a personal issue, shifted towards something that I, as a designer, could potentially dive into.

Which is why, when I came across the Belonging Project, I knew this was what I was looking for. Soon I had a conversation with Eva Legemaate about the Belonging Project and her thesis, and I was glad to hear that research on loneliness among young people was being done. This inspired me to take on this challenge as a designer.

Loneliness among adolescents in Delft

For a long time, loneliness has mainly been recognized as a problem among elderly. Only in the last few years, people have been starting to realise that this is a concerning problem among adolescents too. A report from the GGD Haaglanden (2016) states that 42% of Delft's adolescents feel lonely. Looking into other research a similar trend is seen. For instance, the Community Life Survey conducted in the United Kingdom between August 2019 and March 2020 shows that it is not just the elderly that indicate that they feel lonely, there is, in fact, a higher peak among the people aged 16-24 (figure 1). Research like this, together with an increase of news coverage and personal stories on the internet, has sparked the realization that it is not just the elderly, but adolescents can feel lonely too.

In March 2020, Eva Legemaate presented her thesis about a systemic co-design approach for team Youth of Gemeente Delft to tackle loneliness among adolescents. Her research was well received by team Youth and had brought the topic of loneliness among adolescents more under the attention of Gemeente Delft. I got in contact with an advisor Youth of the department 'Samenleving & Advies' to inquire about the current situation. Eva's research, but also the news coverage regarding loneliness and COVID-19, had sparked their interest in gaining a better understanding of the topic, in order to be able to take steps towards effective interventions for the youth of Delft. This initiated the collaboration with the Gemeente Delft to realize this project.

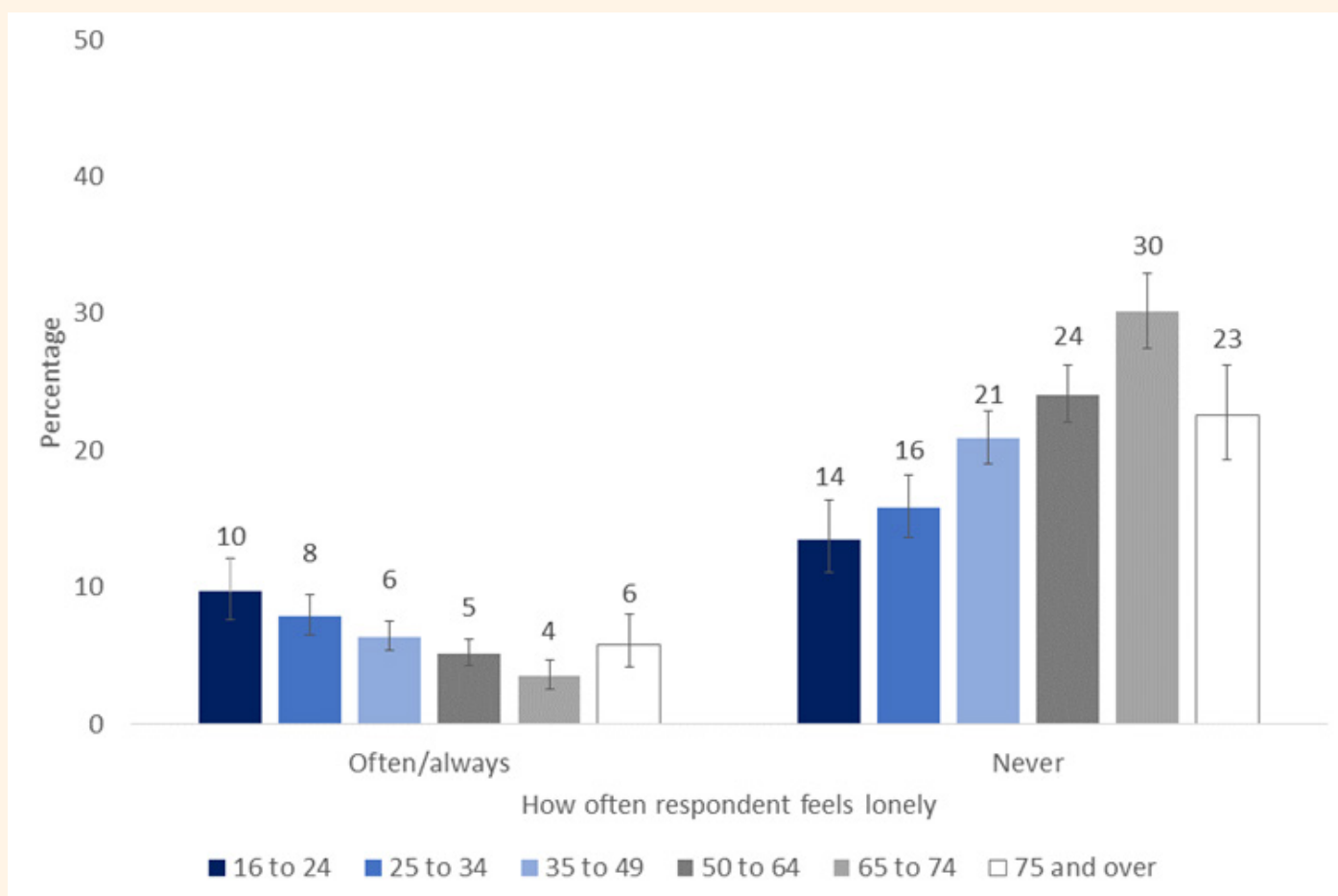


Figure 1 - How often respondents feel lonely, by age group (Community Life Survey, 2019/20)

1.2 The relevance of the high school context

A sensitive phase in life

In figure 1, a graph was shown that indicates how often respondents feel lonely, sorted by age group. It shows that people between the age of 16–24 were most likely to indicate that they feel lonely often or always, and less likely to indicate that they never feel lonely. But what is the reasoning behind this?

High school students typically are in the middle of puberty. They are becoming more independent and care about what others think. Gerine Lodder is an assistant professor in developmental psychology at Tilburg University and researches loneliness among adolescents. A publication of hers from 2016 discusses the three mechanisms that could lead to loneliness among this particular age group:

1. There is a mismatch with the environment: young people can feel isolated from their social environment because of bullying, (chronic) illness or disabilities, or because they have different interests and hobbies.
2. A lack of social skills: some adolescents lack the skills that are required to have small talk and maintain friendships.
3. A negative view on the world and negative thoughts: some adolescents perceive their environment or themselves negatively, which, for instance, makes them lose trust in social relationships or feel unwelcome at parties.

While it is good to acknowledge all three factors, it would be interesting to focus on the internal feeling of loneliness and how this can be influenced through external interventions.

The high school context

We have now established that the age group of adolescents are sensitive to feelings of loneliness, but what is the relevance of looking at the high school environment?

In January 2021, an expert session was hosted by the Belonging Project. The topic to explore was loneliness in the high school context. Together with several experts from different fields of expertise we discussed barriers and opportunities. Part of this discussion revolved around the question: Is it the responsibility of the school to deal with this problem?

High school has always been the place where the youth comes together. The goal is education, but the fact that they get educated collectively, makes high school an interesting context.

Claudia Gomes (2020) researched the importance of the sense of belonging in the school community and argued that we should try to see the classroom as a micro-society. If we treat it as such then the students will be better prepared for the real world. Puberty is an impactful phase in life. Adolescents who go to high school are in the middle of the process of growing into independent adults, so you can imagine that this micro-society full of people that are trying to find out who they are can impose many different social challenges. Therefore, it would be interesting to take a closer look at the high school context and how it plays a role regarding loneliness.

Gerine Lodder is an assistant professor in Developmental Psychology at Tilburg University and researches loneliness among adolescents. While interviewing her on the topic of loneliness and the role of the high school system, I got the following respond:

“I think school is the perfect place to start, because it is the social context that youth spend most of their time with peers. Although you cannot be too ambitious because schools already have enough on their plate.”
- Gerine Lodder

So maybe it is not about responsibility, but about whether or not it is a good place to start. The fact that high school is where peers come together, could make it a good place for trying to tackle the problem of loneliness. At the same time, I know from my own experience that loneliness can occur even when you are surrounded by peers. Therefore, it would be interesting to first dive deeper into what causes this feeling of loneliness, before identifying design opportunities in this context.

Maslow’s pyramid of needs and the need to belong

Claudia Gomes (2020) refers to the Maslow’s Hierarchy of Needs (figure 2) to illustrate the importance of ‘student sense of belonging’ when it comes to study motivation and performance. Maslow’s theory says that, motivation wise, you can only move to the next layer of the pyramid once the one below has been secured or fulfilled. The need for belongingness is typically the third layer of the pyramid. Above that are the ‘esteem needs’ and ‘self-actualization needs’. The top of the pyramid is defined by Maslow as ‘reaching a person’s full potential’. This implies that you can only focus on ‘becoming the best version of yourself’ once your need to belong is met.

Even though Maslow’s pyramid is very useful in getting a better grip on what motivates human behaviour, the theory has also been criticized. In particular, the hierarchical order has been disproven and the samples used by Maslow to prove the concept of self-actualisation

appeared not have been very inclusive. Desmet and Fokkinga published a paper in 2020, which reviews these limitations and proposes a new way of approaching human motivation. This study will be further elaborated on in Chapter 2.2.

Even with the limitations of the pyramid in mind, a simple, but important question arises: how could a student motivate themselves to learn if their underlying needs are unfulfilled?

This question led to a research by Pharos (2020). The purpose of the research was to pay more attention to the general well-being and social-emotional development of their students. According to their report, increased student well-being could lead to enhanced resilience, an enhanced feeling of safety and more connection or belongingness.

One of the pilots was done at the Stanislas College in Delft. A documentary was created to illustrate the outcome of the pilot. In one scene a teacher tells a story about an activity that a group of teachers were asked to do during one of the workshops. They were asked to each hold a balloon behind their back with their eyes closed. The facilitator then went around the room telling them a story, but during the story he announced that he was going to let one of their balloons explode. When he finished telling the story, all of their balloons were still intact. He asked them what details they remembered from the story.

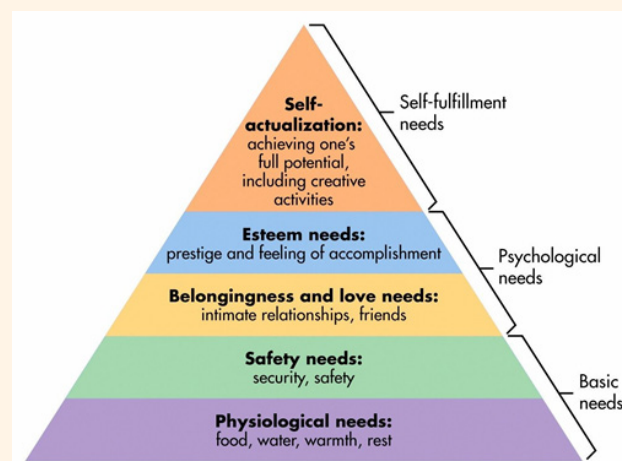


Figure 2 - Maslow’s pyramid of needs (1943)

It turned out that had missed most of the information because they were too busy focusing on the balloon that may or may not burst. The facilitator then explained that this is similar to trying to learn while your head is full of stress and worries.

The story of the balloon resonates with the theory of Maslow's pyramid of needs. In order for a high school student to be able to perform, their social-emotional needs should be at a decent level of fulfilment.

Transitioning to a new school

There is another reason for the high school environment to be a valuable context. In the Dutch school system, children around the age of 10–12 transfer from 'basisschool' (equivalent to elementary school) to high school. This transition marks the start of their high school experience.

Anderson et al. (2000) discuss how moving from one school to the other comes with challenges and could end up being problematic for some students. As students move from elementary school to high school, they are confronted with:

- ☹ Increased size: both the physical environment as well as the number of students (Roderick, 1993);
- ☹ Increased heterogeneity of the student population (Roderick, 1993);
- ☹ More emphasis on ability and competition (Schumaker, 1998);
Less personal relations with teachers (Mizelle, 1995; Wells, 1996);

This transition introduces certain concerns that students experience, like getting to class on time and the fear of getting lost (Weldy, 1991) and the fear of being picked on by their new peers (Mizelle, 1995; Wells, 1996). Concerns like these have an impact on the student well-being and study performance. These initial concerns could then grow into a problem with long-term impact.

To prevent these problems, Anderson et al. (2000) argue that "facilitating successful transitions requires that attention be paid to students' preparedness for the transition and the kinds of support students need before, during, and after the transition."

It is because of this impactful transition, sensitive age group and the importance of student well-being in relation to student performance that the high school age is an interesting group to focus on.

1.3 The scope

The target group

To further scope the project the target group is defined as:

High school students in Delft, between the age of 12–18.

This project focusses specifically on high school students in Delft, because the Gemeente Delft is curious about the opportunities that could arise when looking at the current situation in this city.

The high school system in the Netherlands is based on education levels. At the age of 10–12, children get advised on which education level they can proceed to follow. This determines which high schools they can choose from and with whom they end up in the same classroom or year with. Between the age of 16–18 they graduate high school and either go to university or start working. For this project I have decided to not define the education level of the students, the specific school or their personal background. The limitations brought upon society by the COVID-19 pandemic influenced the outreach possibilities which made it difficult to further minimize the scope. I acknowledge that these factors cannot be left out completely, because they could influence the research outcomes. Therefore, throughout the project, I will try to take them into account whenever possible.

1.4 The research questions

The main research question was formulated as: Following the current situation in Delft, which steps should be taken next in the high school context to better deal with loneliness among adolescents?

In order to be able to answer the main research question, additional research will have to be conducted. Therefore, the following sub questions were formulated:

1. *What is loneliness?*
2. *What kind of challenges that relate to loneliness are the current and upcoming generation dealing with?*
3. *What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?*
4. *What can we learn from the current situation in Delft regarding loneliness among adolescents?*

1.5 Design approach

The design approach is based on the double diamond structure:

To understand loneliness and the context

- *What is loneliness?*
- *What kind of challenges that relate to loneliness are the current and upcoming generation dealing with?*
- *What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?*
- *What can we learn from the current situation in Delft regarding loneliness among adolescents?*

To define a focus and design direction

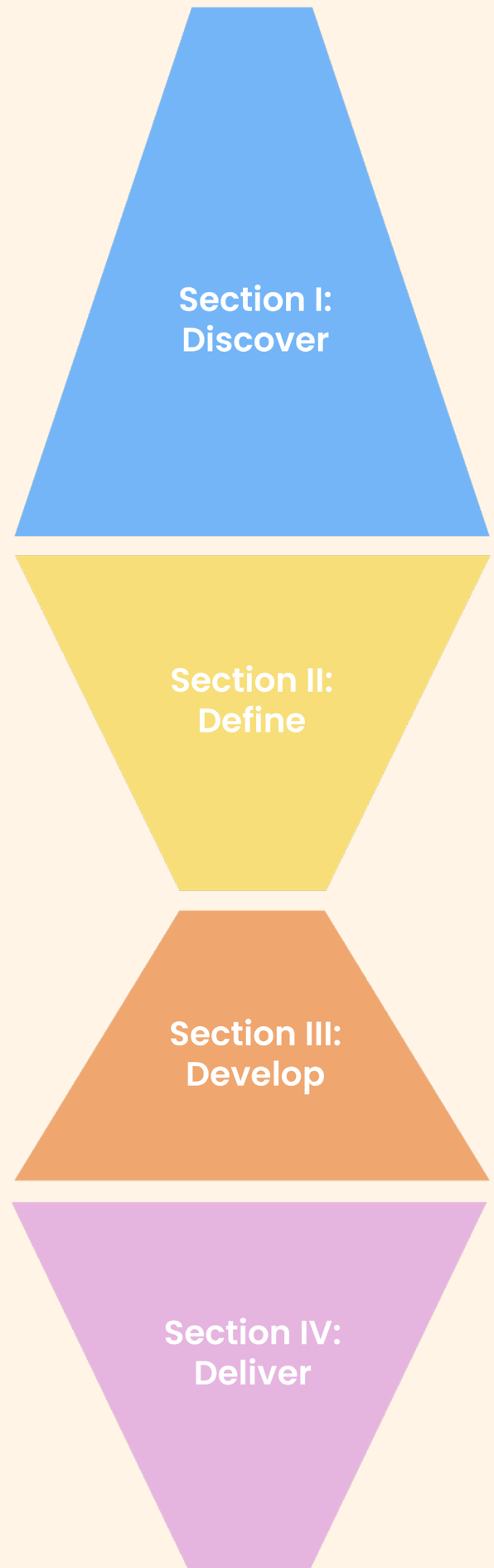
- *Which frame should be adopted in order to take steps towards a more preventative and holistic approach regarding loneliness among adolescents in the high school context?*

To develop a concept that fits the design statement

- *How could the design statement be achieved?*
- *Which design direction would suit the high school context best?*
- *To what extent does the concept encourage introspection of an individual's emotions and underlying needs?*

To discuss the final concept

- *How could the concept be improved for the best effect?*



Section I:

Discover

In this section, the sub research questions will be answered:

Chapter 2: Understanding loneliness

- *What is loneliness?*

Chapter 3: The current situation in Delft

- *What kind of challenges that relate to loneliness are the current and upcoming generation dealing with?*
- *What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?*
- *What can we learn from the current approach to dealing with loneliness among adolescents in Delft?*

Various research methods have been used in order to answer the sub research questions of this section. The research activities consisted of:

Literature research: consisting of news articles, reports and scientific papers

Desk research: consisting of websites (e.g. of news and organizations) and social media

Interviews with experts: on the topic of loneliness and/or the high school context, see page 118 for a complete overview

Watching webinars, vlogs, TV shows & documentaries: (e.g. 'Alleenzaam' and 'Klassen') and promotional videos.

Contextmapping sessions:

Contextmapping is a research method that is developed at Delft University of Technology. It is a procedure for conducting holistic research where users and stakeholders actively participate in the process to ensure a good fit between the design and their everyday lives and needs. Users take part in early stages of the design process, typically during the 'Discover' phase. During this project the contextmapping sessions were executed with five high school students from Delft.

Chapter 2

Understanding loneliness

In the introduction it became clear that many adolescents nowadays feel lonely. But what does that entail? Before we can start working towards an effective intervention, it is important to understand what loneliness actually means. In this chapter the following sub question will be answered:

- *What is loneliness?*



Understanding loneliness

2.1 Unravelling loneliness

During the webinar 'Jong & Eenzaam' in 2020, Gerine Lodder defines loneliness as:

"A negative feeling resulting from the unintentional discrepancy between the amount or quality of relationships you have and what you need."

Even though this may seem like a straightforward definition, it shows how important it is to treat loneliness as a subjective feeling. It is about what the individual needs and whether or not those needs are met. It could be either about the amount of relationships or the quality, or both, depending on the individual. Moreover, there is a difference between being alone and feeling alone. If being alone is not what you long for in that moment then it can result in a feeling of loneliness.

The typology of loneliness

In order to answer the question 'what is loneliness?', it is important to distinguish the different types of loneliness. Research done by Weiss (1973) showed two types: loneliness due to social isolation and loneliness due to emotional isolation.

According to Weiss, emotional loneliness is the feeling of lacking a close, intimate attachment to another person, like a best friend. In contrast, social loneliness is the feeling of lacking a network of social relationships, like a peer group. Next to the importance of acknowledging the different types, it is also good to be aware that these types can intertwine as well as co-exist.

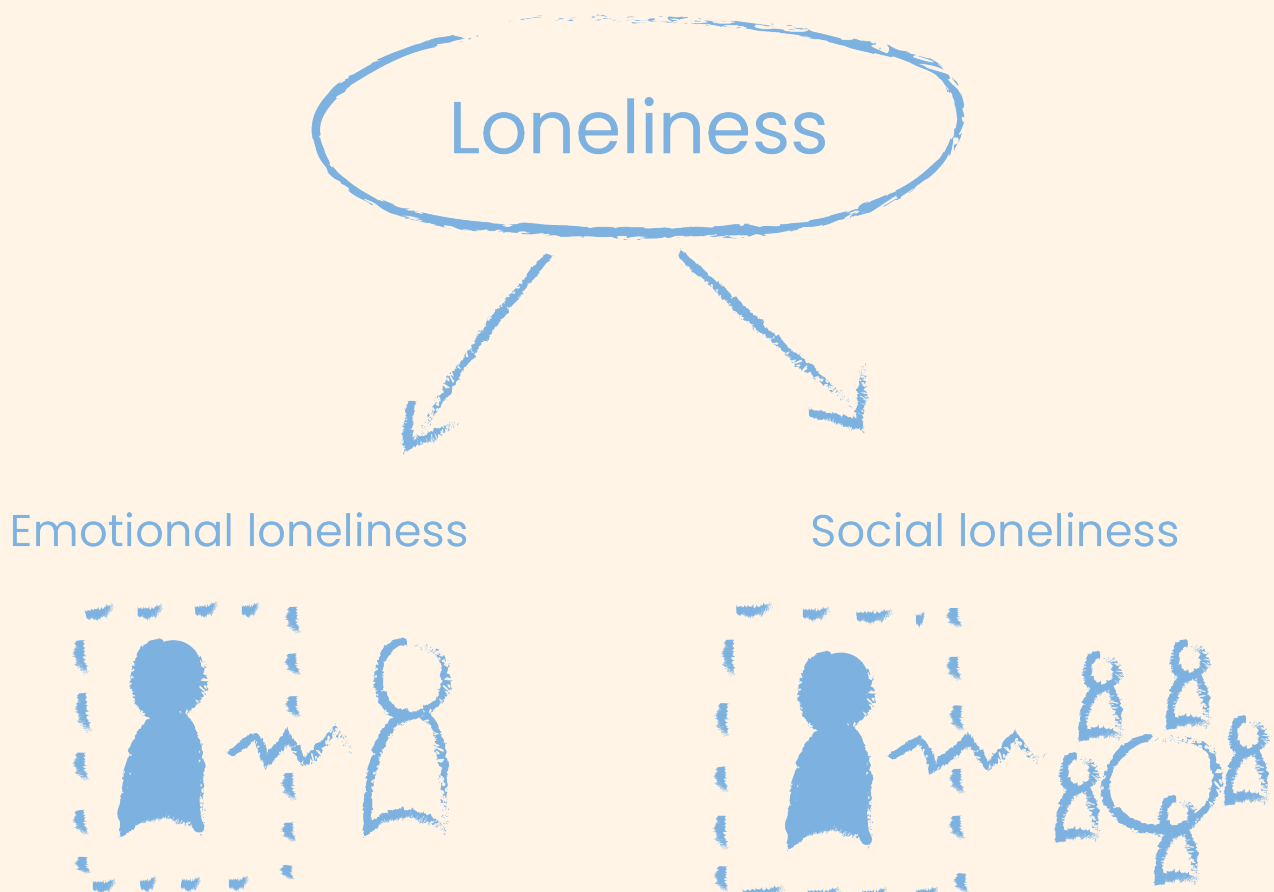


Figure 3 - Two types of loneliness, according to Weiss (1973)

The consequences of loneliness

Loneliness is a call to action. It is your body trying to motivate you to get up and seek social contact. Looking at it from an evolutionary perspective, it is comparable to thirst or hunger, which are signals that protect an individual from starving (Cacioppo et al., 2006). Unfortunately, some people feel lonely, but never get to fill their glasses, which leaves them with unfulfilled social needs. When this discrepancy between the social interaction you long for and what you get stays, it can lead to a more long-term state of loneliness (Perlman & Peplau, 1981). This is nowadays known as 'chronic loneliness'. Besides raising the desire to reconnect, loneliness also increases the vigilance for threat and heightened feelings of vulnerability. Being in this state alters psychological processes that affect physiological functioning like your sleep quality, and eventually increases morbidity and mortality (Hawkley & Cacioppo, 2010).

Loneliness is a part of life

Loneliness is not always a problem that needs to be solved. Everyone will experience loneliness at some point in their life. Irene Campfens wrote the book 'Gedialogeerd' in which she argues that we should see loneliness as something that we have in common, instead of something that gets put away as a healthcare problem. When asking her about this during an interview, she said:

"It is good for a person to experience loneliness at least once in their life. It makes you aware of your own needs and boundaries. It is like a mirror that you get presented in order to find out what you need. Feeling lonely is feeling that you're human."

What Irene refers to is the occasional feeling of loneliness. Often, loneliness is described as a downward spiral. Something bad happens to trigger the downward motion and your own negative thoughts and insecurity only make you spiral further. This implies that there is only one way down, but we will see that this is not always the case.

Jolanda van Gerwen, founder of JoinUs, which is an organization that aims to tackle chronic loneliness among adolescents, illustrated the phases of loneliness among adolescents by showing the different levels of prevention (figure 4). On the primary level, all is good. They feel happy, they have friends and they feel like they belong. On the secondary level, something triggers a feeling of loneliness. In this state only a few symptoms occur. Going one level down is the tertiary level. This is where a person has reached a more chronic state of loneliness with more severe consequences. JoinUs created this visual to show that they aim for helping young people that are in the tertiary phase, but they also organize workshops that focus on treating the early symptoms.

This visual is helpful in illustrating the different levels. However, it is good to notice that the different types of loneliness, social and emotional loneliness, are not defined. Besides that, the visual suggests that the road to chronic loneliness is more or less linear; there seems to be only one way in and one way out. The way I see it is that loneliness is a spectrum. Experiencing feelings of loneliness at some point in your life is unavoidable, but that does not

mean that you will start spiralling. For instance, someone could be going from the primary level to the secondary level without moving further down towards the tertiary level. In contrast, someone could have been on the secondary level for a long time and slowly be making their way down.

Treating loneliness as a spectrum means that we can treat it as more than just a spiral and also create opportunities for dealing with the occasional emotional fluctuations that are part of life.

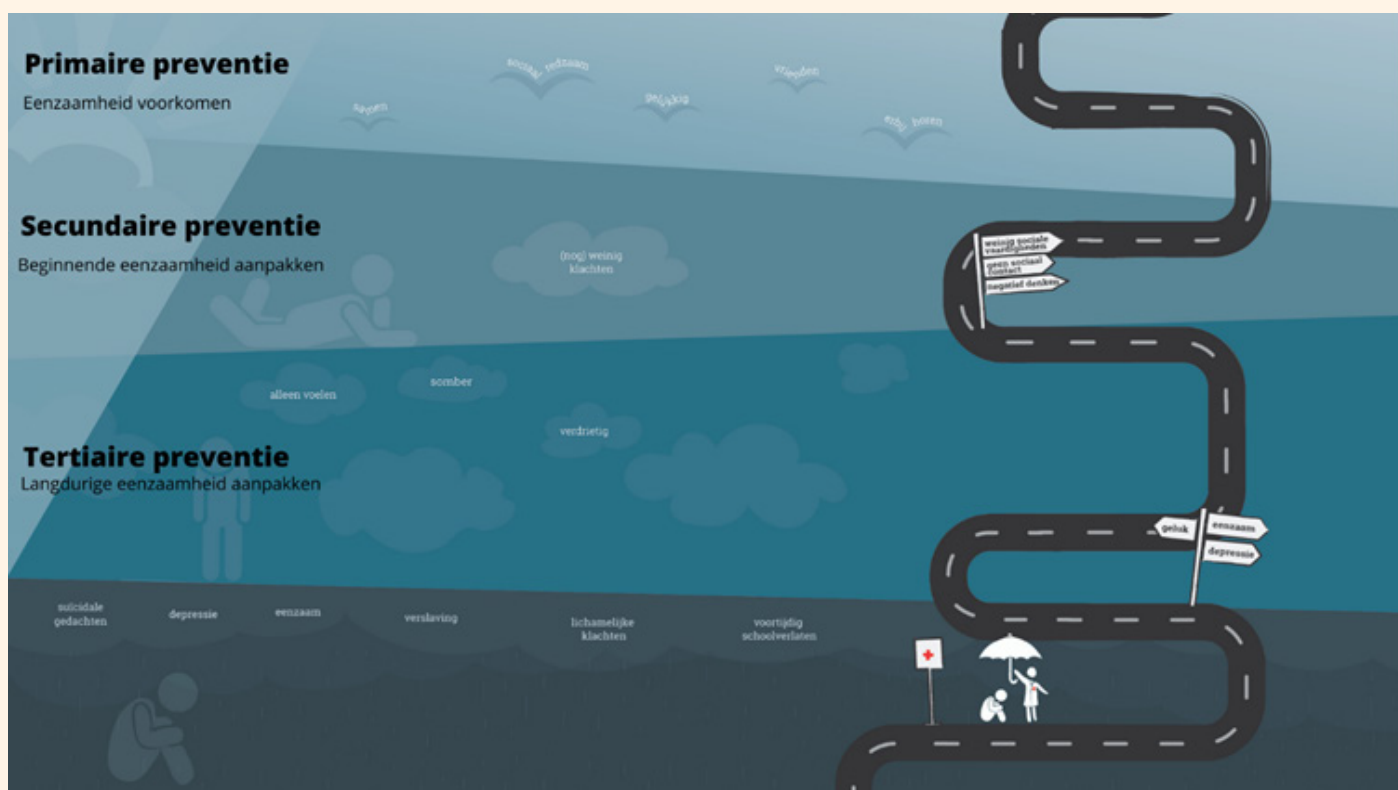


Figure 4– Preventie route – JoinUs, 2020

Loneliness is a wicked problem

Our rapid changing world has made the challenges that we face more complex. Take for example the COVID-19 pandemic. If there was a simple solution we would have found it sooner. Complex challenges like this require a different approach than simple problems.

Rittel and Webber (1973) describe complex problems as 'wicked' problems. These are stubborn problems that are not easy to deal with. During the industrial era, professionals focused on solving the straight-forward problems first: roads were paved to connect places and schools were built to make education accessible. Each professional had their own task and field of expertise. However, after all these relatively easy problems were fixed, the realization arose that each output also served as input for new events. This caused a greater interest in the interconnectedness of problems. In order to deal with this new type of challenges, a more holistic view was needed.

According to Rittel and Webber, wicked problems are hard to define and they cannot be seen as true-or-false, but good-or-bad. To illustrate the contrast, Rittel and Webber give the example of a mathematician, who can work on solving an equation and it is unarguably clear when the solution is found. Wicked problems, however, are often societal problems that are ill-defined. They rely on human factors, public policy and other floating properties, which makes it impossible to predict the outcome of certain interventions.

Coincidentally, when speaking to Dominique Warmerdam, psychologist and founder of 'Psychologie in het Onderwijs', she made a similar comparison:

"It's not like mathematics. You can't tell them: 'this is how you do it', and then it works."

It has become clear that, indeed, loneliness is nothing like mathematics. Loneliness is a feeling and a social construct. Each individual can experience it differently and it is therefore highly subjective. Everyone will probably experience loneliness at some point in their life, but because it can manifest in different ways and for a large variety of reasons, it is good to acknowledge that it is impossible to find one solution that fits all.

2.2 The source of loneliness

In the previous paragraph the meaning of loneliness was explained. However, in order to ensure effective interventions it is important to know where this feeling comes from.

Fundamental human needs

In 2017, Pieter Desmet and Steven Fokkinga from Emotion Studio published a catalogue containing five typologies of human experiences. The aim of this work was to find a balance between comprehensiveness and detail in order to make it applicable for design. One of these typologies is that of the fundamental human needs. Desmet and Fokkinga based this typology on several cognitive psychology studies about fundamental human needs. The study shows that deep down everyone has the same goals in life. Regardless of culture and lifestyle, these human needs are fundamental and universal.

The spectrum of human needs can be seen as jars. Each jar stands for a specific human need that needs to be fulfilled in order to lead a happy and flourishing life. Desmet and Fokkinga have compiled a list of thirteen fundamental human needs based upon several scientific studies. They argue that emotions serve as a tool to help us prioritize which needs to focus on so none of them falls empty. An emotion signifies the moment in which a certain human need is unfulfilled and left desired. The fact that emotions come and go implies that the levels of the jars are never stable; they fluctuate according to your perceptions and experiences in life. It is important to note that overcompensation will not help. So filling a few jars in the hope that they will make up for the empty ones will not have the same effect.



Visual 5 – The fundamental human needs can be visualised as jars

The source of loneliness

In Desmet's catalogue loneliness can be found in the list of negative emotions. So if loneliness is an emotion, then what underlying human needs relate to this emotion?

This question was first explored by having a random sample group fill in a free-form questionnaire with only one question. Participants were asked to finish the sentence 'loneliness is...'. The goal was to find out what thoughts and feelings are associated with loneliness, before attempting to link them to underlying needs. As expected, their answers differed from each other, but a few main clusters could be found (figure 6).

Through analysing the different answers, three main categories were identified:

1. Loneliness is the feeling that you don't belong
2. Loneliness is the feeling of missing a deeper connection
3. Loneliness is feeling like you're not being seen or not being understood

By applying the typology of Weiss (1973) the following labels could be given:

1. Loneliness is the feeling that you don't belong = **social loneliness**
2. Loneliness is the feeling of missing a deeper connection = **emotional loneliness**
3. Loneliness is feeling like you're not being seen or not being understood = ?

In this case, the third category of perceived loneliness seems to go beyond Weiss' theory and is left unaddressed. But by applying the theory of the thirteen fundamental human needs (Desmet & Fokkinga, 2017) instead, there is a way to label all three categories:

1. Loneliness is the feeling that you don't belong = **Unfulfilled need for community**
2. Loneliness is the feeling of missing a deeper connection = **Unfulfilled need for relatedness**
3. Loneliness is feeling like you're not being seen or not being understood = **Unfulfilled need for recognition**



Figure 6 - Free-form questionnaire

With this knowledge, a new definition for loneliness was formulated:

“Loneliness is the feeling resulting from an unfulfilled need for community, relatedness and/or recognition.”

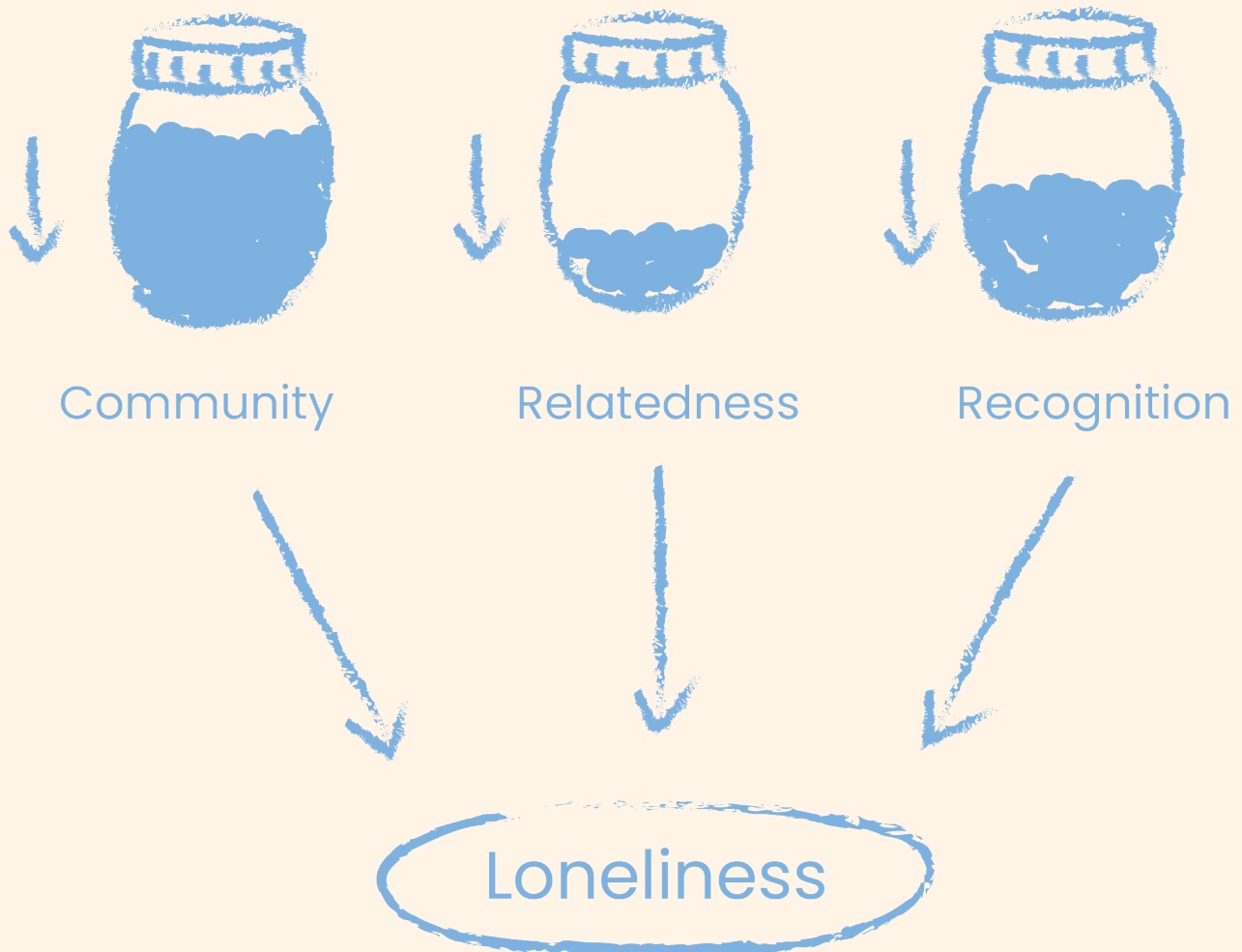
This definition shines a different light on loneliness. It shows how loneliness can be traced back to three underlying needs, which helps in making the abstract concept more tangible and to better understand the complexity of loneliness.

Moreover, it could help to design interventions that target a certain type of loneliness and to categorize the different factors that can influence loneliness. Therefore, this definition will be adopted from here on.

Need for community: Being part of and accepted by a social group or entity that is important to you, rather than feeling you do not belong anywhere and have no social structure to rely on. (Desmet and Fokkinga, 2020)

Need for relatedness: Having warm, mutual, trusting relationships with people who you care about, rather than feeling isolated or unable to make personal connections. (Desmet and Fokkinga, 2020)

Need for recognition: Getting appreciation for what you do and respect for who you are, instead of being disrespected, underappreciated or ignored. (Desmet and Fokkinga, 2020)



Insight: Loneliness can be seen as a feeling caused by unfulfilled fundamental human needs

Conclusion of chapter 2

The goal of this chapter was to gain a better understanding of what loneliness is and of what causes loneliness. It set out to answer the following sub question:

- *What is loneliness?*

Loneliness is a single word that contains a lot, therefore this chapter started by addressing the complexity. First of all, it is important to acknowledge the subjectivity; how everyone experiences feelings of loneliness differently. Secondly, it is good to know that there are different types of loneliness; social loneliness and emotional loneliness (Weiss, 1973). According to Weiss, emotional loneliness is the feeling of lacking a close, intimate attachment to another person, like a best friend. In contrast, social loneliness is the feeling of lacking a network of social relationships, like a peer group. It is good to be aware that these types can intertwine as well as co-exist.

Thirdly, loneliness should be treated as a spectrum; it is not necessarily a spiral with only one way in and one way out. Feeling lonely sometimes is also just part of life.

Lastly, there are three underlying mechanisms that support loneliness among adolescents; having a mismatch with the environment, lacking social skills and having a negative view on the world (Lodder, 2017).

Desmet and Fokkinga (2017) have compiled a list of thirteen fundamental human needs based upon several scientific studies. Their study shows that an emotion signifies the moment in which a certain fundamental human need is unfulfilled and left desired. This implies that the levels of these needs are never stable; they fluctuate according to how you perceive and respond to life events. It is important to note that overcompensation will not help. So overfilling a few needs in the hope that they will make up for the empty ones will not have the same effect. According to their study, loneliness belongs to the category of negative emotions. Treating loneliness as an emotion also means that it is an indicator for certain underlying needs being harmed.

Following a free-form questionnaire and the theory of the thirteen fundamental human needs, three types of loneliness were identified: loneliness caused by an unfulfilled need for

community, loneliness caused by an unfulfilled need for relatedness, and loneliness caused by an unfulfilled need for recognition. This typology provides a more elaborate view on the complexity of loneliness, compared to the theory of Weiss (1973) that discussed only two types of loneliness; social loneliness and emotional loneliness. In order to get a better grip on the topic and to be able to develop effective interventions, a new definition of loneliness was adopted: *“Loneliness is the feeling caused by an unfulfilled need for community, relatedness or recognition.”*

What's next?

The next chapter will continue building on this knowledge, by exploring loneliness in the current situation and context.

Chapter 3

Understanding the context

For this project loneliness is addressed in a specific context: the high school environment. In order to work towards effective interventions, it is important to gain a better understanding of this context, the needs of the target group and the current situation in Delft.

Through literature research, contextmapping, trend analysis and expert interviews, the following sub questions were answered:

- *What kind of challenges that relate to loneliness are the current and upcoming generations dealing with?*
- *What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?*
- *What can we learn from the current approach to dealing with loneliness among adolescents in Delft?*

Understanding the context

3.1 The challenges of the current and upcoming generation

This paragraph aims to answer the following research question:

- *What kind of challenges that relate to loneliness are the current and upcoming generation dealing with?*

Information was gathered by executing literature research and trend research. To be able to form a complete image, scientific papers were studied, next to commercial documentaries, social media platforms and (online) articles.

The paradox of social media use

In 2020, Netflix released a documentary called *The Social Dilemma*. The film exposes the dangers of social media. Ever since watching the documentary, one scene is glued to my memory. It is the scene of a girl in her teens, who gets upset because her selfie did not get the amount of likes that she was hoping for, and she starts sliding down a negative spiral. The next image on the screen is that of a graph that shows the U.S. Hospital admissions for non-fatal self-harm. It turns out that between 2009 and 2015, the amount of admissions among girls age 15-19 increased by 62% and among girls age 10-14 the amount of admissions increased by 189% (figure 7). Even more shocking, the same pattern can be seen with regard to suicide rates. Jonathan Haidt, a social psychologist, argues in the documentary that because of the timing, "this pattern points to social media".

"We evolve to care about whether other people in our tribe think well of us or not, because it matters. But were we evolved to be aware of what ten thousand people think of us? We were not evolved to have social approval being dosed to us every five minutes, that was not at all what we were built to experience."
- *The Social Dilemma, 2020*

Essentially, the girl in this story was looking for approval in the form of likes. This behaviour can be traced back to her underlying need for recognition being harmed, which, as stated in chapter 2, can increase feelings of loneliness.

Teens are in the middle of the process of finding their own identity. Given these statements out of the documentary, spending a lot of time on social media can highly influence this process of identity finding. The fact that these generations grew up in an era of smartphones and tablets means they are active users of social media platforms like YouTube, TikTok and Instagram (McCordle, trend research agency, 2020). It is therefore good to be aware of how social media influences one's underlying need for recognition and could therefore increase feelings of loneliness.

However, using social media does not always lead to loneliness. Nowland, et al. (2017) researched the relation between loneliness and social internet use. They state that there are two ways one could use social media. One is that of social media being a tool for enhancing existing relationships and forging new social connections. Looking back at the newly adopted definition of loneliness, this type of usage, where the user is looking to strengthen or create new relationships, can be traced back to the underlying need for relatedness. So in this case, using social media for that purpose may actually reduce feelings of loneliness.

A report from the IV opiniepeiling by Kamphuis in 2018 supports that:

“Thanks to social media I actually have more contact. I’m in a whatsapp group with peers, so if one of us is struggling then there are always people to help them go through it.” – quote from the IV Opiniepeiling report (Kamphuis, 2018)

In contrast, Newland, et al. (2017) found that, if social media is being used to escape the real world and withdraw from being hurt, feelings of loneliness are increased.

Nowland, et al. also suggest that ‘lonely people express a preference for using the internet for social interaction and are more likely to use the internet in a way that displaces time spent in offline social activities’. This group might benefit

from support with their social internet use, so that they use it in a way that helps them to nourish existing friendships or creates new ones.

To summarize, social media is a way to stay connected with friends, while at the same time it could harm self-worth and trigger a downward spiral of negative thoughts. The difference in effect depends on the way social media is being used and can be traced back to the underlying need for recognition and the underlying need for relatedness. Gerine Lodder mentioned during the webinar ‘Jong & Eenzaam’ in 2020 that social media has not been identified as a cause, but could function as a trigger. So whether it is a direct cause or not, when designing for a generation that is so involved with this phenomenon, it is essential to keep this in mind.

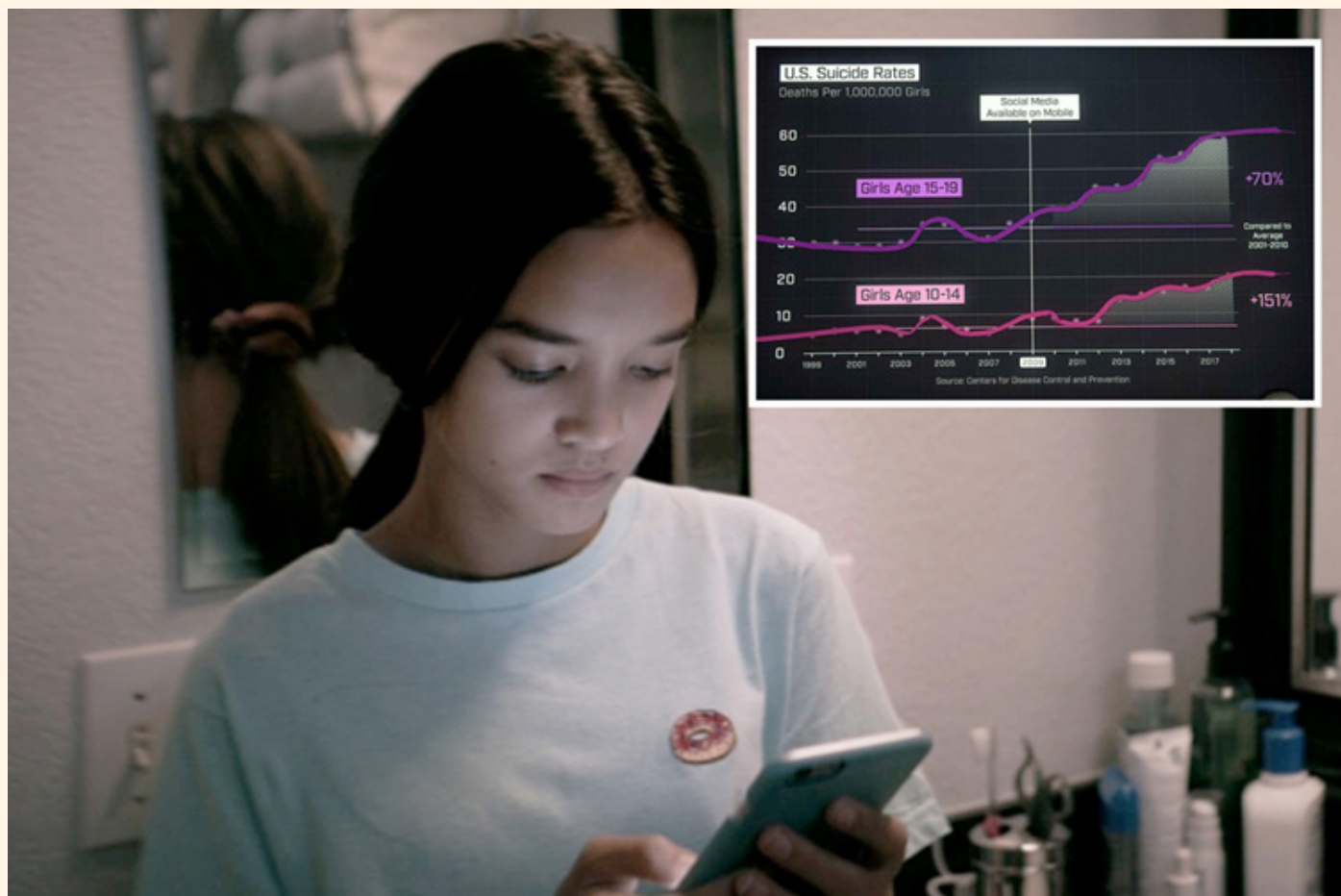


Figure 7 - A still from the documentary 'The Social Dilemma' next to the graph that shows the U.S. suicide rates.

The stigma attached to loneliness among adolescents

Besides the external factors like social media and school transitions, there are more elements that add to the complexity of loneliness in the high school context.

First of all, Gerine Lodder made me aware of how adolescents often do not recognize themselves in the word 'loneliness'. They do not match their own feelings with the image that they have when they hear the word. Gerine Lodder illustrated this by explaining how a survey that was spreaded among adolescents contained one question that asked them if they feel lonely. Not that many responded that they did. However, when asking questions that related to loneliness without using the actual word, participants were more likely to respond with a 'yes'.

Lodder also explained how this may have to do with the fact that 'lonely elderly' is a term more common than 'lonely adolescent'. As already mentioned in the introduction, high school is the place where peers come together. However, it has already become clear that you can feel lonely even when you are surrounded by peers. If the image they have of loneliness is an old person in social isolation, then it becomes even more challenging to identify with loneliness, because they see themselves as young people that are surrounded by peers.

Moreover, feeling lonely seems to come with a feeling of failure. Or as Siona Oosterkamp phrased it:

"People think that feeling lonely means that something is wrong with you, otherwise you would have had friends. So that is why the taboo is so large. People are afraid to admit that they're lonely because 'loneliness' comes with so much negativity."

A similar quote comes from the IV Opiniepeiling report (2018):

"Adolescents are expected to have a busy social life. Loneliness does not fit in that picture. Besides, people find it hard to imagine that a busy social life and loneliness can go hand in hand. The taboo will not go away as long as these misconceptions are still going around."

If a person is afraid to announce that they feel lonely, they may decide to keep it to themselves. The problem then becomes internalized, which makes it difficult to get noticed by the outside world.

The fact that adolescents are often hesitant to admit that they are lonely has been recognised by Madsen et al. during their study from 2016.

In conclusion, the effect of the stigma attached to loneliness seems to be two-fold. First there is ignorance; adolescents do not identify with the word 'loneliness'. Second there is fear; they are afraid to admit that they are lonely because it feels like failing.

Insight: Adolescents feel ashamed and therefore hold back from opening up.

Insight: Adolescents don't identify with the image and therefore cannot relate to loneliness.

3.3 The high school journey

In this paragraph the following sub question will be answered:

- *What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?*

Approach

In order to be able to answer this research question an extensive contextmapping process with high school students was conducted, as well as semi-structured interviews with two high school teachers. The contextmapping process including the raw results can be found in Appendix C. Transcripts of the interviews with the two teachers can be found in the confidential appendix.

The social challenges and social opportunities of a high school student

From the results of the contextmapping interviews with the high school students, a detailed image of the journey of a high school student and the social challenges and social opportunities was developed. Figure 9 shows a simplified version of this journey. The events that are not indicated by a number have no specific place on the timeline.

Loneliness and the high school journey

Following the newly adopted definition of loneliness, it was explored how the social challenges and opportunities relate to a students' sense of community, relatedness or recognition and therefore, how they relate to loneliness among adolescents. This has been indicated by the red and green dots in figure 9.

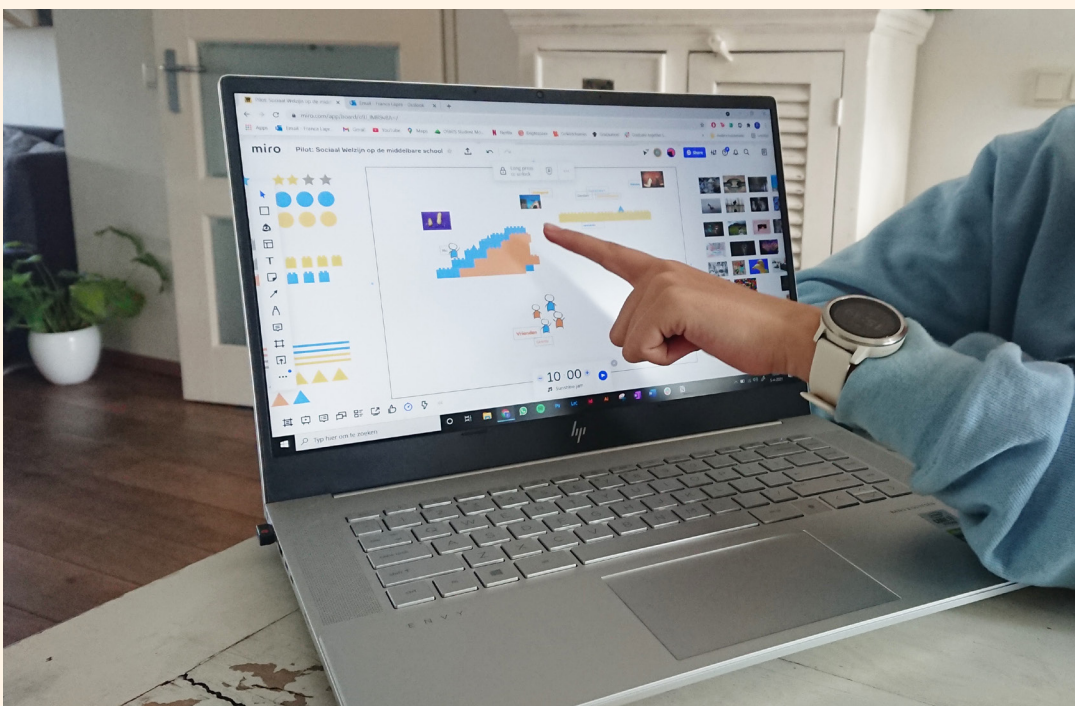


Figure 8 - pilot testing the contextmapping session

Four insights from this journey seemed relevant to this project:

1. THERE IS NO CLEAR CAUSE FOR LONELINESS IN THE HIGH SCHOOL CONTEXT

What is interesting to see is that many events along the high school journey seem to affect more than one fundamental human need related to loneliness. This shows that these events could have a big impact on the social-wellbeing of the individual student, but it also shows how there is not one straightforward cause for loneliness in the high school context. It is therefore wise to keep looking at loneliness holistically, taking into account all three underlying needs.

2. THE MENTOR-STUDENT RELATIONSHIP IS IMPORTANT

The mentor has an important role to manage group dynamics in the classroom and to provide individual support. An unsupportive mentor could therefore increasingly harm the needs for relatedness and recognition and therefore, enhance feelings of loneliness.

“My mentor did not listen at all and wanted to keep me in this group that had been bullying me.”



Figure 9– The opportunities and challenges of the high school journey and the related needs

3. ADOLESCENTS ARE HESITANT TO OPEN UP ABOUT SENSITIVE TOPICS

Something I noticed while doing the interviews is that adolescents are hesitant to open up about touchy subjects. This could have to do with the fact that I was a stranger to them or that the interview was done remotely. However, there were several comments from the students, as well as the teachers, that pointed in the same direction. Students mentioned that loneliness could be a result of hiding away your feelings or problems. At the same time, the two teachers mentioned that, from their experience, they often see students that hide away their problems. This could be traced back to the stigma that is attached to topics like loneliness, with shame being the reason to avoid confrontation.

"Once I feel insecure I close myself off and don't accept help from family or friends."

4. TOGETHERNESS IS A COMMON THEME IN THE HIGH SCHOOL CONTEXT

A common theme among the social challenges and social opportunities is that of togetherness. Things that were mentioned often, and that high school students seemed to value, were who they ended up being in the same class with, achieving something with their peers, motivating each other and having a shared goal. This sense of togetherness is an opportunity that can be further exploited.

"I feel more connected when my peers and I have the same goal, like getting good grades or trying to win the 'sportdag'"

"The class starts feeling like a close group once you have experienced something together."

"During exam week everyone tries to motivate one another by wishing each other good luck and answering questions of peers."

Insight: Adolescents feel ashamed and therefore hold back from opening up.

Insight: The mentor-student relationship is important for the social cohesion in the classroom as well as providing individual support

Insight: High school comes with a sense of togetherness that can positively influence the group dynamics and atmosphere in the class.

After analysing this overview, three insights seemed most relevant for this project:

1. ONE DOMINANT WAY OF RESPONDING

What stood out is that the most dominant way of responding was either by informing about loneliness, by offering professional help to adolescents that struggle with chronic loneliness or by activating them to break out of their social isolation. In contrast, there were few initiatives that focused on preventing loneliness. It is also possible that this respond is more difficult to identify because some initiatives may prevent loneliness without explicitly targeting loneliness.

2. DISCONNECTED APPROACH

Another interesting thing to note is that the initiatives that aim to help lonely adolescents are often independent organizations. In order for adolescents to approach these organizations they have to step out of their current life-world, which could hold them back from seeking help. There are some initiatives that offer workshops and lectures at high schools, but these are often provided by external parties. This means that these interventions happen infrequently and that the teachers, for instance, are less involved than if the interventions were integrated in the high school system.

3. TARGETING THOSE ALREADY IN NEED

The fact that most initiatives aim to treat, means they are targeting adolescents that are already in trouble. They are already suffering from social isolation or chronic loneliness when they end up at these type of organizations. This implies that in the current situation, the focus is on solving loneliness instead of preventing loneliness. If we want to tackle loneliness among adolescents, but we only act when it is already too late, this approach will prove to be unsustainable.

The support system at high schools in Delft

Next, an overview was created of the route that a high school student could take to get help. It was important to consider this support system, in order to get a sense of what a high school student could or would do in case they struggle with loneliness.

This journey is an interpreted construction based on information found online, the interviews with experts, interviews with two employees of the high school Christelijk Lyceum Delft and the contextmapping session with high school students. It therefore may lack certain information to make it into a complete overview.

Considering what was stated above, it was decided to place the overview in Appendix D, and to only use this paragraph to zoom in on the two things that were taken away from it:

Insight: The current approach is disconnected from their current live world

Insight: The current approach often aims to deal with loneliness when it's already a problem and is therefore unsustainable

1. MENTOR IS IMPORTANT

What can be taken away from this journey is that in the high school context, mentors seem to have an important position. This was also mentioned in chapter 3.3. They act as the gateway for the student to the actual support system. They are also, together with the other teachers, the first one to notice when something is wrong. Moreover, they communicate with parents about the progress and well-being of their child.

2. NO UNIVERSAL PROCEDURE INSIDE HIGH SCHOOLS

A knowledge gap appeared when trying to figure out what happens inside high schools. It is unclear what kind of support gets offered, and therefore raises the question how high schools respond to the problem of loneliness. Combining this with the fact that most organizations that offer interventions for loneliness among adolescents are independent, strengthens the idea that the current approach is disconnected from the high school context.

The healthy context paradox

When looking into social well-being of high school students it is important to be aware of a lurking pitfall. Gerine Lodder made me aware of something called the 'healthy context paradox'. One could pay a lot of attention to raising the perceived well-being of students, but that does not mean that everyone will be unconditionally happy. Yun and Yuvonen (2020) define the healthy context paradox as "an unexpected pattern in which victims' psychological adjustment worsens as the overall level of victimization in a classroom or school declines". Gerine Lodder gave the example of an anti-bullying program where the results showed a decrease in bullying cases, implying that the social well-being of that group got a boost. However, imagine being that one student that is still being left out. That person might feel even more left out when all the others are doing so well.

The concept of the healthy context paradox will have to be taken into account when working towards a design goal.

Insight: The mentor-student relationship is important for the social cohesion in the classroom as well as providing individual support

Conclusion of chapter 3

The goal of this chapter was to gain a better understanding of the context and the current situation in Delft, regarding loneliness among adolescents. To provide a clear overview of the findings of this chapter, the research questions will be addressed individually.

- What kind of challenges that relate to loneliness are the current and upcoming generation dealing with?

Generation Z and Generation Alpha form the group that either are currently in high school or will go to high school in the next decade. These two generations face a range of challenges that are typical for their time. There are two challenges that play an important role when it comes to loneliness.

The first challenge is the paradox of social media. Social media has become a huge part of everyday life and is a way to stay connected with friends, while at the same time it could harm self-worth and trigger a downward spiral of negative thoughts. The difference in effect depends on the way social media is being used and can be traced back to the underlying need for recognition and the underlying need for relatedness.

The other, more important challenge, follows the stigma that is attached to loneliness among adolescents. The effect of this stigma seems to be two-fold. First there is ignorance; adolescents do not identify with the word 'loneliness', because the common image that is attached to loneliness is that of an isolated elderly. Second there is the element of shame; they are afraid to admit that they are lonely because adolescents are expected to have a busy social life, so feeling lonely feels like failing.

- What are the social challenges and social opportunities of high school students in Delft and how do they relate to loneliness?

After analysing the social challenges and social opportunities that play a role in the high school journey, and how they relate to loneliness, two things stood out.

First of all, there seems to be no clear cause for loneliness in the high school context, as there was not one particular event that pointed to loneliness. Secondly, the mentor-student relationship has proven to be very important for both the social cohesion in the classroom, as well as for providing individual support.

A last thing to note with regard to this research question, is the healthy context paradox. It is a common mistake to expect that a healthy context means that every individual is healthy. This phenomenon has to be taken into account when working towards a design goal.

- What can we learn from the current approach to dealing with loneliness among adolescents in Delft?

After analysing the current initiatives across the Netherlands, three things stand out. First of all, there seem to be three dominant ways of responding to the issue of loneliness; by informing about loneliness, by offering professional help to adolescents that struggle with chronic loneliness or by activating them to break out of their social isolation. In contrast, there were few initiatives that focused on preventing loneliness.

Next, the current approach seems to be disconnected from the current live world of adolescents. Most of the initiatives come from independent organizations. In order for adolescents to approach these organizations they have to step out of their current live world, which could be a barrier to actually do that. The fact that most of the organizations are independent also means that these interventions may happen infrequently and that the teachers, for instance, are less involved than if the interventions were integrated in the high school system.

Moreover, the fact that most initiatives respond by helping or activating, means they are targeting adolescents that are already in trouble.

If we want to tackle loneliness among adolescents, but we only act when it is already too late, this approach will prove to be unsustainable.

Lastly, when looking at the current approach of high schools in Delft, mentors seem to have an important position. They act as the gateway for the student to the actual support system. They are also, together with the other teachers, the first one to notice when something is wrong. However, a knowledge gap appeared when trying to figure out what happens inside high schools with regard to tackling loneliness. This, in combination with the fact that most organizations that offer interventions for loneliness among adolescents are independent, strengthens the idea that the current approach is disconnected from the high school context.

Conclusion

Section I: Discover

In Section I the sub questions were answered in order to understand the phenomenon of loneliness as well as the context. This was done through literature research, desk research, contextmapping with high school students, a free-form questionnaire and interviews with experts. Throughout the chapters, important insights were found that will serve as input for the next phase of this project. On the next page is an overview of the main insights.

What's next?

Now that the sub questions are answered, I can move towards answering the main research question:

Following the current situation in Delft, which steps should be taken next in the high school context to better deal with loneliness among adolescents?

The next section will explain that reframing of the problem of loneliness among adolescents is necessary before we know what those next steps should be. Section II will therefore start by analysing the current frame, before using the seven insights as input for the creation of potential new frames and subsequently suggesting a new direction to take.

Main insights:

1. Loneliness can be seen as a feeling caused by unfulfilled fundamental human needs.
2. The current approach is disconnected from the current life-world of high school students.
3. The current approach only deals with it when it's already a problem and is therefore unsustainable.
4. Adolescents feel ashamed and therefore hold back from opening up.
5. Adolescents don't identify with the image and therefore cannot relate to loneliness.
6. The mentor-student relationship is important for the social cohesion in the classroom as well as for providing individual support.
7. High school comes with a sense of togetherness that can positively influence the group dynamics and atmosphere in the class.

A visual representation of the main insights is shown here:



Ignorance about the relation between emotions & underlying needs



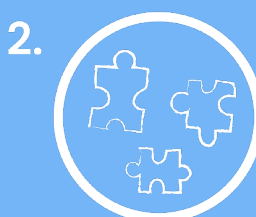
Unsustainable approach



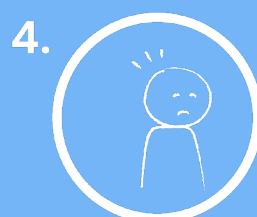
Misconception among adolescents



Togetherness



Disconnected interventions



Shame



Mentor-student relationship

Section II:

Define

In this Section the problem will be reframed in order to define a suitable design direction.

Chapter 4: Reframing loneliness

🌀 *Which frame should be adopted in order to take steps towards a more holistic and preventative approach regarding loneliness among adolescents in the high school context?*

Chapter 4

Reframing Loneliness

This chapter will focus on the next step in the design process. By reframing the problem a focus for the next phase of the project will be determined. Reframing is the process of finding new ways to look at a problem. Therefore, the current frame will be analysed first, before a new frame will be adopted.

Reframing Loneliness

4.1 Towards a new frame

Current approach to loneliness among adolescents

Loneliness among adolescents is currently being framed as problematic, because it can progress into chronic loneliness with severe consequences. Loneliness is therefore seen as a problem that needs to be treated. Initiatives that aim to treat this problem often do this by helping adolescents to step out of social isolation or help them improve their social skills. However, these initiatives are disconnected from the current life-world of an adolescent. They have to step out of their familiar surroundings in order to take advantage of the support. Additionally, as argued in earlier chapters, loneliness is more than just social isolation or a lack of social skills. Loneliness is also a spectrum and chronic loneliness is at the far end of it. The current framing is therefore fragmented. Besides that, the stigma attached to loneliness among adolescents sustains the belief that it does not happen to young people, which results in adolescents struggling to identify with the word, or they feel ashamed to admit when they do feel lonely. The current approach is therefore also unsustainable, because as long as this stigma lives on, adolescents will tend to hide away their feelings instead of trying to deal with them in a healthy way; for instance, by asking for help from their mentor.

Positive Psychology

Martin Seligman, a researcher who has contributed a lot to the field of positive psychology, mentioned during his TED talk in 2004 how psychology was originally about “finding out what’s wrong with you”. The aim was to make “miserable people less miserable”. He explained that by taking that stance, psychologists forgot about “improving normal lives”, because they were too focused on treating the illnesses. This resulted in a lack of positive interventions. Following the first Section of this report, it can be concluded that this is currently happening around the

issue of loneliness. We treat chronic loneliness as a mental illness, as a problem that needs treatment. However, positive psychology sustains the belief that, instead of relieving misery, we should focus on building happiness.

In the introduction of his book ‘An Introduction to Positive Psychology’, Seligman explains how prevention is at the foreground of the positive psychological approach. For example, we ask ourselves: how can we prevent loneliness from occurring? Seligman explains how human strengths can act as buffers against mental illness and, in order to help young people flourish, we should find ways to foster this. In an attempt to prevent loneliness, it could be wise to focus on fostering strengths in order to create a mental buffer.

Reframing loneliness

In the current situation, loneliness is seen as a problem that requires treatment, which acts when it has become a problem already, but also causes adolescents to feel ashamed for feeling lonely. Besides that, the current approach is disconnected from their life-world and the current framing is fragmented, as initiatives are rarely aimed at all of the three underlying needs that relate to loneliness.

Positive psychology argues how focusing on ‘improving normal life’ is a better approach than ‘relieving misery’, because by doing that, a buffer is being fostered that can minimize the risk on mental illnesses.

Reframing the problem of loneliness in the high school context is needed in order to take steps towards a more holistic and preventative approach. The question that will be explored in this chapter is:

– Which frame should be adopted in order to take steps towards a more holistic and preventative approach regarding loneliness among adolescents in the high school context?

Potential new frames

To come up with new frames, insights from the research were used as input. Eight potential frames were formulated based on the seven insights that were presented in the conclusion of Section I. In order to evaluate and select the most promising frame, a customised selection chart was used to plot the different frames (figure 11). The selection chart was inspired by the C-box. The C-box is often used by designers to evaluate ideas based on their potential to become successful. In this case, I replaced the axes by the two qualities of this chapter's research question. The potential of the frames was then judged by estimating their power to prevent loneliness and how holistically they approached the topic of loneliness in the high school context.



Figure 11 – Customised selection chart with potential new frames. "Tackle loneliness by..."

Reframing loneliness

Looking at the overview in figure 11 there are two frames in the 'WOW' quadrant.

These are:

"Tackle loneliness by more interventions at school"

"Tackle loneliness by raising awareness of what it tells about the underlying needs"

As was explained in chapter 3.4, the current interventions focus on loneliness as a problem and the interventions are disconnected from the current life-world of high school students. This results in a certain framing of loneliness. In chapter 2 it was explained how loneliness is an emotion that tells you something about your underlying needs. An interesting approach would be to treat loneliness as an indicator of underlying needs, while connecting it to the day-to-day life of the adolescents, so they learn to deal with it in an early stage, instead of only dealing with it when it has already become a problem.

There are two other interesting frames that are on the edge of the 'WOW' quadrant:

"Tackle loneliness by informing adolescents"

"Tackle loneliness by reducing shame so adolescents are more likely to open up"

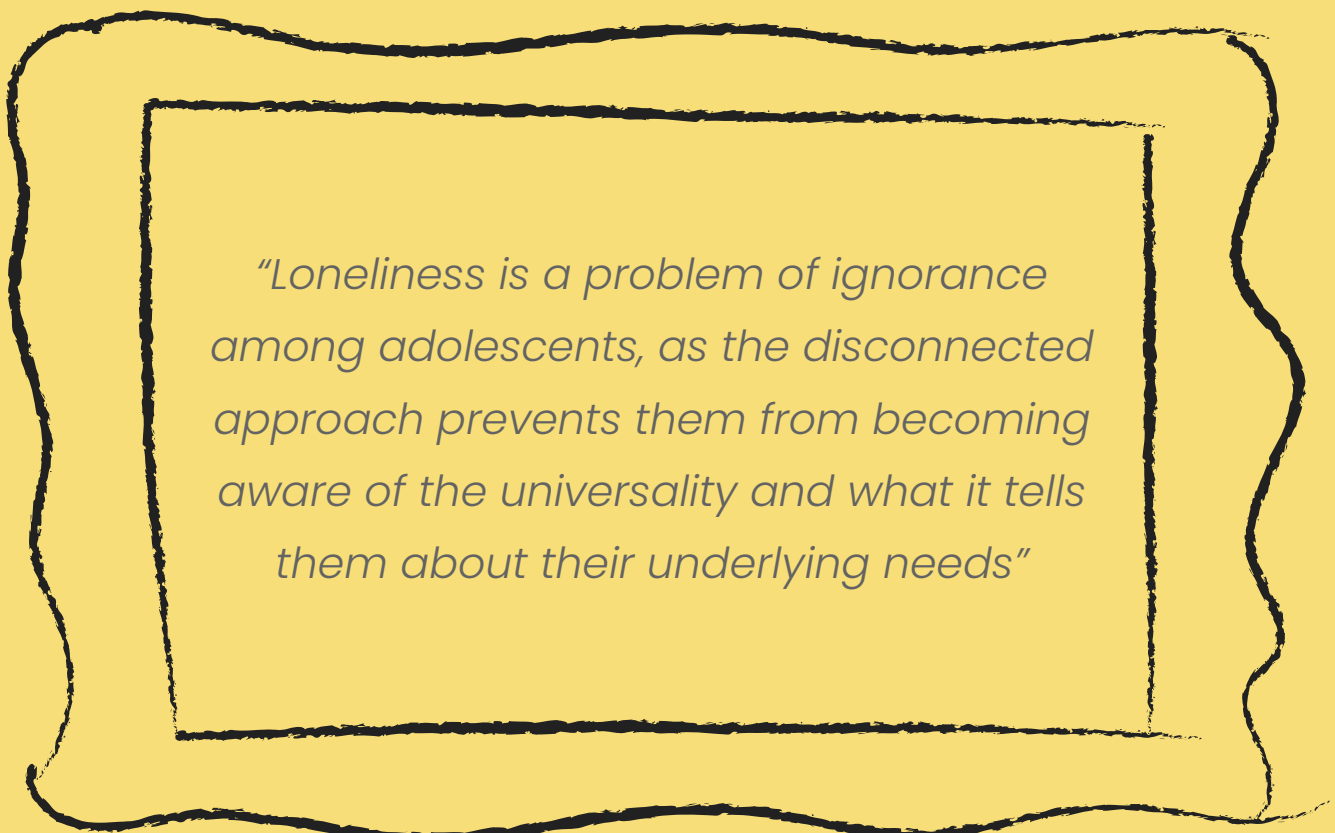
The problem of ignorance comes from the fact that it is uncommon to reflect on the relation between emotions and their underlying needs. The current framing of loneliness shows that little attention is given to loneliness as an emotion, and thus as an indicator of underlying needs.

In chapter 3.1 it was explained how loneliness among adolescents is stigmatised. Adolescents feel the pressure to have a busy social life, and thus feel a sense of failure when they do feel lonely. This holds them back from opening up about it to the ones that can offer support, like

their mentor. Showing them how everyone has the same underlying needs may make them realize that there is nothing to be ashamed for.

Based on this reasoning I decided to combine the frames. Loneliness among adolescents could then be framed as:

"Loneliness is a problem of ignorance among adolescents, as the disconnected approach prevents them from becoming aware of the universality and what it tells them about their underlying needs"



"Loneliness is a problem of ignorance among adolescents, as the disconnected approach prevents them from becoming aware of the universality and what it tells them about their underlying needs"

4.2 Towards a design statement

From this new frame, a design statement was formulated according to research by Hekkert & Van Dijk (2014), who state that a design statement should consist of a goal and a mechanism that will assist in achieving that goal. These design statements are typically formulated as: “We want to ...(goal) by ... (mechanism)”.

Even with the new frame in mind, there were several directions that could be taken from there. Formulating the design statement therefore required a lot of iterating.

First, the goal was set by asking the question: “What do we want to achieve?”

Several options were weighed off:

1. An understanding among high school students of how feelings of loneliness are related to the underlying human needs

2. An understanding among high school students of how feelings like loneliness are related to underlying human needs

3. Making loneliness easier to talk about

4. Reducing the sense of shame regarding loneliness among high school students

In terms of the goal, I decided to combine option 1 and 4. In order to understand loneliness as a result from underlying needs being harmed, it is important to place it in the bigger picture. Therefore, only focusing on loneliness will give them information that is incomplete. Compare it to learning about the human body. Learning about the stomach alone would be strange, because it belongs to a whole system of organs that work together and are influenced by each other.

Besides that, I believe that the sense of shame that is attached to loneliness should be reduced in order to ensure a preventative approach. As was argued in chapter 4.1, showing adolescents the universality of feelings and underlying needs could be the first step.

Next, the mechanism was determined by asking the question: “What will assist in achieving that goal?”

There were several promising options:

1. Having a class collectively reflect

2. Providing self-reflection tools for the individual

3. Education by an expert

4. Equipping the mentor to guide the conversation

Following the seventh insight ‘togetherness’ (see: Conclusion of Section I) I decided to go with the option of having the class collectively reflect. The insight ‘togetherness’ stressed the positive influence of the sense of togetherness that comes with the high school context.

With regard to trying to show the universality of loneliness, this aspect therefore has the potential to be further exploited.

Following this exploration, the design statement was formulated as:

“We want to show high school students how feelings like loneliness are indicators of underlying, fundamental human needs by letting them collectively, as well as individually, reflect on these needs and their relation to emotions while also making them aware of the universality of those needs.”

4.3 Design requirements

Following the design statement and the insights from Section I 'Discover', there are four requirements that will serve as the guidelines for the rest of the design process:

- 1. Understanding about feelings and needs:**
The high school students should get a better understanding of how feelings like loneliness relate to their underlying human needs.
- 2. Becoming aware of the universality:**
The concept should increase awareness among students that the fundamental human needs, and therefore feelings like loneliness, are universal.
- 3. Tools for introspection:** The concept should provide the individual student the tools to practise introspection regarding their feelings and underlying needs.
- 4. Connection with their familiar context:**
The concept should be connected to the current life-world of the high school students, to avoid a disconnected approach.

Conclusion

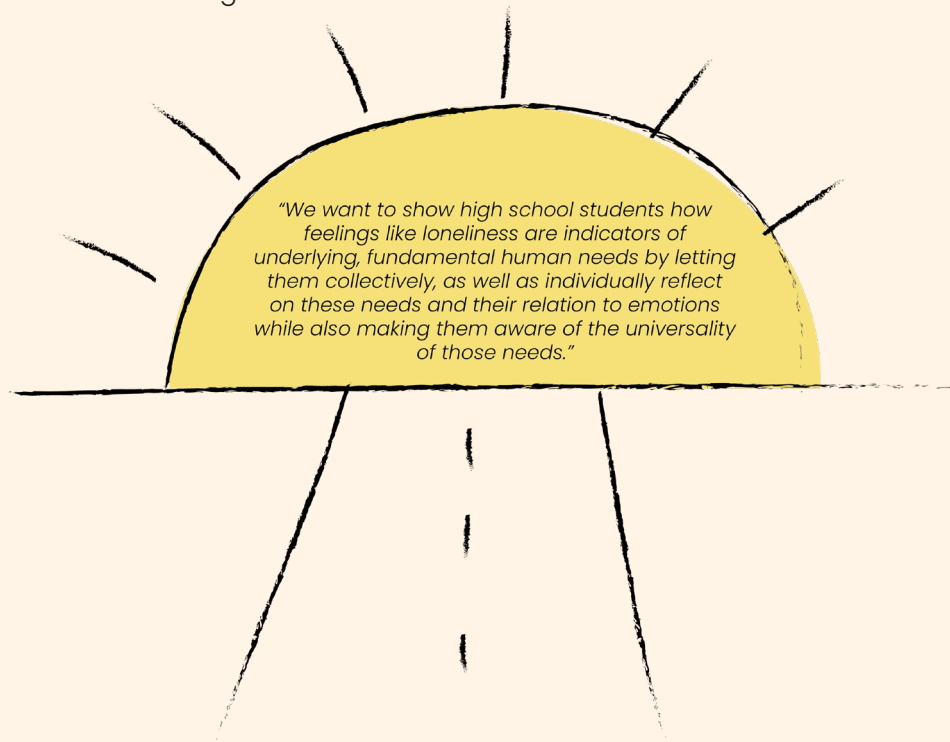
Section II: Define

This chapter started by defining how the problem of loneliness is currently being approached. Loneliness among adolescents is currently framed as problematic, because it can progress into chronic loneliness with severe consequences. Initiatives that aim to solve this problem often help adolescents to step out of social isolation or help them improve their social skills. Besides that, loneliness is also framed as something that does not happen to young people, which makes adolescents struggle with identifying with the word, or they feel ashamed to admit when they do feel lonely.

Next, several potential new frames were discussed. The new frame was formulated based on the three most promising frames. In order to take steps towards a more preventative and holistic approach regarding loneliness among adolescents in the high school context, loneliness should be framed as: *“a problem of ignorance, by not treating the feeling as something we all experience and that teaches us about our underlying human needs.”*

Following this new frame and some exploration, the design statement was formulated.

Design statement:



Design requirements

Lastly, based on this design statement and the main insights from Section I 'Discover', design requirements were formulated that will serve as guidelines for the rest of the design process:

- 1. Understanding about feelings and needs:** The high school students should get a better understanding of how feelings like loneliness relate to their underlying human needs.
- 2. Becoming aware of the universality:** The concept should increase awareness among students that the fundamental human needs, and therefore feelings like loneliness, are universal.
- 3. Tools for introspection:** The concept should provide the individual student the tools to practise introspection regarding their feelings and underlying needs.
- 4. Connection with their familiar context:** The concept should be connected to the current life-world of the high school students, to avoid a disconnected approach.

Section III:

Develop

This Section will take the design statement as a starting point. From there on a concept will be developed, which will also be validated with the context.

Chapter 5: Ideation

- 🔗 *How could the design statement be achieved?*
- 🔗 *Which design direction would suit the high school context best?*

Chapter 6: Conceptualisation

- 🔗 *Which method can be used for designing a successful, collaborative card game for adolescents?*
- 🔗 *What is the desired transfer effect?*
- 🔗 *How do adolescents process new information?*
- 🔗 *How could collaboration stimulate the learning process?*
- 🔗 *Which cognitive biases play a role regarding the design of this concept?*
- 🔗 *What game elements could ensure player engagement?*
- 🔗 *How should the game be designed to achieve the desired transfer effect?*

Chapter 7: Validation

- 🔗 *To what extent does the concept encourage introspection of an individual's emotions and underlying needs?*

Chapter 5

Ideation

This chapter describes the design activities that were done in this project to diverge from the design statement and come up with creative and innovative ideas. Activities included brainwriting, a focus group and iteration to move towards a concept.

- *How could the design statement be achieved?*
- *Which design direction would suit the high school context best?*

Ideation

5.1 Initial ideation

The initial ideation started with a purge of the ideas that had already formed in my head throughout the project. This was followed by coming up with a wide variety of new ideas through brainstorming and brainwriting on How-to questions. I went through this process alone, but also did a short brainstorming session with a fellow design student. The How-to questions were based on the design statement and were made as simple as possible, to stimulate creativity. Examples of How-to questions were: "How to transfer abstract information to high school students?" and "How to stimulate collaboration among high school students?".

Out of this creative process came a range of ideas. These potential design directions were evaluated by the use of the Choice-box method. The Choice-Box is a variation on the C-Box (Mark Raison, 2020). I found the Choice-Box more useful as an evaluation tool because I wanted to judge the ideas based on how well they fit the design statement, rather than how feasible they were. The feasibility would be judged later on in the process. The Choice-Box with potential design directions can be found in figure 12.

Following the overview provided by the Choice-box, four design directions were chosen to further develop. These were:

- Serious boardgame for collective learning
- Buddy system to learn from experienced peers
- Carddeck as a conversation tool
- Electives for self-improvement

The aim of this step was to use the four design directions to generate four ideas that were very different. They would then serve as a probe during the focus group session in order to ensure getting useful feedback about the stakeholders' preferences and their views on the expected feasibility.

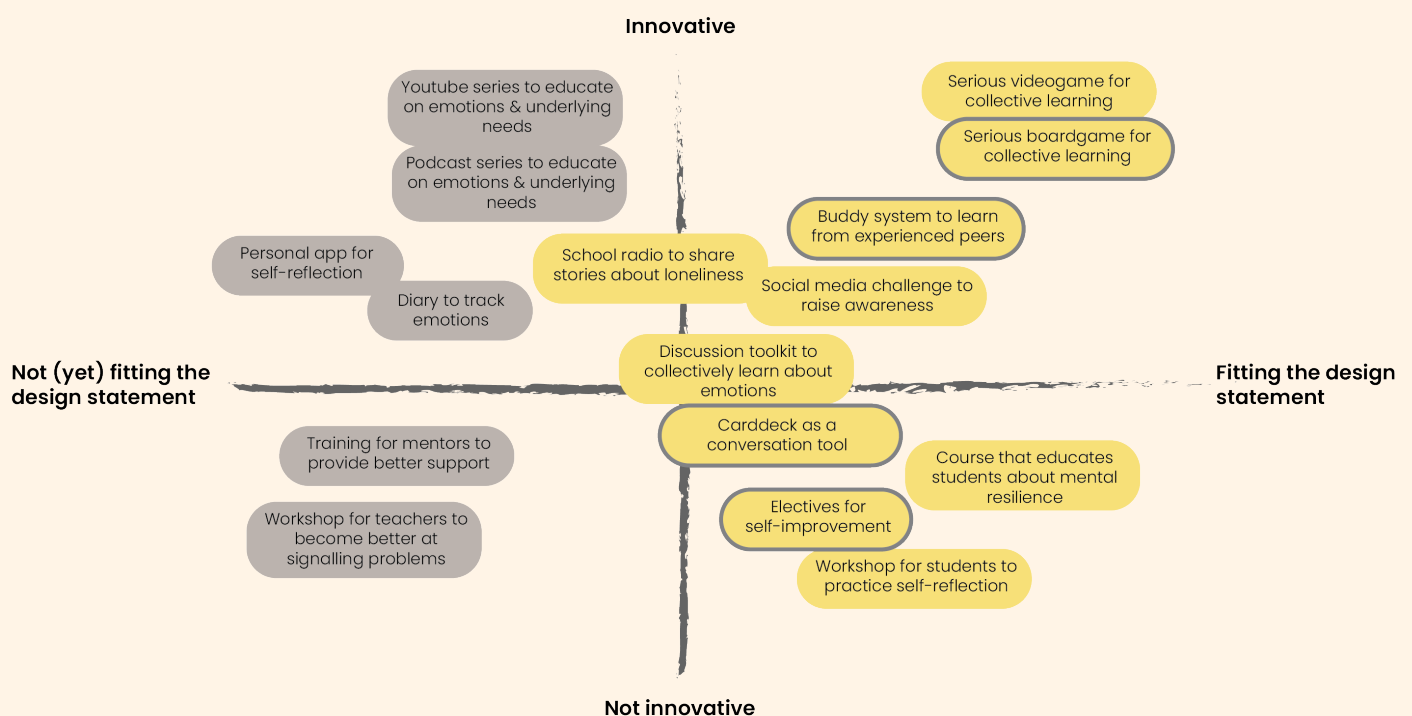


Figure 12 – The Choice-Box with potential design directions

5.2 Focus group

The four ideas that were generated from the different design directions served as the input for a focus group. This paragraph briefly describes the set up and the results of this activity. A complete overview of the process, including the four ideas, can be found in Appendix F.

Set up

The goal of the session was to get an answer to the following question:

Which design direction would suit this context best?

Four different ideas were used to probe the participants and to get their input on what kind of design direction would suit the context best. The focus group was held online with a small group of five different stakeholders.

Results

The results of the session consisted of a lot of questions, comments and ideas. Bringing together the different perspectives of the participants added to the value and depth of the discussions. Direct quotes and screenshots of the Miro board can be found in Appendix G.

Insights

Five insights from the focus group turned out to be most valuable for the next steps of this project.

1. TAILOR THE DESIGN TO HIGH SCHOOL STUDENTS

It became clear that with this specific target group, it is important to make sure the concept is recognizable to them. If the high school students do not relate with the concept, they will not engage as much and the effect will be minimal. In order to have the students relate with the concept, the topics that are discussed will have to do with what they experience in their own, daily lives.

1. CONSIDER ACCESSIBILITY

Idea number 3 was received most positively, because the participants agreed on the accessibility. A card deck would be easier to use and implement than a whole buddy system or free-choice-hour. The boardgame for instance raised the question how this would work in a classroom of approximately 30 students. If they can only play with three people, then purchasing eight boardgames will become very pricey. On the other hand, managing a plenary discussion on a topic like emotions is also challenging.

2. CONSIDER THE WHOLE JOURNEY

The participants agreed on the fact that the whole journey should be considered. So in case of a card deck, things that should be taken into account range from the initial introduction to the mentor, as well as the classroom, to potentially providing after-care for students that may need it.

3. A UNIVERSAL VOCABULARY

Something that all of the participants found interesting about this theory of underlying needs is that it provides a universal vocabulary. It gave them the idea that this would make topics like loneliness easier to talk about, which was something they showed a lot of interest in.

4. INCLUDE ALL STAKEHOLDERS

It became clear that the intervention proposal should include all stakeholders. So if it will become a card deck, then do not just give it to the mentor, but also include the care-coordinator of the school. Perhaps it can also be useful to include other stakeholders, like the parents and 'leerplichtambtenaars'. This also relates to the potential of having a universal vocabulary that can be used across departments and the different stakeholders.

Following these insights, the list of requirements was updated:

Revised requirements:

- 1. Understanding about feelings and needs:**
The high school students should get a better understanding of how feelings like loneliness relate to their underlying human needs.
- 2. Becoming aware of the universality:**
The concept should increase awareness among students that the fundamental human needs, and therefore feelings like loneliness, are universal.
- 3. Tools for introspection:** The concept should provide the individual student the tools to practise introspection regarding their feelings and underlying needs.
- 4. Connection with their familiar context:**
The concept should be connected to the current life-world of the high school students, to avoid a disconnected approach.
- 5. Accessibility:** The concept should be suitable for implementation in the high school context.
- 6. Engagement:** The concept should engage the students in the activity.

5.3 Iteration

As an iteration step that followed the focus group session, the four ideas were evaluated using the revised list of requirements. This was done by applying the Harris Profile method from the Delft Design Guide (Boeijen et al., 2013), see figure 13. The aim of this method is to visually represent the strengths and weaknesses of design concepts. In this case, the ideas weren't on concept level yet. However, it was necessary to move forward rather quickly. Besides that, the ideas were detailed enough to judge them based on the requirements. The list of requirements was already sorted by importance, so all that was left to do was to create the Harris profiles.

Looking at the Harris profiles, two ideas stand out. Both idea C and idea D have a lot of weight on the right side. As the requirements are ordered by importance, idea C would be the most promising one. However, it scores rather low on the bottom three requirements. If we compare this to idea D, we see that this idea scores very high on the engagement.

With the feedback from the focus group in mind, and given the potential of both idea C and idea D, I decided to combine the card deck with the boardgame in order to create a concept that would fit the design statement and requirements best. The content of the card deck will be combined with the gaming elements of the boardgame.

Following this decision, Chapter 6 will dive into the conceptualization process of a tabletop game.

	Idea A: Happiness-Boost-uurtje				Idea B: Buddy system				Idea C: Collaborative Carddeck				Idea D: Potjes-Boardgame			
	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
1. Understanding		■			■							■			■	
2. Universality	■					■						■			■	
3. Introspection				■			■				■			■		
4. Connection		■					■					■				■
5. Accessibility		■					■				■			■		
6. Engagement		■				■					■					■

Figure 13 – Harris profiles

Chapter 6

Conceptualization

This chapter will focus on developing a tabletop game that fits the design statement and meets the design requirements.

Additional research and design activities were executed in order to answer the following questions:

- *Which method can be used for designing a successful tabletop game for adolescents?*
- *What is the desired transfer effect?*
- *How do adolescents process new information?*
- *How could collaboration stimulate the learning process?*
- *Which cognitive biases play a role regarding the design of this concept?*
- *What game elements could ensure player engagement?*
- *How should the game be designed to achieve the desired transfer effect?*

Conceptualization

6.1 The Persuasive Game Design method

- *Which method can be used for designing a successful tabletop game for adolescents?*

Recently, the design industry has been recognising the motivational power of games. Gamification design has proved valuable in enhancing learning and stimulating behavioural change.

According to Siriaraya et al., a persuasive game “aims to facilitate the realization of pre-determined user goals going beyond mere entertainment”. The designer sets a certain intent, also referred to as the ‘transfer effect’, and then uses gamification to ‘persuade’ this behavioural change.

While researching ways to approach game design, I came across the Persuasive Game Design Method (Siriaraya et al., 2018). The Persuasive Game Design method is a ‘cookbook method’ that covers the different steps and ingredients for game design. It is a useful tool for designers that are unfamiliar or unexperienced with game design. In order to ensure successful game design, I decided to adopt this method. However, due to time constraints this process was done in a short period of time, so while all ‘dishes’ were covered, not all steps have been covered as thoroughly as in an ideal situation. The design process, based on the Persuasive Game Design method, is shown in figure 17.

Ingredients

- Effect type
- Change type
- Point of impact
- Domain

- Information processing
- Attitude towards transfer effect
- Game world preferences

- Game elements and mechanics
- Game play

- See Chapter 7: Validation



Transfer

1

effect

User's

2

world

Game

3

design

4

Evaluation

Figure 17 – My adaptation of the Persuasive Game Design Method

6.2 The transfer effect

- *What is the desired transfer effect?*

In order to define the desired transfer effect, four ingredients have to be determined.

Effect type

The effect type is the type of effect the game aims to achieve. Through encouraging introspection on emotions and their relation to underlying needs I intend to facilitate a mental experience change; to influence the way they view and reflect on complicated feelings like loneliness.

Change type

The change type is the type of change that is aimed for in relation to the existing pre-game (real world) behaviour. With this concept I aim to encourage introspection among the individual.

Point of impact

The point of impact is the period in which it is expected to achieve this aimed-for change. With this concept I aim to create an effect that is realised after gameplay, at least throughout the academic year.

Domain

The domain is the application domain in which the change takes place. This domain has been determined at the very start of this project, which is the high school context. For this concept, I decide to focus on the classroom. This means that the target group is high school students who are in the same class.

6.3 Understanding the user's world

- *How do adolescents process new information?*

- *Which cognitive biases play a role regarding the design of this concept?*

- *What game world preferences are typical for the high school age?*

The second step in the Persuasive Design Method is to gain a better understanding of the user's world. This was also the focus of chapter 3, but there are still some knowledge gaps on how adolescents process new information, their game world preferences and how cognitive biases may play a role regarding the design of this concept.

Information processing theory

Given that this concept aims to transfer new information to the high school students, it is valuable to look into how people take on new information. The information processing theory was investigated to learn more about how information can be processed. The information processing theory is a cognitive theory developed by George A. Miller in 1956, and it explains how individuals perceive, analyse, manipulate, use and remember information.

The theory leads to certain strategies that can be applied to ensure that the audience understands a topic in-depth. These include:

- 1. Make it meaningful:** Connect new information to real-life scenarios.
- 2. Motivate:** Motivate learners to actively engage in discussion and activities.
- 3. Connect the dots:** Layer the information by reviewing the previous lesson and connecting new activities to what was learned.
- 4. Repeat, repeat, repeat:** One of the most straightforward ways to encode long-term memory is to present it more than once. For instance, repeat information in different formats.

These four strategies are valuable to take into account when designing the concept. They also relate to what was learned during the focus group (Chapter 5.2) and the revised list of requirements.

Attitude towards transfer effect

The attitude towards the transfer effect depends on the characteristics of the users and can largely be estimated up front. The Persuasive Game Design Method distinguishes two types of characteristics: stable characteristics, like personality traits, and mutable characteristics, like beliefs, skills and previous experiences.

There are two elements of the current design that are critical for the game play, as well as the transfer effect:

- 1. How will they respond to having to tell a story about emotions?*
- 2. How will they make a decision when there is an external reward system?*

Considering that for adolescents of the high school age status and identity play a big role, their behaviour will have an undeniable influence on the use of the concept, and therefore on the intended transfer effect. One way to say something about this behaviour up front is by looking into the theory of cognitive biases. A cognitive bias is a systematic pattern of deviation from norm or rationality in judgement. Looking into the different types of cognitive biases, two were identified that could play a role in this situation:

- 1. Conformity bias:** people have the tendency to behave like those around them, rather than using their own personal judgment.
- 2. Extrinsic incentive bias:** people have the tendency to attribute relatively more to “extrinsic incentives” (such as point-based rewards) than to “intrinsic incentives” (such as learning a new skill) when weighing the motives of others rather than themselves.

To answer the first question: How will they respond to having to tell a story about emotions?

The conformity bias would imply that the behaviour of the players will be largely based on trying to conform with the norm of the group. This is a realistic expectation, given that adolescents are known to value status and identity. This could mean that the players will struggle with telling a story that is in their eyes tricky and not complying to the norm. One way to avoid this would be by making sure that the group that is playing the game feels like a ‘safe space’, where it is okay to deviate from the perceived norm.

To answer the second question: How will they make a decision when there is an external reward system?

Again, the conformity bias would imply that the tendency to conform to the norm could influence their decision making. This could mean that instead of trying to find the underlying need that fits the story best in their own eyes, they may be basing that decision on what is best in the eyes of the others, because in this collaborative game that is how they will earn points. However, the extrinsic incentive bias could contradict this. It could be wrongly assumed by the designer that the players will base their decision on external incentives, rather than on internal incentives.

In the end, the best way to find out how user behaviour will influence the intended transfer effect is by testing the concept in the actual context. If it then turns out that the transfer effect is not being achieved as intended, the game flow should be redesigned.

Game world preferences

To get an idea of the game world preference of this specific target group, I looked into two current trends:

Internet memes: Memes have recently taken over most of the social media platforms. They are funny, quirky and relatable sketches, usually in the format of short, bold text combined with a real-life photo or video, or a still from a well-known movie or TV show.

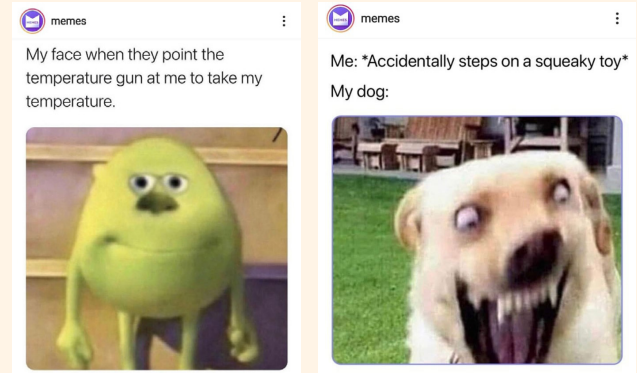


Figure 14 – Two examples of popular Memes formats

Card games: Even though the internet is a leading trend for this generation, card games are still popular. During the contextmapping interviews (Appendix C), as well as when interviewing two teachers, it became clear that adolescents like to play card games with friends. This is something they do at high school during breaks, for instance. When asking several high school students what kind of card games they play, they said to be playing mostly 'Uno' or anything that is possible to be played with 'normal' playing cards. This shows that the design of the card game can be as simple as just numbers and colours.



Figure 15 – Two examples of popular card games in the high school context

Taking the trends around memes and simple card games as inspiration, the game world of this project's concept should aim to be **funny, relatable and simple.**

6.4 Game design

- *What game elements could ensure player engagement?*
- *How should the game be designed to achieve the desired transfer effect?*

Game elements and mechanics

As was shown in Chapter 6.2, player engagement is important to ensure the processing of new information. Game elements and mechanics should be designed carefully in order to facilitate player engagement.

Roy & Zaman (2017) show in their research how there are three fundamental human needs that play a role in serious game design:

1. **Autonomy:** The players should have a sense of autonomy while playing the game. Perceived autonomy is an important antecedent for autonomous motivation. The game should leave room for the players to control the game flow.
2. **Competence:** The players should feel challenged while also having the feeling that they are able to achieve a new goal. The game should therefore not be too challenging, nor too easy.
3. **Relatedness:** Feeling connected with the other players enhancing the feeling of relatedness, and therefore players are more likely to feel more engaged (Peng et al. 2012)

This concept will serve the need for autonomy by having a group of high school students manage and play the game on their own. They also get to (randomly) pick the emotions that will form the board and decide the order of storytelling.

The need for competence will be addressed by the fact that the players are challenged to understand and link the underlying needs to the stories about emotions. They will notice how this will become easier once they get more familiar with the underlying needs.

The need for relatedness will be fulfilled through the collaborative element of the game, as this stimulates positive interdependence (see: Chapter 4.2). Group discussion will be facilitated as a way to stimulate exchange of knowledge and helping each other grow in order to achieve the shared goal.

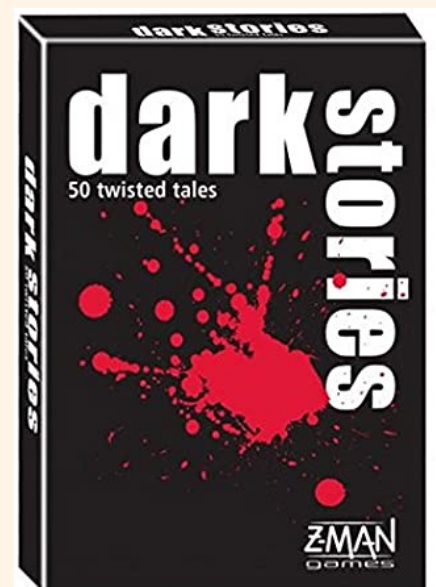


Figure 16 – Dark stories

To get an idea of what kind of game elements could be incorporated, several existing collaborative games were analysed.

The first example is a card game called 'Dark Stories' (figure 16). This is a very simple card game where there is one storyteller who knows the full story, while the others have to collectively guess what that story is. The game mechanics are based on one suspenseful teaser per story and through asking questions that can be answered by a 'yes' or 'no' players have to uncover the full tale. What makes this game interesting is the feeling of 'togetherness' it creates, by establishing a feeling of suspense and having the players work together in a unique way that speaks to their sense of autonomy, relatedness and competence.

The second example is 'The Mind' (figure 17). This is a collaborative card game that challenges the players to play together without speaking. The game mechanics consist of working together to achieve a shared goal, but with the non-speaking element to make it more difficult. What makes this game interesting is that it has certain levels. This awarding system speaks to the competence level of the players.

The third example is a board game called 'Het Verboden Eiland' (figure 18). This is a collaborative game where players have to work together to collect treasures and escape the island before it sinks. The game mechanics consist of using the unique powers of each player in order to win the game together. What is interesting here is that the players are put under pressure by a 'water meter'. They have to complete the task before the water meter gets to a certain level. This is an interesting motivation system that I took inspiration from for this project's concept.

To summarize this paragraph, the game design should have elements that speak to the players sense of autonomy, for instance by letting them control the game flow; their sense of competence, for instance by introducing an external element that provides pressure to achieve the goal; and their sense of relatedness, for instance by facilitating collaboration and group discussion.



Figure 17 – The Mind



Figure 18 – Het verboden eiland

Gameplay testing

In order to ensure a smooth and effective game flow, the general idea of the gameplay was tested. This was done by bringing together a group of design students to let them play the game (figure 19). In this stage, the concept was slightly different. Nonetheless, a lot of valuable insights were gained to further improve the design.

The most valuable insights from the gameplay test:

- Time pressure would make it difficult to come up with a story.
- People would need an introduction to get familiarized with the thirteen needs.
- Make it more visually attractive and comprehensible.
- Turning the need cards over to see if they match is a fun element.
- Include a final part of each playing round where players explain what their motivation was behind the need that they picked (to stimulate discussion and learning about each other's perceptions).
- Consider adding a collaborative element. e.g. every successful round you get to build something together.
- Would it be better to have this organised by an external party or by the mentor?
- Would this work with kids who are in the middle of puberty?

6.5 The initial concept

The design activities during the conceptualisation phase led up to an initial concept of a persuasive boardgame.

Name:

UNDER-NEEDS

Message of the game:

Feelings like loneliness can be traced back to thirteen underlying human needs, which are the same for everyone.

Intended effect:

Encourage introspection of an individual's emotion and underlying needs throughout their high school career by collectively reflecting on real-life situations.

The storyboard of the initial concept, as it was taken into the validation phase, is shown in Appendix E.

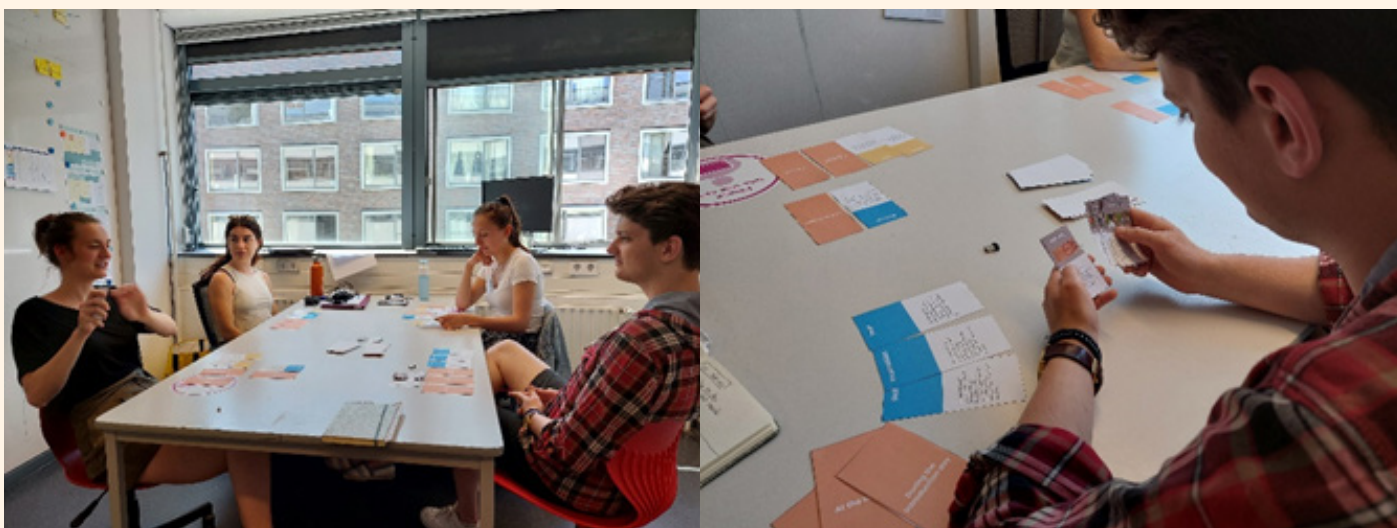


Figure 19 – An impression of the gameplay test

Conclusion of chapter 6

This chapter focused on further developing the idea for a tabletop game.

Persuasive game design

- *Which method can be used for designing a successful tabletop game for adolescents?*

Games have a certain motivational power that can be used to stimulate behavioural change. In persuasive games, this motivational power is used to realize a pre-determined transfer effect. This chapter therefore focused on designing a persuasive tabletop game. A useful method for designing persuasive games is the Persuasive Design Method (Siriaraya et al., 2018).

The transfer effect

- *What is the desired transfer effect?*

The desired transfer effect was set to:
Encourage introspection of an individual's emotion and underlying needs throughout their high school career by collectively reflect on real-life situations.

Understanding the user

- *How do adolescents process new information?*
- *Which cognitive biases play a role regarding the design of this concept?*
- *What game world preferences are typical for the high school age?*

This paragraph aimed to create an understanding of the way the users process new information. These strategies were taken into account when designing the game. It also appeared useful to look at the cognitive biases that play a role in this situation. The cognitive biases that should be taken into account are the conformity biases and the extrinsic incentive bias.

Game design

- *What game elements could ensure player engagement?*
- *How should the game be designed to achieve the desired transfer effect?*

Following a study of the gaming elements, the concept should have elements that speak to the players sense of autonomy, for instance by letting them control the game flow; their sense of competence, for instance by introducing an external element that provides pressure to achieve the goal; and their sense of relatedness, for instance by facilitating collaboration and group discussion.

Gameplay testing

In order to ensure a smooth and effective game flow, the general idea of the gameplay was tested with a group of design students.

The most valuable insights from the gameplay test:

1. Time pressure would make it difficult to come up with a story.
2. People would need an introduction to get familiarized with the thirteen needs.
3. Make it more visually attractive and comprehensible.
4. Turning the need cards over to see if they match is a fun element.
5. Include a final part of each playing round where players explain what their motivation was behind the need that they picked (to stimulate discussion and learning about each other's perceptions).
6. Consider adding a collaborative element. e.g. every successful round you get to build something together.
7. Would it be better to have this organised by an external party or by the mentor?
8. Would this work with kids who are in the middle of puberty?

Initial concept

The design activities during the conceptualisation phase led up to an initial concept of a persuasive boardgame. The storyboard of this initial concept can be found in Appendix E.

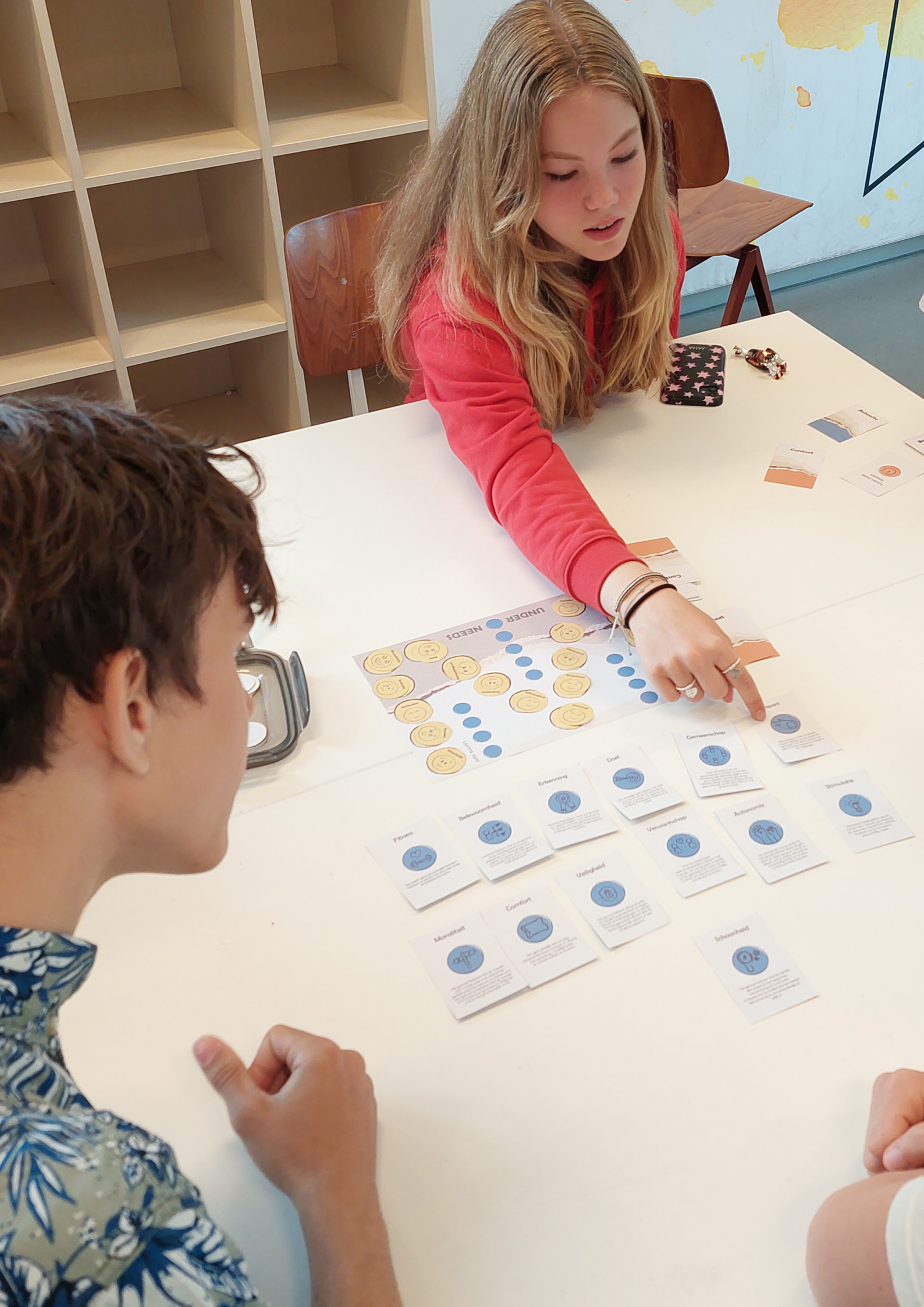
Chapter 7

Validation

The next step was to validate the concept. This chapter describes the validation methods and results. Two validation methods were carried out: one was a pilot test with high school students and the other one consisted of feedback interviews with stakeholders and experts.

In this chapter the following research question will be answered:

- *To what extent does the concept encourage introspection of an individual's emotions and underlying needs?*



- Erfaring
- Sekerzekerheid
- Erfaring
- Doel
- Gemeenschap
- Verantwoordelijkheid
- Autonomie
- Vrijheid
- Menselijkheid
- Comfort
- Veiligheid
- Schoneheid
- Stimulatie

Validation

In this chapter the following research question will be answered:

- *To what extent does the concept encourage introspection of an individual's emotions and underlying needs?*

Two validation methods were carried out: one was a pilot test with high school students and the other one consisted of feedback interviews with stakeholders and experts.

7.1 User test with high school students

The first part of the validation consisted of a user test with high school students. The goal was to validate the usability, game flow and engagement of the board game, as well as the quality of learning and reflection. For the user test only the boardgame was tested, so not the entire concept. However, there were some questions asked about the other elements of the concept, like the homework part and one-on-one conversation with the mentor. After analysing the results of the user test, several adjustments were made to further develop the concept.

7.1.1 Set up

For the user test a group of high school students was recruited. This group consisted of six friends, mixed genders, but all from the same HAVO 3 class at Christelijk Lyceum Delft. The only information given to them beforehand was that they were about to test a boardgame. The researcher and participants met up in a classroom at their school, where the introduction about the fundamental human needs was given, as well as an explanation of the game. Next, they spent the rest of that hour playing the game. Afterwards, several questions were asked about their experience.

7.1.2 Sub research questions

For this user test an additional set of research questions were formulated. These questions are based on the final dish of the Persuasive Game Design method: Evaluation of effects.

The game would be evaluated according to three themes:

🔥 **Gameplay experience:**

- *How does the decision-making part manifest in practice?*
- *How do the (HAVO 3) players respond to having to tell stories about their emotional experiences?*
- *How does the group dynamics (of a HAVO 3 group) influence the gameplay experience?*
- *To what extent do the various game elements add to the transfer effect?*

🔥 **Changes in knowledge and skills:**

- *Is the theory of the fundamental needs comprehensible enough for this target group (HAVO 3)?*

🔥 **Changes in attitude and behaviour:**

- *To what extent does playing the game change their attitude towards emotions and the underlying needs?*

7.1.3 Discussion of the results

Evaluation of the gameplay experience

The way that the participants responded to having to tell a personal story about their emotions were very different per person. For instance, the girl who went first had the emotion 'rejected', but she did not hesitate at all to tell a story about feeling rejected on social media. In contrast, one of the boys was very hesitant when he had to tell a story about feeling angry. His friends then tried to help him by proposing ideas for situations. It is not necessarily a bad thing that the student did not come up with a story himself, because players should not be forced to tell a personal story if they do not feel comfortable. Besides that, the group still continued to practice reflecting on whatever story was brought to the table. To conclude, whenever a player ended up with a difficult emotion, they did need some more time to come up with a story, but still continued to play that round so it did not limit the overall gameplay experience.

"Sometimes it was difficult to come up with a story, for example with an emotion like 'embarrassed'. I just needed a bit more time to think."

What is good to mention is that this user test was carried out with a group of students who were all friends. This will probably have had impacted the group dynamics and thus, the gameplay experience. The participants mentioned afterwards that they would have

had a different experience if they had played the game with other peers.

"I would only play this game with people that I like, because it would be awkward doing it with classmates that I don't like."

It could therefore be good to consider the way the groups are being formed. One way to do it would be to leave it up to the students themselves to form group. However, this could also result in peers feeling left out. This point of discussion was further elaborated on during the interview with a teacher/mentor (see chapter 7.2).

The participants of the user test all seemed to agree that once this process became too strict, they would lose motivation to engage in playing the game, which could also harm the learning experience and transfer effect.

"It would be less fun once it becomes more of an obligation, so forming your own groups would be better than being put in groups."
"We are now here by free will. Once people feel forced to do this it would become less fun and less serious, so people will start messing around instead."



Figure 20 - One of the students took a long time to pick a card

Even though one student was more vocal than the others, the group discussion each round worked pretty well. It forced the players to speak their mind and argue why one need would fit better than the other. They often went back and forth between the possible options. Something that could optimize that process would be to play it with less students. The discussion about which need card to pick with five players is just a bit too messy.

Besides that, the seating orientation limited the possibilities for group discussion. Most of the time two players were holding the deck of need cards, which prevented the other players to also have a look at them. A solution could be to have them lay out the need cards on the table, as shown in figure 23.

"I couldn't always see the cards. Maybe the storyteller can sit on one side of the table and the others can sit on the other side together."

Selecting a need card took quite long. The rest of the group struggled with being patient and holding back from discussing their ideas already while the storyteller was selecting a card. It is necessary that they keep quiet because otherwise they will influence the storyteller's decision. The game actually took so long that we only got to play six rounds in thirty minutes.

"What I didn't like is that some rounds took very long, it would help to add time pressure"... "but not during the storytelling part, because it would be annoying to have time pressure when trying to come up with a story."

Next to the long waiting times, the winning element seemed to also be harming the learning experience. The players were very focused on picking the right card, which made them impatient and too eager to already start the discussion while the storyteller was still finishing their need-selection process. They also tried to pry the answer out of the storyteller. However, in the end, they did not give the impression that they were bothered by the fact that they only managed to obtain one point out of six rounds. Therefore, I can conclude that the winning element can be abandoned without harming the transfer effect.

Another thing that interrupted the game flow was that the players started to already figure out what their assigned emotion would be by counting the emotions. This led to discussion and laughter that could negatively influence the group dynamics.



Figure 21 - Two students are looking at the Need cards which meant that the others could not see them

Evaluation of the changes in knowledge and skills

The participants understood the thirteen needs pretty quickly. Already after an introduction of less than ten minutes, they were able to apply their newly gained knowledge by playing the game. Something that should be taken into account here is the participant's age and education level. It can be concluded that this specific user group will be able to understand the theory behind the game. The question remains whether younger participants, or students from a different education level, will have the same experience.

One participant mentioned that:

"I understood the theory, but I wouldn't let people under the age of 11 play this game (those that are not in high school yet)"

During the introduction I forgot to explain that there is no right or wrong when it comes to matching a need to a story. This is important to explain before they start playing the game, because otherwise they will be afraid to give a 'wrong' answer, which could negatively influence the transfer effect.

Evaluation of the changes in attitude and behaviour

The boardgame seemed to be successful in stimulating introspection during the game. Especially the storyteller is forced to think about what they were feeling in certain situations, but also the rest of the group would be doing the same thing in an attempt to match the right need.

As one of the participants mentioned after playing the game:

"The game forces you to think about how you feel in certain situations."

The participants were most positive about the storytelling part of the game:

"I liked it because it triggers storytelling"

"I heard stories of my friends that I normally don't get to hear, so that was nice."

The storytelling part added to the fun element of the game, which also motivates the players to engage in the process.

The participants also mentioned that this game could be valuable to do during the first year of high school:

"It would be fun to play this game in the first year because it allows for getting to know your classmates better."

As mentioned before, the participants mentioned that they would rather play the game with friends than with peers that they are less close with. However, they did also mention that during the first year of high school this would be less of a problem.

"That (playing the game with peers that are not your friends) would be less of a problem in the first year when you don't know your classmates that well yet."

It can be concluded that the game did stimulate reflection during playing, as was part of the intended effect. However, something that remains unsure is the long term effect of the game. When a question was asked about whether they would continue this way of reflecting in the future, the participants replied with a simple "I don't know", so this is something that requires further attention and elaboration.



Figure 22 - Students enjoyed playing with friends

Evaluation of the other elements

After playing the game the participants were asked hypothetical questions about the other elements of the concept.

When asking about the preparation part of the concept where they are supposed to watch a video at home before playing the game, they agreed that this is something they would not mind because they are already used to similar tasks.

However, when asking about their thoughts on having to continue practicing this type of reflection at home after playing the game, they did not respond enthusiastically.

“What I like about the game is that you’re doing it together. I’m not sure if I would like this (reflection activity) if I was by myself.”

It would be good to consider ways to incorporate deepening of the individual reflection in a group setting, in order to stimulate the introspection.

Another part of the concept is to facilitate one-on-one conversations between mentor and students where they use the personal reflection of the student as input for discussing their overall well-being. The participants responded rather sceptical to this idea.

“Having a one-on-one conversation with a mentor about how I’m feeling would only work if it’s a ‘good’ mentor”

This student then explained that some mentors are not good at having personal conversations, or they are not dedicated to put enough effort into that. This requires further exploration in order for this element of the concept to work well.



Figure 23 - Laying out the Need cards on the table

7.2 Feedback interviews with stakeholders and experts

The second part of the validation phase consisted of feedback interviews with stakeholders and experts. The goal was to validate the intended effect, the usability of the entire concept, as well as the psychological theory behind the concept. In contrast to the user test, which had focused mainly on the boardgame, the concept was presented in its entirety during the feedback interviews.

7.2.1 Set up

For these feedback interviews two experts and one stakeholder were interviewed. The interviews were held online and each interview started with a short presentation. During this short presentation the topic was introduced, the reframing of loneliness was explained and the storyboard of the concept was shown. The participant then had the opportunity to respond, while also being asked a set of additional questions.

Since the feedback interviews took place at different moments over a period of two weeks, the concept was adjusted in between interviews, which means that each participant got presented a slightly different, and intermediately improved, version of the concept.

7.2.2 Sub research questions:

In order to get the most useful results out of the feedback interviews, an additional set of sub research questions were formulated. The questions are based on the viability triad (IDEO, n.d.), which means they consist of three elements:

- 🔥 **Desirability:** What is the value of the concept according to experts and stakeholders?
- 🔥 **Feasibility:** What would be needed to make the concept work in practice?
- 🔥 **Viability:** What would be needed to achieve the transfer effect on the long term?

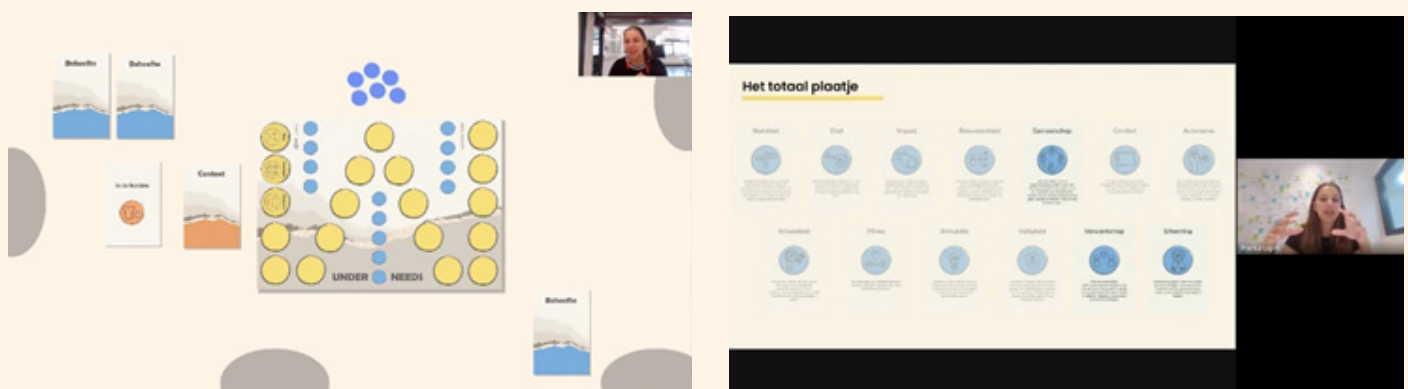


Figure 24 – an impression of the concept presentation during the feedback interviews

7.2.3 Discussion of the results

This paragraph discusses the feedback from the participants, organised by the three elements of the viability triad. A complete overview of the most interesting quotes including the interview questions can be found in Appendix G.

Desirability

It can be concluded that the response about the value of the concept was predominantly positive. All three participants said they liked the general idea of the concept. They were most positive about how this concept stimulates talking about feelings, by presenting it in a playful way. They also mentioned how the introspection is a valuable skill to learn for this age group. Another positive aspect was that the students will learn that it is okay to feel certain emotions, like loneliness, by showing the universality of the underlying needs and emotions.

• *“What I think is good about this concept is that it makes it easier to discuss feelings. They will probably also become aware of how others feel or experience the same things. That is already a big step when it comes to tackling loneliness.”*

• *“I think that students will learn a lot from doing this, and this will benefit them for the rest of their lives. It is super valuable to learn about how things work inside of your head. If no one has ever told you that your feelings tell you something about your underlying needs, then you will never know how to deal with them. I think practising introspection like this will benefit them for the rest of their lives. I think that this concept provides that in a fun and accessible way that shows them that this is part of life, and part of you.”*

• *“If you see a strange spot on your arm, you go to the doctor to have it examined. The same should happen with uncomfortable feelings. Those are also worth examining. With this concept you provide them with the tools to examine their feelings and figure out what's underneath. I think that will have a large impact on the rest of their lives.”*

The fact that the concept is not directly a solution for loneliness caused some confusion during one interview. After explaining that the idea is that the students will learn about how emotions relate to underlying needs and that loneliness is one of those emotions, she got on board with it as well. However, when approaching stakeholders in the future, it would be good to consider different ways of presenting the concept.

The participants were also asked what they, from their expertise or experience, thought the effect of the concept to be. It was interesting to see that their answers to this question were predominantly positive, but also very similar to the intended effect of the concept. One of the participants even mentioned that by stimulating introspection early on, she would expect less ‘hidden’ problems later on, implying that the students would be more likely to open up and talk about their problems.

• *“I think this will stimulate them to think more about what they're feeling. At this age they are often very impulsive, like suddenly they get very angry, and I don't think they ask themselves why they are feeling angry. I think this concept will make them more aware of why they act in a certain way.”*

• *“I think the strength of this concept is that feelings are being named. That they take a moment to stop and think about emotions and talk about it with peers. I think they will also get to know each other better. This will also give them the feeling that it is okay to name and talk about feelings. If you show them early on that it is okay to feel these things, then the result will be that there will be less ‘hidden problems’ later on, because they don't feel like they have to hide their feelings.”*

Feasibility

The next focus point of the validation was to find out if the participants thought this concept would work in the context, or if it needed something in order to make it work.

Discussing this with the participants provided a lot of new, useful insights. First of all, one of the participants mentioned that concept should be as complete as possible, before offering it to schools. If the mentor feels like it is too much effort to implement it, then they would be less likely to actually use it.

- *“The more complete the package is, the more likely it is they will actually use it.”*

After putting extra work into the development of the concept and presenting the improved concept to the mentor/teacher, she was very positive about the accessibility.

- *“Because it has the mentor manual and all the other elements, it is already a very complete package, and given that you only really need a few hours to execute this, this would be easy to implement.”*

Secondly, I wanted to know if mentors would have enough time to implement this in their lessons. All participants mentioned that this would be doable to implement in the mentor hours.

- *“There is definitely room for this during mentor hours, because we from ‘Psychologie in het Onderwijs’, are often asked to provide input on how to fill in those hours.”*

- *“The first years have a mentor hour two times every week. Other years have one every week, so we would have plenty of time to implement something like this. Every mentor is free to fill in their mentor hours the way they want, so everyone would be able to fit this in, theoretically.”*

However, the GGZ Doel employee did stress that it is important to consider the role of the mentor. From her experience she knows how there are different types of mentors, and not every

mentor would be dedicated enough to take the responsibility. A teacher mirrors the students in the classroom, so if the mentor will not take it seriously, then it is very likely that the students will not take it seriously either. She proposed the idea of having someone a bit more central, like the care coordinator or team leader, to take the responsibility and coordinate the implementation across the intended classes.

- *“It is important that with a concept like this, the mentor is aware of their role and how their attitude affects the whole class.”*

- *“You need someone inside of the school who believes in this and will take the responsibility in order to make it work.”*

Another element of the concept that required further attention is how the class is supposed to split up in groups. The way that this is organised could influence the course of the in-class activities. For instance, will the students be able to form their own groups or should these be divided randomly? During the user test with the students it already became clear that they would prefer to play the game with friends, because they would feel more comfortable discussing their feelings. The participants of the feedback interviews agreed with this. The teacher/mentor also made another interesting comment, that will be included in the final recommendations.

- *“Doing this with 32 students would be a bit chaotic if everyone is split up in groups, so maybe in that case I would split the class in half. But this really differs per class.”*

One last important aspect to consider is the age and educational level of the students. The participants agreed that the illustrations used, combined with the video that they can watch or rewatch in their own time, would make the concept comprehensible enough for at least the junior classes of the HAVO and VWO levels. Whether the concept could also be implemented in the lower levels has yet to be tested. One of the experts mentioned that, in any case, it would be wise to simplify the descriptions on the Need cards, to make them easier to understand.

Viability

The last aspect that was addressed was the viability of the concept. This proved the most difficult to judge, because the available information was limited given the scope and time frame of this project. Therefore, the feedback from the participants was mostly based on their own experience and expectations.

First of all, all of the participants agreed that adding an extra layer to the concept was needed in order to ensure the intended impact. Introspection requires practice, and only playing the boardgame is not enough to make it stick.

- *“When it comes to introspection it is all about practise. They need to practise in order to master this skill.”*

- *“It is indeed important to add an extra step or layer, to force the students to think about it more and to make it stick. Just playing the game once won’t do enough.”*

According to the experts, the first years would benefit most from this concept on the long run. They gave a couple of reasons for this.

First of all, the concept could serve as a tool for the students to get to know each other better. Hence why it would be interesting to implement it in the first year when they enter a new environment with new people. Secondly, the experts think that it is best to touch upon the subject of feelings and underlying needs as early as possible, in order to set the tone for the rest of their high school career.

- *“This would be most interesting for the first year, because it is an important topic to touch upon early on. Also since it is a bit playful they will actually enjoy doing it.”*

- *“I think with topics like this it is important to pay attention to the aftercare, instead of just letting it be. So maybe repeat the boardgame later on in the year.”*

Besides being very positive about the concept, two of the participants also showed genuine interest in actually taking the concept to the classroom:

- *“I’m very impressed by this concept and could definitely see myself doing this with my class.”*

- *“One of my first thoughts was that this could actually be interesting for us (GGZ Doel) to implement in our trainings.”*

Conclusion of chapter 7

This chapter discussed the validation of the concept. A user test with the target group and feedback interviews with stakeholders and experts were executed in order to answer the following research question:

- To what extent does the concept encourage introspection of an individual's emotions and underlying needs?

It can be concluded that the response was overall positive. The main strengths of the concept are the way it playfully stimulates talking about feelings, how it shows the universality of needs and feelings, and the way it teaches high school students to reflect on their feelings by relating them to the underlying needs. It was also interesting to see how the participants foresaw other positive side-effects, like the students getting to know each other better through playing the boardgame.

However, the concept also had its weaknesses and limitations. For instance, it is unsure whether the way the theory of the underlying needs is presented now is comprehensible enough for high school students of the lower educational levels. Besides that, the gameplay of the boardgame needed to be improved and the whole concept at first lacked a deeper layer that would ensure the transfer effect. Although one of the experts had the expectation that by implementing this concept in an early stage, the high school students would be more likely to open up about their problems later on, this has yet to be validated.

To answer this chapter's research question, the concept has demonstrated its value, but should be tested further in order to measure any long term effect. The provided feedback by various stakeholders was valuable in further developing the concept. Therefore, the next chapter will present the final concept, which serves as the output of this project.

Adjustments of the concept following the user test

- 🔄 Remove the point based system or winning element.
- 🔄 Everyone picks three context cards at the start so they need less time to come up with a story once it is their turn.
- 🔄 Emotions have a set place on the playing board but which emotion each storyteller gets will be determined by rolling a die.
- 🔄 The need cards of the group will have to be placed face-up on the table (figure 23)
- 🔄 The storyteller will get one minute to pick a need card, during that minute the group can already think for themselves which one they would choose. After that first minute the rest of the group also gets one minute to discuss and pick a need card.
- 🔄 Only playing the game will not be enough to stimulate introspection on the long term. The concept needs other elements to ensure a sustainable effect.

Adjustments of the concept following the feedback interviews

- 🔄 Add an extra layer by introducing the Individual workbook to practise introspection after playing the boardgame. They also get to work on this during the second mentor hour already. There will also be one-on-one conversations with the mentor.
- 🔄 Implement the concept in the first year of high school
- 🔄 Deliver a complete package: the Under-Needs toolkit
- 🔄 Simplified descriptions on the Need cards
- 🔄 Add a note to the mentor manual to make them aware about their role as a 'mirror' to the class
- 🔄 Appoint the care coordinator or team leader as a product owner and to coordinate this process. Let them take the responsibility to coordinate the mentors to actually execute the concept the way it was intended.

Conclusion

Section III: Develop

This Section focused on the ideation and development that led to the initial concept.

Chapter 5 showed the design process that led to the decision to design a tabletop game.

Chapter 6 then described the detailing of the game, by applying the Persuasive Design Method.

Chapter 7 described the validation process that consisted of two parts: a user test and feedback interviews with stakeholders and experts.

The overall conclusion is that a tabletop game was designed that has the potential to encourage introspection regarding feelings and the underlying needs. However, further detailing was necessary in order to ensure this effect. The provided feedback by various stakeholders was valuable in further developing the concept. Therefore, the next Section will present the final concept, which serves as the output of this project.

Section IV:

Deliver

This section describes the output of this project. **Chapter 8** is where all design activities come together in an intervention proposal: the Under-Needs toolkit. Next, limitations and recommendations will be discussed in **Chapter 9**. The overall project will be reflected on in **Chapter 10**.

Chapter 8

Intervention proposal

This chapter showcases the final concept of this project. It introduces the Under-Needs toolkit and elaborates on its components, stakeholders and use scenario. Next to this a concise advisory report was developed, that aims to inform Gemeente Delft about the most interesting insights of this project, as well as give advice on how to implement the toolkit. This report can be found in Appendix H.

Intervention proposal

Introducing: the Under-Needs toolkit

While the previous chapters focused on designing a boardgame, the various validation methods proved that an additional layer was needed in order to ensure the intended effect. The iteration that followed resulted in an intervention proposal where the boardgame is now part of a toolkit. The Under-Needs toolkit contains tools for an educational programme which takes place during the first couple of months of the first year of high school. The next few paragraphs will explain the intended effect and usage of the toolkit.

Goal of the toolkit

The toolkit provides the tools for the high school context to educate students on their emotions and underlying needs. While it does not directly tackle loneliness, it aims to teach students how to reflect on feelings like loneliness and trace them back to their underlying needs. This will help them to make better sense of feelings like loneliness, because they get taught how to see them in the bigger picture and what it tells them about their underlying needs.

Message:

Feelings like loneliness can be traced back to thirteen underlying human needs, which are the same for everyone.

Intended effect:

Encourage introspection of an individual's emotion and underlying needs throughout their high school career by collectively, as well as individually, reflecting on day-to-day situations.

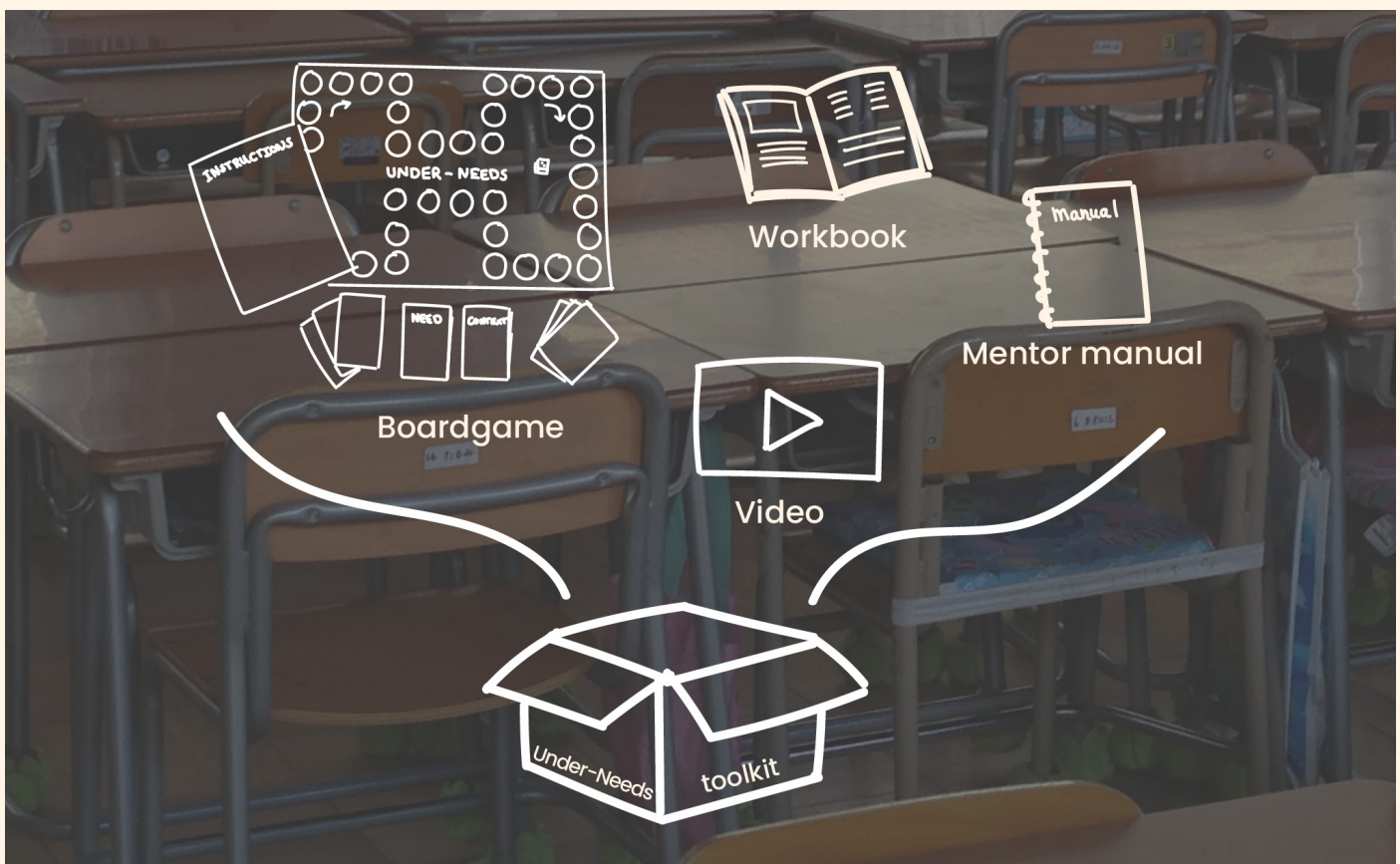


Figure 25 - the Under-Needs toolkit

Stakeholders of the toolkit

Implementing the Under-Needs toolkit in the high school context means there are different stakeholders that will play a role. This paragraph describes the different stakeholders and their responsibilities.

At the start of the chain, there is the municipality. In this case, Gemeente Delft will be responsible for the promotion and distribution of the toolkit among high school in Delft. The production of the toolkit has yet to be taken into consideration.

To ensure seamless implementation of the toolkit, it is wise to appoint a product owner inside of the high school. The product owner will receive the toolkit from the municipality and takes the responsibility to inform and coordinate the mentors of the first year classes. It is most probable that the product owner is the care coordinator, but if the school does not have one, then a team leader could take on this role.

Next in line is the mentor of a first year class. The mentor is instructed by the product owner to incorporate the toolkit in their mentor lessons during the first few months of the year.

The last group of stakeholders will be the first year students. They will be the ones executing the different activities of the toolkit. The activities will be elaborated on further in this chapter.

Implementation

Appendix H contains the advisory report with recommendations on the implementation of the Under-Needs toolkit. It also contains some background information on this research and the main insights.

Components of the toolkit

A toolkit bears its name for containing a various set of tools. This toolkit is rather compact, but contains tools that should be used accordingly in order to achieve the intended effect. The various tools will be briefly explained below, but will be further elaborated on in the use scenario.

- **Mentor manual:** The mentor manual contains all information that the mentor needs to successfully facilitate all activities. It contains general information on the thirteen underlying needs, as well as instructions to print the workbook, a set of reflective questions, the rulebook for the boardgame and a timeline of the complete programme. The mentor manual is included in Appendix I.
- **Introduction video:** The instruction video aims to introduce the theory of the thirteen needs to the high school students.
- **Boardgame:** The goal of the boardgame is to have the students collectively practise reflection of their emotions by tracing them back to the underlying needs. The various elements of the boardgame, like the instruction sheets and the cards, can be found in Appendix J-M. The next page shows an impression of the gameplay of the boardgame.
- **Workbook:** The workbook is a booklet that each student will receive a copy of. It serves as an extension of the boardgame and facilitates individual reflection of emotions and underlying needs. The workbook is included in Appendix N.

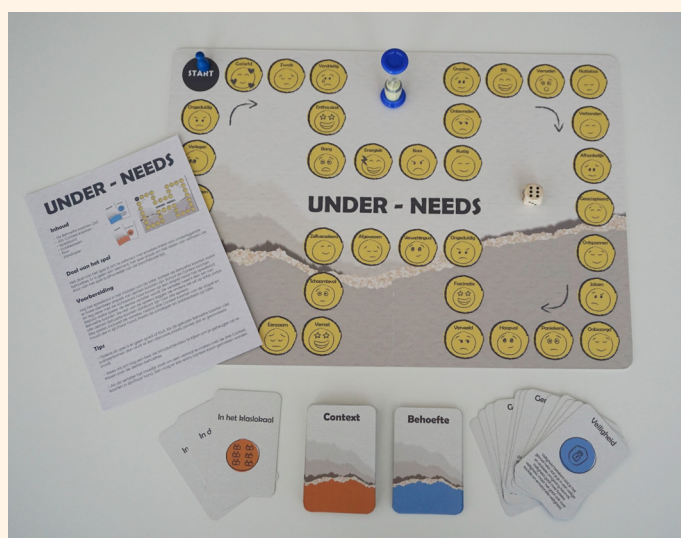
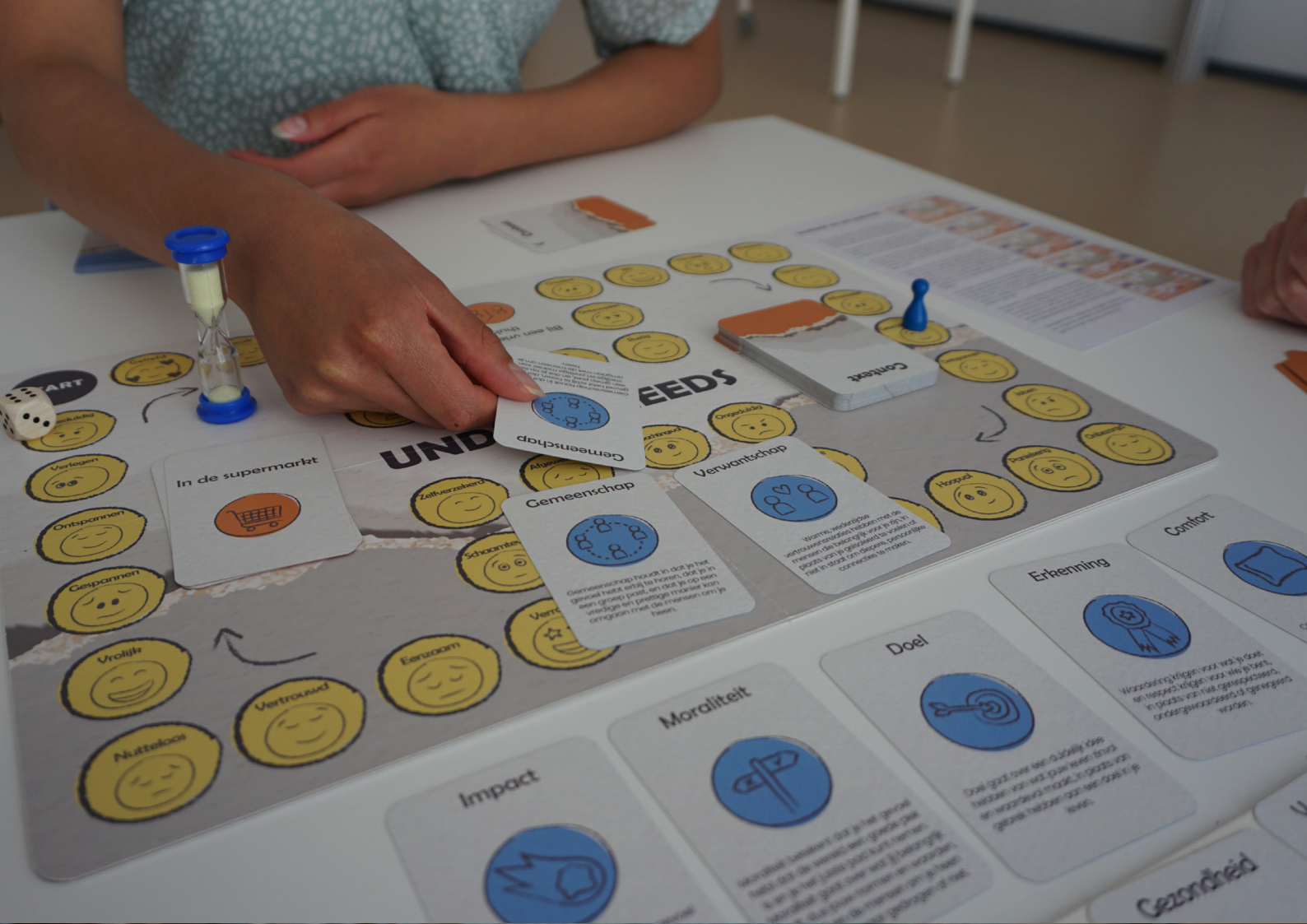


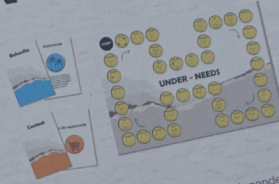
Figure 26 - the boardgame



UNDER - NEEDS

Inhoud

- 13x Behoefte kaarten (2x)
- 40x Context kaarten
- Speelbord
- Dobbelsteen
- Fion
- Zandloper



Doel van het spel

Het doel van het spel is om te oefenen met emoties linken aan onderliggende behoeftes. Er is geen win-element; het spel draait om het delen van verhalen. De duur van het spel is afhankelijk van de beschikbare tijd.

Vorbereiding

Leg het speelbord in het midden van de tafel. Sorteert de Behoefte kaarten zodat er twee identieke stapels van dertien kaarten zijn. Schud de Context kaarten en leg deze met de achterkant naar boven op een stapel naast het speelbord. Bepaal welke speler de eerste verteller wordt. De verteller neemt één set van Behoefte kaarten. De rest van de spelers leggen de andere set uit op tafel, zodat alle dertien Behoefte kaarten zichtbaar zijn voor alle spelers. Elke speler, inclusief de verteller, neemt drie Context kaarten van de stapel en houdt die in zijn/haar hand. Plaats de zandloper en dobbelsteen op tafel.

Tips

- Tijdens dit spel is er geen goed of fout. Als de gekozen Behoefte kaarten niet overeenkomen dan vindt er een discussie plaats zonder dat er geoordeeld wordt.
- Wees vrij om nog een keer de introductievideo te kijken om je geheugen op te frissen over de dertien behoeftes.
- Als de verteller het moeilijk vindt om een verhaal te maken met de drie Context kaarten in zijn/haar hand, dan mag er één extra Context kaart getrokken worden.

Autonomie



Iedereen heeft er behoefte aan dingen te kunnen doen op hun manier. Autonomie gaat over vrijheid hebben om zelf keuzes te maken, onafhankelijk zijn en kunnen bouwen en vertrouwen opbouwen.

Use scenario

The programme of the toolkit consists of several steps. The different steps will be explained below. A visual representation is shown in figure 27.

1. Preparation

During the preparation phase, the mentor studies the mentor manual and gets familiar with the various elements of the toolkit. Besides that, all workbooks need to be printed and the link to the introduction video should be shared with the students. The students prepare themselves for the first mentor hour by watching the introduction video at home. Please not that 'the first mentor hour' is not necessarily the first mentor hour of the year.

2. First in-class session

The first in-class session focuses on playing the boardgame. After a short introduction by the mentor and an opportunity to ask questions about the introduction video, the class will split up in groups. Each group receives a copy of the boardgame. It is up to them to manage the game, although the mentor stays present in case something goes wrong. The boardgame does not have a clear end, so the mentor should indicate when the time is up.

3. Second in-class session

During the second mentor hour the class will collectively reflect on the boardgame. For this, the mentor uses the reflective questions that are in the mentor manual. After a brief discussion, the class will split up in the same groups as previous mentor hour. They also each receive their own workbook. While they are in groups, every student fills in one exercise. This exercise asks them to reflect on how they felt in a specific situation, and what needs they think are related to that feeling. They are also asked to think of what they would do differently if a similar situation occurs in the future. Once everyone has filled in the exercise, they discuss it with their groups. The groups might need some guidance, so the mentor should be present to provide this when needed. Before the end of this mentor hour, the mentor explains the homework and announces the one-on-one conversations.

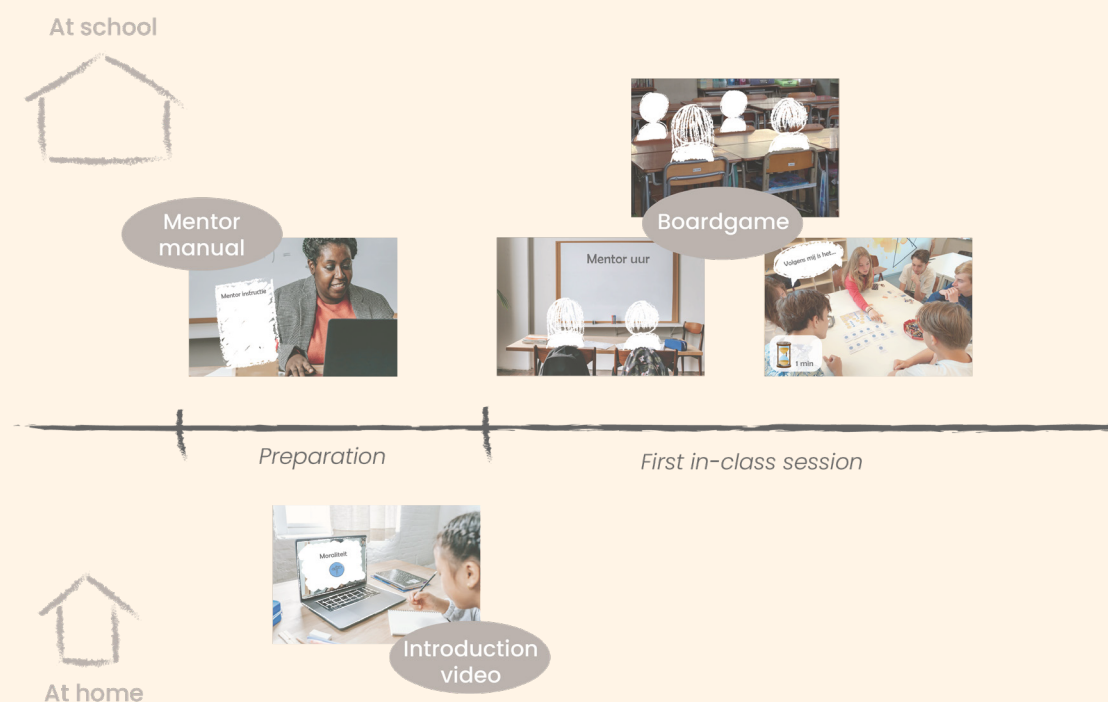


Figure 27 - a visual overview of the use scenario

4. Individual reflection (homework)

After the second in-class session, the students get the assignment to continue working on their workbook at home. It is up to the mentors to decide what the assignment exactly includes. For example, they can ask the students to reflect on one situation every day for a week long, or they can ask them to only reflect on three situations within a given timeframe. Whatever the mentor decides, the students should at least reflect on one positive and one negative experience.

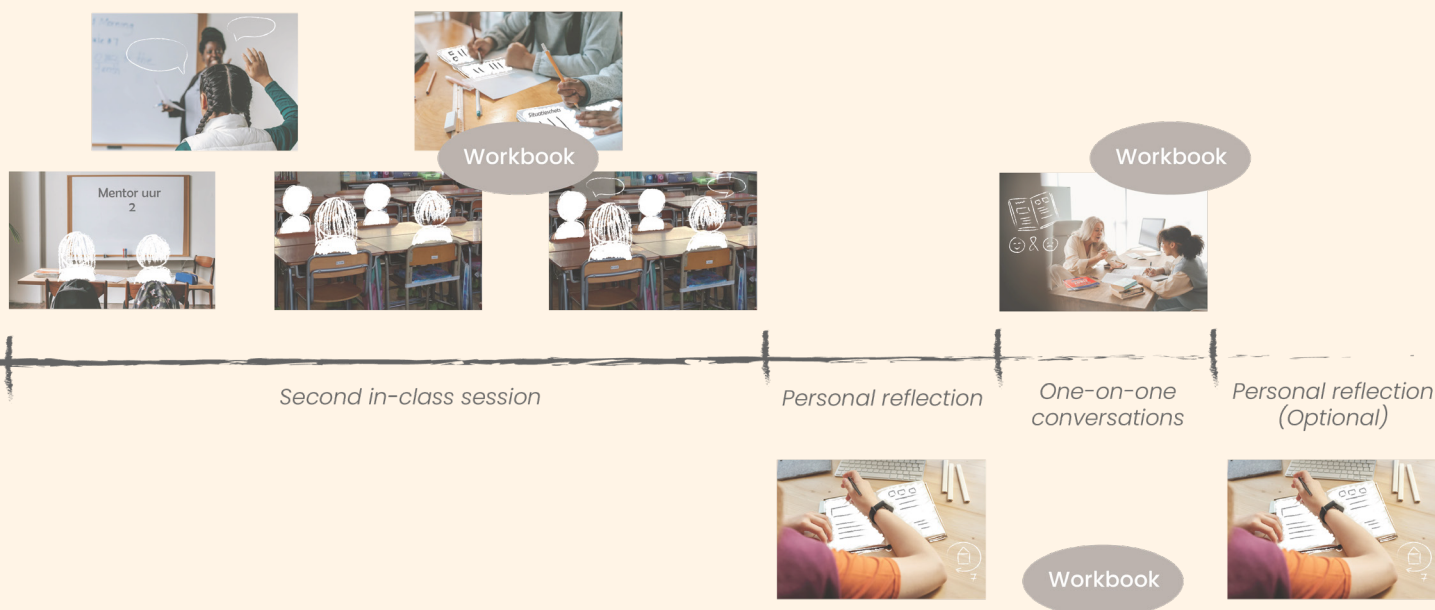
5. One-on-one conversations

The next step is to schedule one-on-one conversations with each student. This could be organised during the next mentor hours, or outside of the mentor hours. The length of the conversations can also differ, but they should at least last 15 minutes. During the one-on-one conversations the filled in workbook serves as the conversation tool. The students are asked to share at least one positive and one negative situation. The goal of these one-on-one conversations is to offer personal attention and to identify students that may be in need of extra support. If that is the case, the mentor should

take care of the next step, by planning another chat or bringing them in contact with the trust person of the school, for instance. The mentor manual contains a few guidelines for the one-on-one conversations.

6. Individual reflection (optional)

After the one-on-one conversations, the students get the option to continue using their workbook. For that reason, the workbook contains a whole lot of extra pages. The mentor could also offer to print more copies.



Chapter 9

Discussion & recommendations

This chapter contains a discussion of the project activities, as well as the output of the project. It describes limitations and provides recommendations for implementation and further improvement of the final intervention proposal.

Discussion & recommendations

9.1 Discussion & limitations

This project set out to get a better grip on loneliness in the high school context, before identifying which steps should be taken next in the municipality of Delft.

The initial research question was:

Following the current situation in Delft, which steps should be taken next in the high school context to better deal with loneliness among adolescents?

It soon became clear that, in order to deal better with loneliness, a more holistic approach should be adopted. The problem of loneliness among adolescents was therefore reframed as: "a problem of ignorance, by not treating the feeling as something we all experience and that teaches us about our underlying human needs."

Tackling loneliness

While this project gives the impression of aiming to tackle loneliness in a direct manner, the final intervention proposal is designed to have a broader impact. By treating the problem of loneliness more holistically, the first step would be to teach high school students about their underlying needs and how these relate to feelings like loneliness. They get a better sense of the 'why' behind these feelings, by placing them in the bigger picture. The author of this thesis is aware that this can be a different outcome than anticipated by the reader.

Long term effect

Even after an intensive design and validation process, the question about whether the intervention has the intended effect on the long term still remains. The expectation is that it will make a difference regarding the students' attitude towards their own feelings, but it is unsure whether it will fully prevent chronic loneliness in the high school context. Additional research and piloting are needed in order to measure the impact on the long term.

The Delft context

With the Gemeente Delft as the commissioning party, this project initially aimed to address the problem of loneliness in Delft specifically. However, this approach proved to be difficult as the current approach to dealing with loneliness among adolescents consisted of a lot of

unknowns and scattered organisations across the country. It also became clear that every high school has their own way of approaching student well-being and organising their in-house support system. Throughout the project the focus therefore shifted to the high school context in general, although research and design activities still took place in Delft. There is a positive side to this, because the final outcome ended up to be general enough to be suitable for implementation at high schools outside of Delft.

Age and educational levels

Something that has not been sufficiently taken into account throughout this research is the age and educational levels of the high school students. Some estimating and guessing have been done during the validation phase, but further research and piloting is needed in order to test the comprehensibility of the toolkit across various ages and educational levels. However, it was agreed by various participants that the way the toolkit is designed now, it should be suitable for the junior classes of the HAVO/VWO levels, so an extensive pilot could be started there.

COVID-19

Even though we are (hopefully) reaching the final stage of the pandemic, COVID-19 has still had an impact on the execution of this project. The original plan was to find a high school in Delft to work closely with throughout the project, but with the extra workload that the pandemic had brought upon high schools it became nearly impossible to establish such a collaboration. Finding participants for the research and design activities was therefore challenging and forming a network of experts, teachers and students took a lot of time, but in the end, enough stakeholders ended up being involved for this project outcome to become a valid contribution.

9.2 Recommendations regarding the intervention proposal

After reflecting on this project in a general sense, this paragraph will focus on recommendations for further improvement and implementation of the intervention proposal. Advice on how to implement the Under-Needs toolkit is also included in the Advisory Report in Appendix H.

Improvement

As the concept was iterated on throughout the validation phase, the Under-Needs toolkit has already improved on many levels. However, there are still some aspects that require further development.

- 🌀 The boardgame now contains an hourglass that serves as a turn timer. Both the storyteller and the rest of the group get one minute to select a Need card. This element has not been tested in the real context yet. The following question therefore remains: is one minute enough to select a Need card?
- 🌀 As discussed in 9.1: Discussion and limitations, there has not been enough data yet on the comprehensibility of the toolkit. In particular, the comprehensibility of the words and descriptions of the needs should be evaluated per age and educational level, but also the complete experience of the product owner and mentor will have to be evaluated in order to rate the usability and comprehensibility.
- 🌀 Following the advice given by the experts during the validation interviews, it is recommended to repeat elements of the toolkit later in the year, in order to make it stick. While the recommendation to repeat certain elements has been added to the mentor manual, it has not yet been researched what exactly is needed in order to ensure the long term effect.

Implementation

Below are several recommendations for the implementation of the Under-Needs toolkit.

- 🌀 It should be up to the mentor to decide whether they want to do the activities of the toolkit with the whole class or to split the class in half. The mentor that was interviewed during

the validation phase mentioned that with her current class she would think it would be better to split the class in half, but with other classes it could be doable with the whole group. It is also up to the mentor to divide the groups for the in-class sessions, either by their own preference if they think that will go well, or to do it randomized.

- 🌀 In order to get all mentors on the same page, it would be wise to organise a meeting at the start of the academic year. This meeting should be organised by the product owner and the aim is to discuss the toolkit and how to implement it.
- 🌀 Given the importance of the student-mentor relationship, and the remark that “not all mentors are good mentors”, perhaps these mentors could benefit from a training that is aimed at practicing one-on-one conversations and provides advice on monitoring their student’s well-being.
- 🌀 If the mentor does not seem suited to have the one-on-one conversations, then these could also be organised by the trust person or care coordinator of the school, given that the school has someone in that position.
- 🌀 In order to be able to play the boardgame with several groups of students at the same time, the toolkit should consist of multiple sets of the boardgame. The number of boardgames needed for one class depends on the number of groups that the class will be split into. It will be up to the product owner to decide how many sets of the boardgame are needed for that particular high school. This should then be communicated with the municipality before distribution.
- 🌀 The current toolkit focuses on emotions in general, but there lies an opportunity in adjusting the toolkit slightly, in order to make it applicable to a specific theme. For instance, if a school wants to pay extra attention to topics like depression or loneliness, the toolkit could potentially be redesigned in a way to make it fit inside that theme. However, this does not comply with the holistic approach that is part of the positive psychology.
- 🌀 The production of the toolkit has not been addressed yet. The option for producing the elements of the toolkit in bigger batches still requires further research.

9.3 Other recommendations

Before taking the direction that led to a holistic and preventative intervention, this thesis started by investigating loneliness among adolescents in a broader sense. Therefore, this chapter would not be complete without a set of recommendations that go beyond the final intervention proposal.

Treating loneliness

As introduced in chapter 4, this thesis took a direction that followed the belief of Positive Psychology. This means that the final intervention proposal is aimed at preventing loneliness. However, it is good to acknowledge the fact that loneliness is currently already a problem among adolescents, and that those suffering from chronic loneliness will still require help that does not come from this preventative approach. Thus, it is wise to not only try to prevent loneliness, but also try to treat loneliness.

The role of parents and the home situation

Since this thesis focused on the high school context, the home situation of the high school students was outside of the scope. However, for future research and design it would be interesting to look at the role of this context when it comes to loneliness, as well as the role of the parents.

Interrelatedness of the underlying needs

Even though this thesis acknowledged the importance of the underlying needs and how they relate to feelings like loneliness, it did not investigate the interrelatedness of these needs. For an even better understanding of loneliness, it would be interesting to further research the potential interrelatedness.

Chapter 10

Personal reflection

This chapter contains a personal reflection on the whole process. It reflects on the ambitions of the designer, as well as how the challenges during the process were experienced.

Personal reflection

Working on a project that you are personally passionate about is always a good idea. My personal interest regarding loneliness really sparked the course of this project and made me determined to aim for a valuable result. Every conversation that I had left me with a smile and a rush of adrenaline (figure 28). So many people have told me how it was “so good that I dedicated my time to this topic”, that I never felt like I lacked the motivation to continue.

But of course, projects like these come with challenges too. Loneliness is a complex problem that can be approached in so many different ways, causing me to regularly feel a bit lost as in which direction I wanted to take. Even though I am comfortable with working independently, I did sometimes struggle with the fact that I had to do it all by myself. This was a good learning moment, because looking back on the process, I often thought I had to do it all by myself, but I was actually surrounded by people that could help me out, like my supervisors, fellow designers, experts or colleagues from Gemeente Delft. Once I had come to this realization it got better.

Next to my tendency to be independent, I noticed that I often take decisions intuitively. Most of the time I had to connect the dots in

retrospect, which is something I noticed when my supervisors made me aware of gaps in the design rationale. But I think there is also a good side to this. For me this shows that I have built on my experience as a designer over the years, which makes me confident about the next steps in my career.

Recruiting high school students for the contextmapping and user test was a challenge in itself. My personal network in Delft appeared rather small and schools were too busy to assist. The COVID-19 pandemic made it even more difficult to connect with high school students. I believe that the result of this project would have been better if I had been able to collaborate with a school, but sometimes you just have to be flexible and I am still happy with how the project turned out.

As I approach the time to close off this project I notice how I feel hesitant to leave it at this. People I spoke to over the course of the project showed great interest and some of them even mentioned that they hoped to see the concept come to life, or even hinted towards a potential collaboration. Therefore I will definitely consider putting more work into the toolkit, because I would love to contribute to the prevention of loneliness.

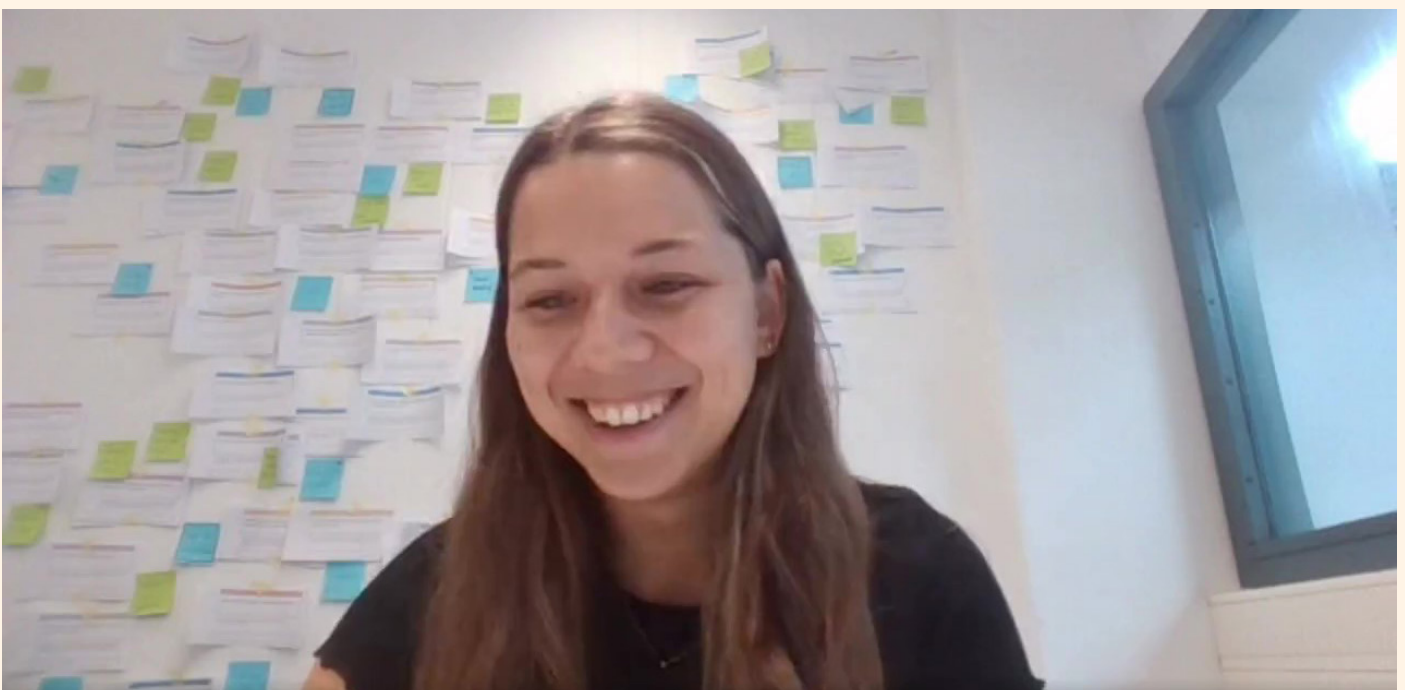


Figure 28 - my happy face during conversations with stakeholders, in front of the analysis wall



References

List of interviewees

1. Gerine Lodder

- o Researcher and assistant professor at Tilburg University
- o Field of expertise: Developmental psychology
- o Relevant work/research: (chronic) loneliness among adolescents

2. Madeline Hageman

- o Social designer
- o Field of expertise: Art & loneliness in the high school context
- o Relevant work/research: Project leader of Taal voor Eenzaamheid and initiative-taker for www.vooreenzaamheid.nl

3. Irene Campfens

- o Writer / journalist
- o Field of expertise: Loneliness
- o Relevant work/research: Writer of the book 'Gedialogeed' (book released in April 2021)

4. Siona Oosterkamp

- o Entrepreneur
- o Field of expertise: Loneliness among adolescents
- o Relevant work/research: Founder of 'Jij hoort erbij'

5. Dominique Warmerdam

- o Psychologist & entrepreneur
- o Field of expertise: Cognitive Psychology
- o Relevant work/research: Founder of 'Psychologie in het Onderwijs'

6. Ivor de Jong

- o Teacher & confidant at Christelijk Lyceum Delft
- o Field of expertise: high school & student care
- o Relevant work: working as a mentor and confidant at a high school

7. Jeanna de Haan

- o Technasium coordinator & teacher at Christelijk Lyceum Delft
- o Field of expertise: teaching
- o Relevant work: teaching and mentoring high school students

8. Jolanda van Gerwe

- o Pedagogue & entrepreneur
- o Field of expertise: Pedagogy & loneliness among adolescents
- o Relevant work: Founder of JoinUs

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List of appendices

- A. Project brief
- B. Interviews (Confidential)
- C. Contextmapping
- D. Extra insights
- E. Storyboard of the initial concept
- F. Focus group
- G. Feedback interviews
- H. Advisory report
- I. Final concept: Mentor manual
- J. Final concept: Boardgame instruction sheet
- K. Final concept: Playing board
- L. Final concept: Need cards
- M. Final concept: Context cards
- N. Final concept: Workbook
- O. Final concept: Introduction video
- P. Final concept: Storyboard

