PUBLIC SPACE FOR EVERY AGE

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MASTER THESIS LISETTE WOLTJER

S2342294

SUPERVISOR: TERRY VAN DIJK

UNIVERSITY OF GRONINGEN

FACULTY OF SPATIAL SCIENCES

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PREFACE

Five days before the deadline I had the brilliant idea to put my whole thesis is InDesign. If I had not followed through on that, I probably would have had much less stress. And the same goes for my choice to write everything in English. However, I am glad that I did those things, because it were some fine challenges, and if you don't keep challenging yourself, you won't get any further.

On top of that, restructuring my thesis in a few days gave me the ability to see it in another light and find some new insights. I think it has made this thesis more readable. Or at least mor fun to read. Therefore, I want to thank my Almanac Committee, especially Eva and Heleen, because the way we as team InDesign made that almanac has helped me a lot to find a good work flow with my thesis as well. And of course it was nice to have some connection to the outside world.

This was of course also provided by other friends and family. Therefore, special thanks goes out to my parents and my sister a.k.a. the research assistant for helping me out during my group experiment and the whole planning in advance. Furthermore, I want to thank all the participants.

Have fun reading,

Kind regards,

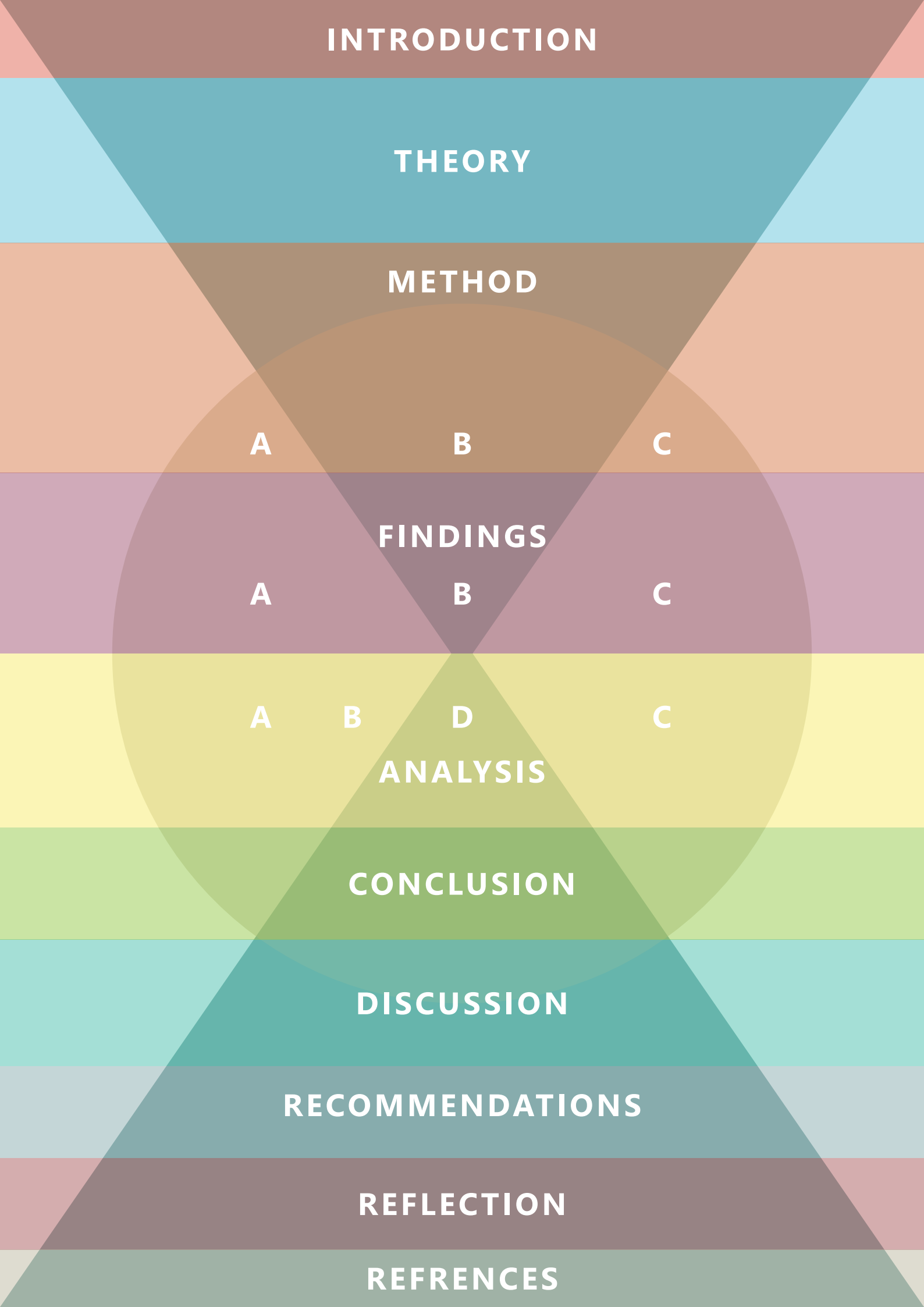
Lisette Woltjer

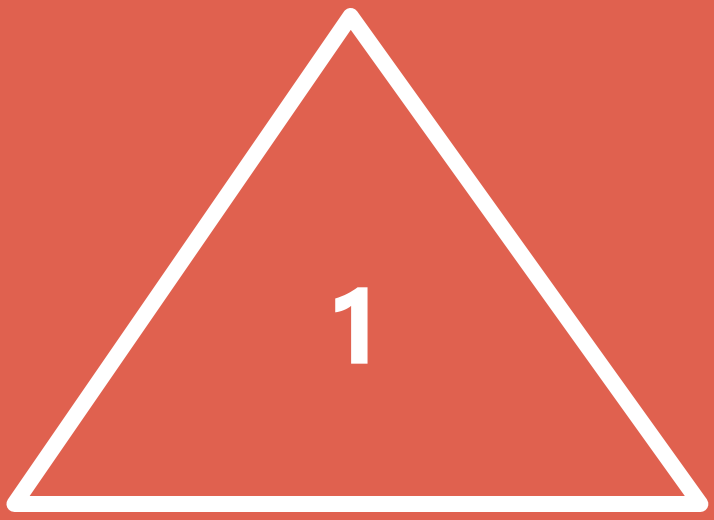
ABSTRACT

Public space is meant for public interest, which means it should be suitable for everyone. However, in small villages there is limited access to public space facilities, especially since more and more people are moving to the cities. But the people who remain should still be able to do what makes their lives meaningful. Public space can be regarded as a collection of affordances that are either possibilities or constraints, depending on individual capabilities. Therefore, the collection of affordances should contain enough possibilities for individuals in every life stage. But since the affordances depend on the perceiver, it may be useful to make sure that the properties of a public space are just as flexibel as that perception, in order to provide spatial suitability.

Keywords: Intergenerational Public Space, Affordances, Life Stages, Spatial Suitability, Flexibility.

CONTENTS


INTRODUCTION
THEORY
METHOD
A
B
C
FINDINGS
A
B
C
A
B
D
C
ANALYSIS
CONCLUSION
DISCUSSION
RECOMMENDATIONS
REFLECTION
REFRENCES



INTRODUCTION

This chapter is addressed toward formulating the questions that guide the entire study. First, the subject of interest is explained, followed by the underlying problems and debates that make it relevant to examine.

This has brought up the following questions:

Which properties in public space generate spatial quality for as many age groups as possible? How can these be implemented when resources are limited? And why does that even matter?

Times change and therefore, spaces have to change as well. However, spatial change tends to be much slower. Especially public space, since this space does not directly belong to anyone (Jacobs, 1961). In a sense, that means that it belongs to everyone. Therefore, it should be accessible and attractive for everyone.

But people also change. Their needs and desires develop as they go through different life stages. Thus, if we can translate the needs and desires of people from every life stage onto the public space, it may become accessible and attractive for every age. However, this is easier said than done.

The translation from needs and desires to public space is complex, because everyone may perceive their environment in different ways. Therefore, the idea of affordances may be helpful, since it links opportunities and constraints to elements in public space from the perspective of any individual (Gibson, 2014). So, this theory recognises that one space can consist of many different affordances depending on the persons in that space. Not only because of their biological capabilities and restrictions, but also because of the unique set of connections in the brain of each of those persons. In a sense, we humans are the connections in our brain (Eagleman, 2015). By interacting with the environment, we keep developing connections. Therefore, persons are shaped by their environment. So when actively shaping the environment, we might as well keep in mind what the influence of that environment will be on our own development.

Hence, human development is a key factor in this research, because the life stage one is in is of great influence on how the world is perceived and interacted with by that person. For instance, a teenager may perceive very different opportunities and constraints in a given space than an adult would. Therefore, the challenge arises to design public space in which people from all life stages can equally find opportunities to enjoy that public space. Many examples may come to mind when considering public spaces that are designed to meet the needs of people from all ages, like Central Park in New York or Piazza del Campo in Sienna. As do examples from public spaces that don't meet those widespread needs, but are tailored to meet the needs of predetermined age groups, like the local playground, skatepark or pétanque court.

But what makes one space fit for intergenerational use and the other not? Is it enough to simply put a playground, skatepark, pétanque court and a café with a terrace together with some paths and trees around it to fit all the needs into one space?

If all the different perspectives combined is what makes public space in itself so complex, one could argue that the more cities house people from various backgrounds, the higher the complexity. Today's population is living more and more in cities. Thus, it is not strange that many studies focus on urban contexts. However, studying a concept that is already complex in nature could benefit from a less complex context, in terms of inhabitants. Therefore, a village may be a better choice of case study, since there are small villages where there are no large cultural differences. That way, the focus on life stages can be done more accurate.

Furthermore, in contemporary cities in The Netherlands, there are signs that community is becoming more and more important. In other words, even though cities are growing, they also take on more village like characteristics. Therefore, it is interesting to study a village that already has a strong sense of community and is also actively shaping its public space. Such a village could serve as an example of how neighbourhoods in cities can become, in order to find ways to design good public space for – and with – them.

However, a village still houses people from different life stages, which may cause different perspectives on the available public space, including different opinions on how this space should be used and managed. Studying a village rather than a city stems also from the notion that creating public space for all ages is more relevant for small villages than for urban settlements. This hypothesis is grounded on the fact that people who are depending on public transport, walking or cycling are more restricted in choice of facilities when they live in a small village, compared to people with similar conditions who are living in a city.

RESEARCH QUESTION

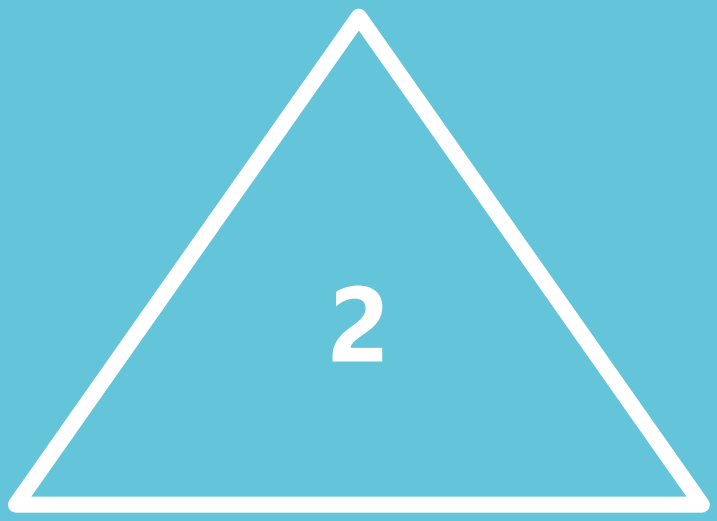
Finding out how to create public space for every age is the main ambition behind this research. Therefore, the following research question and sub-questions are posed:

Which properties in public space generate spatial quality for as many age groups as possible?

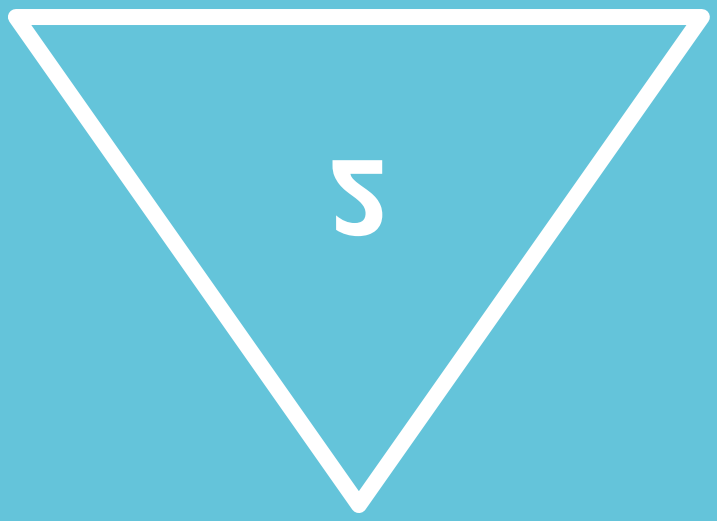
- What are affordances and which are generally providing spatial quality?
- What makes public space suitable for specific age groups?
- How do people from different age groups view and use their public space?
- Which affordances are perceived positive in all groups and how does this relate to the literature findings?
- How can intergenerational public space be realised with minimal investment?

By establishing which elements generate public space for every age, a new approach towards providing more quality by investing less money can be formed. Since small villages are often financially limited, it is important to know which elements are absolutely essential to invest in. By designing public space for every age, all public interests will be covered, which is the purpose of public space in the first place (Meyer et al., 2006).

The last question is based on the notion that small village usually have no access to large funding, because municipalities have to spread their funds over the amount of users that an investment serves.



THEORY



INTRODUCTION

This chapter presents the theoretical foundation of the study. First, the most relevant theories regarding public space and which properties generally provide spatial quality are discussed, followed by the way public space relates to its users.

After that, the focus shifts towards a person-oriented approach, zooming in on the influence of age, from life stages and generations all the way down to the cognitive level.

The chapter ends with a conceptual model of the described theoretical framework, that is further used for selecting methods, collecting data and analysing the collected data.

PUBLIC SPACE

The first thing to consider in this study is the nature of public space, which is important to identify in order to study its relation to spatial quality. According to Meyer et al. (2006) public space is meant to be space for matters of public interest. Therefore, the nature of public space depends on what matters to the public, which varies across scale, time, culture etcetera, but also across generations.

For example, during the 19th centrury public interest was mainly related to health issues, therefore hygiene needed to be improved, which resulted in broader streets and more space for public parks to insure more fresh air into the city. Moreover, the public interest for mobility during the 20th century also resulted in broader streets, however this also resulted in streets that were designed for cars, rather than people (Wagenaar, 2015). This, amongst other things, caused health issues to increase again, which shows that the same solution does not always result in the same outcome, depending on exogenous factor. Therefore, the public interest of the 21st century is turning its focus once again to resolving health issues, supplemented by concerns about sustainability (Thompson, 2010).

However, spatial context can also be of influence, such as climate, density, and accessibility. An urban context, for instance, may result in a very different public interest regarding public space than a rural context: while cities deal with heat and flood problems, small villages deal with liveability problrems caused by shrinking populations.

Furthermore, according to Jane Jacobs (1961) the distinction between public and private space is not always clear, which can lead to crime and violence, or in other words: a lack of social safety. Therefore, she emphasized the importance of diversity in four dimensions: multifunctionality, connectivity, building age diversity and population density in order to ensure vital streets and sidewalks. However, a village with little purpose of using those streets due to little diversity in functions may lose the vitality that could otherwise be generated by those streets.

However, it is not to say that these dimensions are still at the heart of vitality, since a lot has changed since the 1960's. In particular, the influence of increased mobility and digital means of communication, but also that the amount of indoor play has increased, can have impact on the life on the street (Larkin, 2005). On top of that, safe space does not automatically translate to lively public space. Jan Gehl (2011) exceedingly studied the relation between design and lively public space. He found public space to be an antidote against isolation, which is a common problem among older citizens nowadays, because public space offers the opportunity to be among others, without necessarily being with others. Cattell, Dines, Gesler, & Curtis (2008) call this passive recreation, and argued that lingering, mingling and observing others makes a person feel part of a larger community, even without actively engaging in it. They found the opportunity for passive recreation to be especially to elderly.

According to Gehl (2011), being among others is essential for human beings, because experiencing other people provides stimulation. This statement can be further substantiated by findings from the field of neuroscience. According to Larkin, Kaplan & Rushton (2010) stimulation is essential to human brains functioning through the entire life span. In particularly challenges are important: situations that offer enough novelty and diversity, but also enough familiarity, in order to prevent stress. Both stimulation deprivation (too little) and stimulation overload (too much) can have negative effects. Furthermore, the quality of stimulation is also important, and can be influenced by the design of the environment as well as the activities (Diamond & Hopson, 1998; Larkin et al., 2010; Eagleman, 2015). Therefore, Gehl (2010) emphasises the importance of spatial quality, which consist of a feeling of safety supplemented by a feeling of comfort and delight. Moreover, Larkin et al. (2010) argue in line with Gehl that comfortable seating combined with a good view of other people offers the perfect amount of stimulation.

On top of that David Eagleman (2015) states that human brains actually need other human brains to prevent cognitive decline. In a study by Wilson et al. (2004), aimed at finding a link between cognitive decline and diseases that cause dementia, it was found that people who practiced cognitive exercise did not have any cognitive loss even though they died of Alzheimer's. In this story, cognitive exercise includes all activities that keep the brain active, like reading, learning something new, having responsibilities, but also all social activities, networks and interactions, because all of these activities cause the brain to make new connections (Eagleman, 2015). In this regard, the brain and its connections are like a city and its connections, which relates back to Jacobs (1960) and Gehl

(2011). Thus, when designing public space, it is important to offer the right amount and quality of stimulation through the environment in terms of diversity and familiarity corresponding to the brains of its users. However, this is not to say that the public knows all the answers, since most of these processes happen unconsciously (Eagleman, 2015, Larkin et al., 2010; Van Dijk, 2017). So, apart from context dependent factors that define people's sense of familiarity and novelty, Gehl (2010, Figure 2.1) determined twelve quality criteria that generally provide spatial quality in public space. The quality criteria are divided over three main categories: protection, comfort and delight. The first category, protection, has to be ensured in order for the criteria in the other two categories to be relevant. This means that every form of public space should primarily meet the three protective criteria listed under protection.

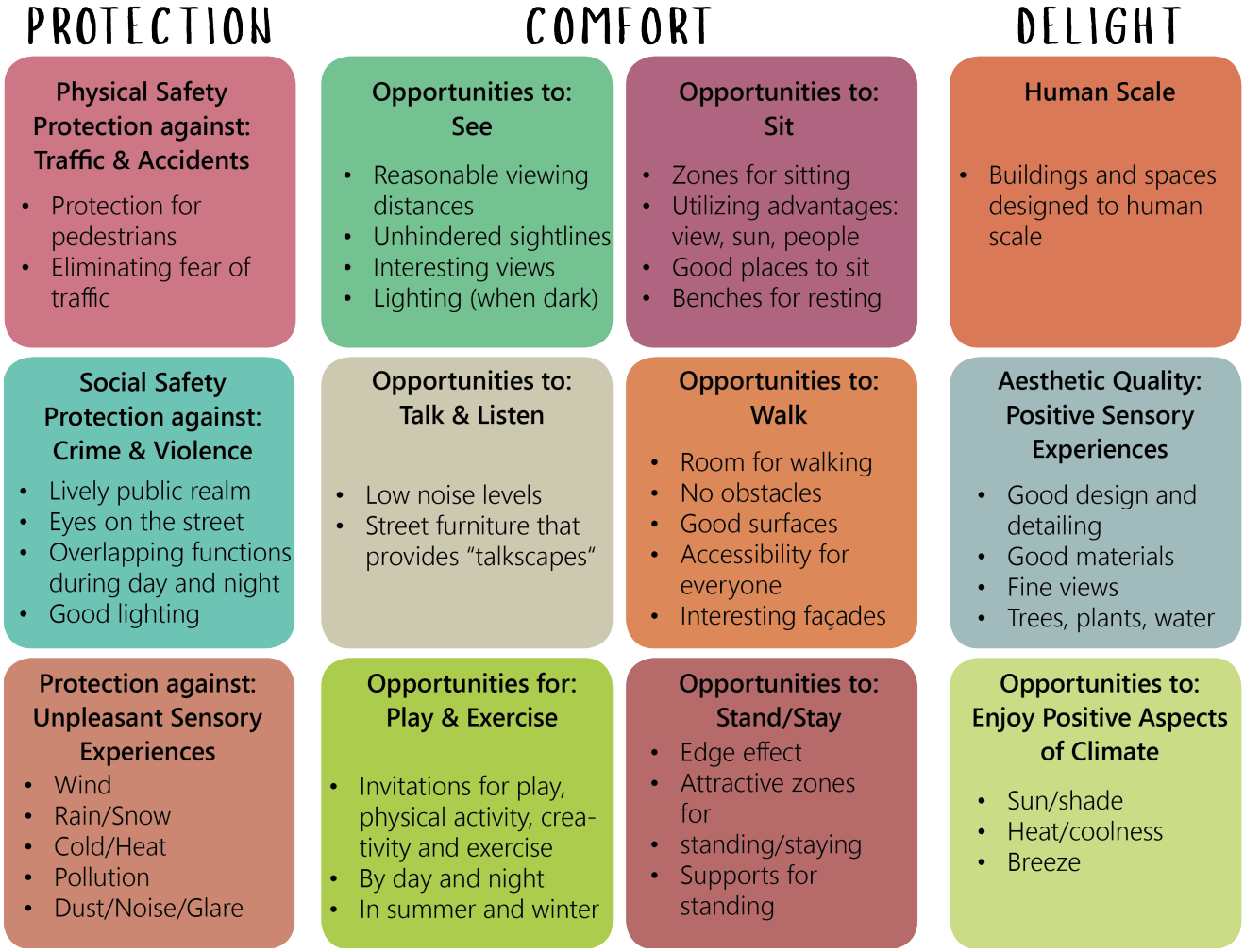


Figure 2.1 **"The city at eye level: 12 quality criteria" (Gehl, 2010, pp. 238-239)**

The first criterium needs to be met in order to safeguard a feeling of safety, particularly among pedestrians, and can be met by removing high speed traffic from the site. The second criterium will secure a feeling of security and can be met by overlapping functions during the day and night supplemented by good lighting, to ensure a lively public realm and eyes on the street, as has also been emphasized by Jane Jacobs (1961). The last criterium will also help to strengthen the other two criteria in this category, as will the criteria in the other two categories, since they are designed to improve the quality for pedestrians and visitors of the public space in order to result in a more lively public realm.

The rest of Gehl's quality criteria are focused on some crucial actions: walking, standing, sitting, seeing, talking, hearing, playing and exercise, thereby a number objects are listed (like benches and plants, but also obstacles). These actions were found to benefit health and well-being and were mostly found to be carried out comfortably in busy public spaces, thus including other people as a part of the environment. However, this approach has a spatial focus and is quite static, regarding differences in capabilities of the persons using the public space. Therefore, a more relational approach could add some value to Gehl's model, in order to address the needs of different age groups.

AFFORDANCES

Planning public space is not just about spatial design itself. Indeed, it is a matter of understanding a place in order to predict how change will be perceived. According to Catherine Ward Thompson (2010) understanding which qualities of the environment are most important to people's general quality of life, evenly involves the similarities as well as the differences in people's capabilities, experiences, desires and needs. If public space is to serve all public interests, it needs to be adaptable to the capabilities and interests of all. Therefore, Larkin et al. (2010) stress the need for flexibility of spaces, to insure novelty and diversity. They recommend to design with materials that can be used in multiple ways, and can evolve with the interests and capabilities of its users. Therefore, stationary structures that predetermine usage should be avoided when designing intergenerational public space.

Seeing that the nature of public space, and thus the nature of spatial quality, is relative, depending on the public interest, and thus the needs of the users, a relational approach would be suitable. One of the concepts that is proven useful in landscape research so far is the concept of ***affordances*** (Gibson, 1979; Heft, 2006; Douglas et al., 2017; Kyttä et al., 2018; Thompson, 2010). The term affordances refers to the characteristics of an environment that do, or do not, allow for certain actions an actor can perform. The actor can be anything that acts, so it can be a person, but also an animal or even a tree (which grows) or water (that flows). For instance: a hill affords water to flow down, but not to flow up or stay on top. This further illustrates that "the public", in terms of people, is not the only group that determines public interest, although it is the group that most likely will argue.

In summary, 'affordance' is a relative term based on the actor-environment relationship, which is very useful when comparing the use of a certain place for a diverse set of users and vice versa (Gibson, 1979; 2014). The former method includes the case of public space in the built environment of a rural town with a range of age groups, which will be elaborated on in this study.
The founding father of the concept of affordances approached landscape from an ecological perspective, practically modelling human behaviour the way ecologists do with (other) animal species. In his book, that was first published in 1979, Gibson (2014, p. 126) pointed out an observation about the way people interact with their environment, regardless of predetermined instructions.

"You do not have to classify and label things in order to perceive what they afford"

This observation implies the unconscious nature of perceiving and using affordances, which will be elaborated on later in this chapter. Gibson pointed out affordances by pasting '-able' after a property of the environment. Depending on the subject, some affordances that an object could provide are fall-off-able, but also sit-on-able or hide-behind-able. Therefore, this concept clarifies that specific objects, designs or even whole environments are not what to look for when creating public space for every age. The generalisable part is determining which affordances are perceived as needed and desired according to people from all ages. How the elements (like objects or surfaces) linked to those affordances can be combined all in one space, is more context dependent, and will therefore vary between places. Douglas et al. (2017) already proposed a framework that can be used for the design of such spaces (figure 2.2). It is called the affordances star and it takes into account the relativity of the affordances concept, so it can be used from different perspectives.

The affordances star consists of six starting points or dimensions from which an environment can be examined. When starting out from one dimension there are two options to go to, which are on the same triangle as the starting point. When travelling from start to end, two dimension-combinations from the other triangle will be crossed. In order to move on, the influence of those dimensions together has to be considered first. Hence, it is important that not just one triangle of the star is consulted. Each dimension influences the affordances for the (possible) users of the environment. So at every crossroad, the user of the model has to consider the dimensions at that point. Douglas et al. (2017) designed the model to guide green space design. Furthermore, Gehl (2010) emphasizes with his twelve criteria the importance of scales, times, spaces, objects and actions linked to the experience persons will have. Therefore, the quality criteria could be linked to the affordances star accordingly and suggest a list of positive and negative affordances to look at when measuring the spatial quality.
However, the persons perspective is somewhat lacking in the sense that the criteria are designed for all visitors of the public space in general, regardless of their abilities. Whenever all criteria are met, they make sure that the range of variety in affordances allows actions to be performed by all, but they also need to appeal to all.

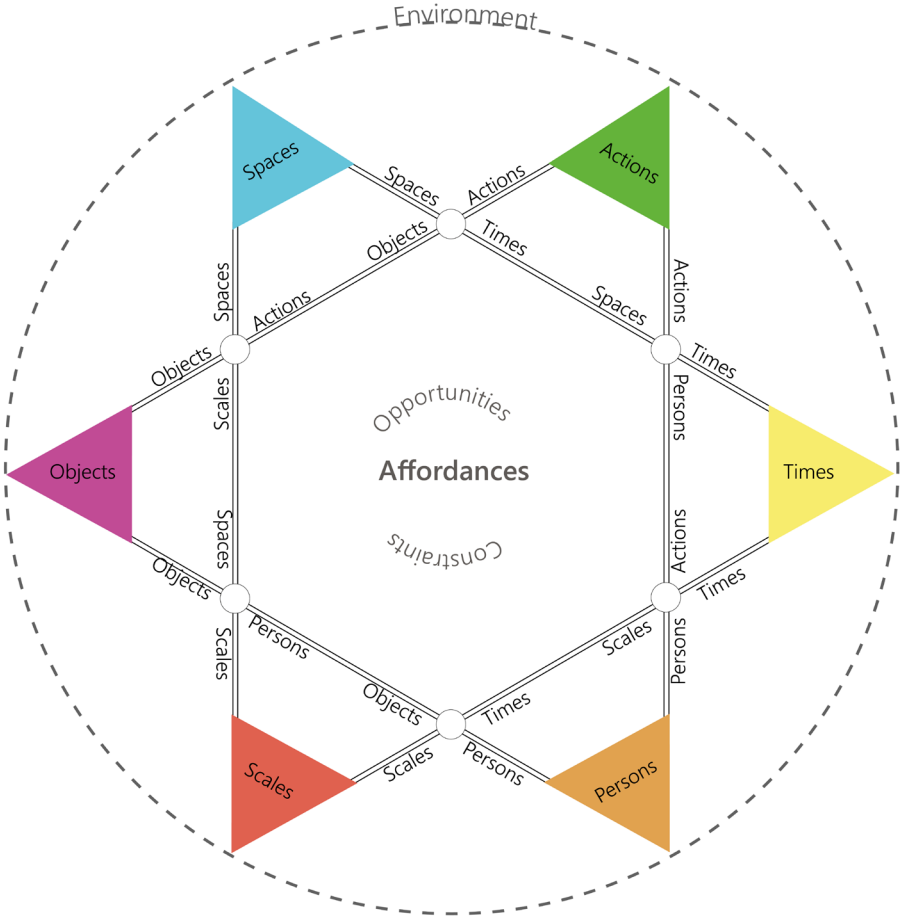


Figure 2.2 **The Affordances Star framework and how to read it (Douglas et al., 2017, p. 8).**

Therefore, spatial suitability may be a better term to use in this study than spatial quality, since spatial quality refers to something inherently spatial, instead of capturing the social aspects in relation to the user of the space as well. Jonietz & Timpf (2013) used Gibson's affordances theory (1979) to make a simulation framework in search for spatial suitability, in which they defined spatial suitability as ***"the degree of correspondence between the properties of an agent and an environmental object which are relevant to a particular action"*** (p. 183). In their study, they simulated the suitability for walking among three life stages (children, adults and elderly). In light of the affordances star, their spatial suitability framework operated only in the dimensions of persons, objects and actions within the environment. However, the term 'spatial suitability' covers the dependable nature of the person-environment relationship that is central to affordances theory as well, because it implies the variation across actors. For example, opportunities to sit may be present in a public space in the form of classical benches, but if they only appeal to adults and elderly, then there is no sufficient spatial suitability. So by adding other surfaces that intuitively afford sitting, but do not look intentionally placed for sitting, they may appeal more to the explorative brains of children and the rebellious brains of teenagers.

However, for the use in this study spatial suitability will be defined as ***"the compatibility between the properties of agents and the available affordances in the environment"***, because it needs to cover all of the dimensions from the affordances star. The spatial quality can then be determined as the degree to which a place offers sufficient suitability for everyone, following Gehl's twelve criteria, while putting the persons perspective at the heart of the study. So, in the end, spatial quality can still be used as a goal, if it includes spatial suitability.

So, instead of following the axes of the affordances star from one point to the other, and considering the influence of each dimension on the design, a more holistic approach is chosen. Defining the persons perspective divided into different age groups, the influence of all dimensions for each age group can be examined. The idea behind this is finding out which affordances are valuable in general and how they develop throughout the life span, regardless of a specific place or design. This will be further described in the methodology. But since different age groups are the foundation of the study, it is important to discuss some theory about human development throughout the life span first.

LIFE STAGES

In the search for properties that provide as many positive affordances for a diverse range of people, a focus on life stages is relevant. By "life stage" a specific period of development in one's life is meant. According Cattel et al. (2008) and Scopelliti and Giuliani (2004), the preference for certain affordances within in a place can differ according to one's life stage. However, Cattell et al. (2008, p. 556) note that ***"the beneficial properties of public spaces are not solely reducible to a set of design-based, natural or aesthetic criteria."***. They argue that due to the diverse needs of people in relation to public space, it is important to have a wide variety of public spaces and associated facilities, in order to meet those diverse needs. Puhakka, Poikolainen, & Karisto (2015) also recognize that peoples appreciation and use of public space differs across age.

However, Puhakka, Poikolainen, & Karisto (2015) warn for 'age segregation', as do Hagestad & Uhlenburg (2006), because dividing different age groups among different public spaces could have negative influences on learning and development opportunities. For elderly, ties with younger generations are especially important for keeping up with new developments, like using a smartphone for videocalls. On top of that, ties between ages and generations increase investment in the lives of others which leads to the development of empathy in individuals, which is particularly important for the transition from adolescence into adulthood.

Therefore, finding out not only how needs differ, but also how they resemble across life stages, may gain insight on which range of public spaces and associated facilities are absolutely necessary for a small village to have and how they can be combined. Catell et al. (2008) argue that 'public space consciousness', in other words, people's awareness of the perceived value of a place, is key to which positive aspects outweigh the negative aspects of a place, regardless of the actual affordances. The publics' opinion may therefore be more interesting than the actual affordances. Because if affordances are not perceived as valuable, they will not be used, regardless of their presence, which means the design does not trigger a certain action and should be improved in order to meet the conditions for providing spatial quality.

According to Newman & Newman (2017) there are many great theories on human development, like systems theory, social learning theory, cultural theory and social role theory. However, psychosocial theory seems the most fitting for this study, because it deals with psychological as well as societal development throughout the entire lifespan (and not just childhood). It also takes cultural influences into account, by linking crises to every life stage. A psychosocial crisis sounds dramatic, but it just refers to the psychological development of the individual versus the societal expectations.

Therefore, it acknowledges the importance of the social context in which a person lives. According to psychosocial theory (Erikson, 1963), each life stage comes with a set of developmental tasks and corresponding psychosocial crises, which have to be surmounted in order to move on to the next stage. Therefore, the succession of life stages can occur on various ages and may not be the same for everyone. However, this is not to say that once on crisis is resolved, it will never come back. In other words, climbing the ladder does not make the previous steps dissapear.

Newman & Newman (2017) give an overview of each life stage according to average age, together with the correspondent tasks, crises and even how to overcome them (Table, 2.1). Some of these are of particular interest, because social interaction in public space may have a crucial influence on the success of the necessary development. For example, peer play and team play are externally influenced developmental tasks that are necessary to move from early school age to middle childhood and on to early adolescence. Therefore, it would be beneficial for children to have public space nearby that affords peer play and team play.

Life Stage	Developmental Tasks	Psychosocial Crisis	Process of Resolving
Infancy (< 2)	Maturation of sensory & motor functions Processing, organising & using information Communication Attachment Emotional development	Trust vs. Mistrust	Mutuality with caregiver
Toddlerhood (2-4)	Elaboration of locomotion Language development Fantasy play Self-control	Autonomy vs. Shame and Doubt	Imitation
Early School Age (4-6)	Gender identification Early moral development Self-theory Peer play	Initiative vs. Guilt	Identification
Middle Childhood (6-12)	Friendship Concrete operations Skill learning Self-evaluation Team play	Industry vs. Inferiority	Education
Early Adolescence (12-18)	Formal operations Emotional development Membership in the peer group Romantic & sexual relationships	Group identity vs. Alienation	Peer Pressure
Later Adolescence (18-24)	Autonomy from parents Gender identity Internalized morality Career choice	Individual identity vs. Identity confu-sion	Role Experimentation
Early Adulthood (24-34)	Exploring intimate relationships Childbearing Work & Lifestyle	Intimacy vs. Isolation	Mutuality among peers
Middle Adulthood (34-60)	Managing career & household Nurturing intimate relationships Expanding caring relationships	Generativity vs. Stagnation	Person-environment fit and creativity
Later adulthood (60-75)	Accepting one's life Redirecting energy towards new roles and activities Promoting intellectual vigour Developing a point of view about death	Integrity vs. Despair	Introspection
Elderhood (75+)	oping with physical changes of aging Developing a psychohistorical perspective Traveling through uncharted terrain	Immortality vs. Extinction	Social Support

Table 2.1 Overview of psychosocial theory's life stages and corresponding tasks, crises & resolving processes (Newman & Newman, 2017).

GENERATIONS

On top of the predominantly internal focus of the life stage perspective, neuroscientists have confirmed that external input is essential for brain development throughout the lifespan: more experiences lead to more connections, hence a more sophisticated model of 'reality' (Eagleman, 2011; 2015; Sigman, 2015).

However, external input depends not only on spatial context, but also on time related factors, such as large events, development and worldviews, which also vary across cultures. Therefore, it is interesting to consider generational differences as external factor that combines both time, culture and other external aspects, in addition to life stages, which can be viewed as more individual processes. Elder et al. (2003) argue that not only the individual developments of each life stage influence a person's point of view, but also the influence of different times of growing up and the historical changes one experiences, because people with different backgrounds adapt differently to new situations.
Therefore, generational differences are also important to consider when forming groups based on age. For instance, a person from the pre-war generation may consider the stage of childbearing and managing the household to be much earlier in life than a millennial would. This may also go for what they consider to be appropriate behaviour in public space.

On top of that, Vanderbeck & Worth (2015) suggest creating intergenerational space is crucial to prevent age segregation, but also to society as a whole, due to the geographical nature of social life. By intergenerational space they mean public space that is designed in order to facilitate and promote the interaction between people from different generations. Because particular events and developments, and the shared experiences they lead to, are a big part of what people take with them in their frame of reference (Biggs & Lowenstein, 2011; Spangenberg & Lampert, 2013).

According to Stevens (2007), people's contemporary behaviour in public space is always influenced by memories of the past and visions of an ideal future. Therefore, shared memories may lead to similar behaviour. With regard to the shared experiences that are specific for people in the Netherlands, the following division of generational categories is used (Spangenberg & Lampert, 2013; Vleugels, 2016):

1910 – 1930	"the pre-war generation"	**87 – 107 years old**
1931 – 1940	"the silent generation"	**77 – 86 years old**
1941 – 1955	"the protest generation" or "the babyboomers"	**62 – 76 years old**
1956 – 1970	"the lost generation" or "generation X"	**47 – 61 years old**
1971 – 1985	"the pragmatic generation"	**32 – 46 years old**
1986 – 2000	"the millennials" or "generation Y"	**17 – 31 years old**
2001 – 2015	"the conscious generation" or "generation Z"	**2 – 16 years old**

Any existing variation in frame of reference, worldview and values between these categories can lead to different meanings in, perspectives on and uses of public space. This can then lead to misunderstandings, especially when people are unaware of those differences by viewing their own framework as 'common sense' (Biggs & Lowenstein, 2011). Therefore, planning with different generations could reveal possible barriers caused by those different perspectives, meanings and uses. Especially when indulging into play, because play activities confront both the past and future aspirations of each generation (Stevens, 2007).

To summarize, when asking people for their point of view on something, they will, in a way, start to formulate a theory. This theory is influenced by experiences, values, cultural context, historical period, knowledge and intellectual capacities of the theorist (Newman & Newman, 2017).
Therefore, opinions are the result of complex unconscious processes. Getting the underlying values into the open may cause mutual understanding. So, more theory on the unconscious mind is relevant, to see how brain development may influence the way affordances are perceived by people at different life stages and from generations.

Starting at the youngest generation, Broberg et al. (2013) found that a child-friendly environment requires diversity of affordances and independent access to these. Furthermore, they showed that these two basic dimensions are connected to each other. On top of that, Larkin et al. (2010) found that diversity and accessibility are also key factors for the creation of intergenerational space, by tracing back to how the human brain is wired. Therefore, public space needs to be safe to access independently at any age and with any disability, but there also has to be a range of activities they can do that appeal to them.

Furthermore, Van Vliet (2011) and Biggs & Carr (2015) state that the needs of children and older adults are often the most meaningful to grant in public space. This is important to consider in planning practice, because children and older adults are generally the age groups that are most affected by changes in their immediate environment, since they rely more heavily on the home and the space around it. Yet, children, youth and elderly have been 'invisible' as stakeholders in traditional planning, that was focused on supporting productive capacities. According to Horelli (2006, p. 239)

"bridging the gap between the competent young people (aged seven to eighteen) and the adult gatekeepers of urban planning and development remains a problem.".

Therefore, designing public spaces which grant the needs of people from all ages, starts with inviting them into the planning process from the very beginning (Horelli, 2006). Spencer & Blades (2006) even suggest they can be seen as major stakeholders in the development of public space.

But which type of affordances do children and older adults crave? Being two groups containing a very diverse range of people, with a different level of experience, it makes sense that the range of affordances should be diverse as well, as Broberg et al. (2013) suggested. However, a diverse range of affordances does not necessarily mean that public space needs to contain a great many objects like in an amusement park. As we take a look back on the affordances star, it becomes clear that a diverse set of persons equals a diverse set of actions, that is not only fuelled by a diverse range of objects, but also of times, spaces and scales, and in a way, also of the persons and actions themselves, because they may perceive different affordances by experiencing the same environment.

Children's vulnerabilities are at the centre of child-friendly initiatives. Like older adults, they are deemed particularly sensitive to changes in their immediate environment, e.g. the home and the neighbourhood (Biggs & Carr, 2015, p. 102-103; Ward, 1978; Christensen & O'Brien, 2002) for assistance and support (Wahl & Oswald, 2010; Buffel et al., 2012). These attachments to neighbourhood and place, access to a wide range of intergenerational networks, and the availability of social and cultural resources appear to provide the most beneficial opportunities of urban living (Biggs & Carr, 2015, p. 103).

Cattell et al. (2008) found that in order to go outside in the first place, a feeling of security is needed in the immediate neighbourhood. This goes for elderly especially, but not exclusively, meaning that it benefits people in other life stages as well. This finding confirms one of the twelve qualities in the category protection, as stated by Gehl (2010). Cattell and colleagues also came up with some criteria for public spaces to enhance casual social exchanges. These are:

- Familiarity with spaces
- Regular use
- Positive perceptions of the area
- Feeling comfortable with fellow users
- The endurance of a space over time
- Available facilities (purpose/function)

What is interesting about this list is that familiarity is on top, which corresponds with the other findings discussed above, but there seems to be no need for novelty at all, while this was emphasised by Brandt & Eagleman (2017) to be inextricably linked to familiarity. Therefore, novelty could be a more unconsciously experienced need for elderly, because they have more experiences in their frame of reference and tend to relate everything to what they are already familiar with. This would mean that young people could be expected to be more fond of novelty over familiarity, because of their relative lack of experience. There are simply more experiences they can call new.

Back to the affordances for elderly, Catell et al. mention that the opportunity to mingle, observe and linger in a space is very important to some elders: entering and remaining in a space without a specific purpose, just for 'passive recreation' (Woolley, 2003), this affordance was specifically important for elderly.

While for elderly and children the immediate environment is especially important due to their dependency on it, most adults depend far less on the immediate environment. But it is still the gateway from their home to their daily routine, even if they only use the streets to drive to work. This may go for adolescents as well, since they spend most of their time at school and are finally able to move independently outside of their direct environment.

However, this age category is of specific importance, because of the brain development that takes place in this period. According to Blakemore (2012) and Kail & Cavanaugh (2018), there is a peak in grey matter in early adolescence, which decreases in the course of adolescence. This is caused by a process of "unlearning" unwanted synapses – which are connections between cells. However, which synapses are defined as wanted or unwanted is partly dependent on the persons environment (Sigman, 2017). This means that is important that the environment requires synapses that are beneficial to thrive as a human being. There are different ways in which environment can be referred to here: social, physical, intellectual, cultural etcetera. So, the school environment and home environment play a large role. On top of that, there are the larger scales of community, culture and even ones generation, but even outdoor public space can have an influence (Douglas et al., 2017).

This leads to the question which synapses are beneficial to keep and how public space can contribute to this. According to Sigman (2017) children and adolescents actually learn faster and better due to prior knowledge instead of concentration. Therefore, sensory experience of a wide range of things makes children establish a fast range of synapses will make the experience of learning easier, because the connections are already there. In their literature analysis Douglas et al. (2017) argue the affordance of sensory experience is provided best by nature, because Dadvand et al. (2015) found cognitive improvements in seven to ten year old children that were exposed to green environments. Furthermore, they mentioned that Broberg, Kyttä and Kahila (2012) found better health reported by ten to fifteen year olds that lived in greater proximity to green space. On top of the benefits of green space, a lack thereof can result in nature-deficit disorder. This is associated with physical as well as psychological health problems, which can continue throughout the entire lifespan.

As mentioned above, the adult category has the most mobility. On the upside, this gives them the opportunity to live in a small village while working somewhere else, but on the downside, it disconnects them from the village their living in. According to Uhlenberg (2006) this can be a problem regarding the psychosocial crisis people are facing during this life stage. During middle adulthood (34 to 60 years old) people are balancing generativity versus stagnation (Newman & Newman, 2017). Uhlenberg (2006, p. 647) defines generativity as "Concern for and commitment to the next generation". So if investing time and energy in the next generation prevents them from stagnation, age integration plays an important part in the development of people in middle adulthood. This would make them the bridge between generations. However, if they spend this time commuting instead of bonding to form intergenerational ties, not only they become disconnected from other age groups, but so may the other groups interdependently.

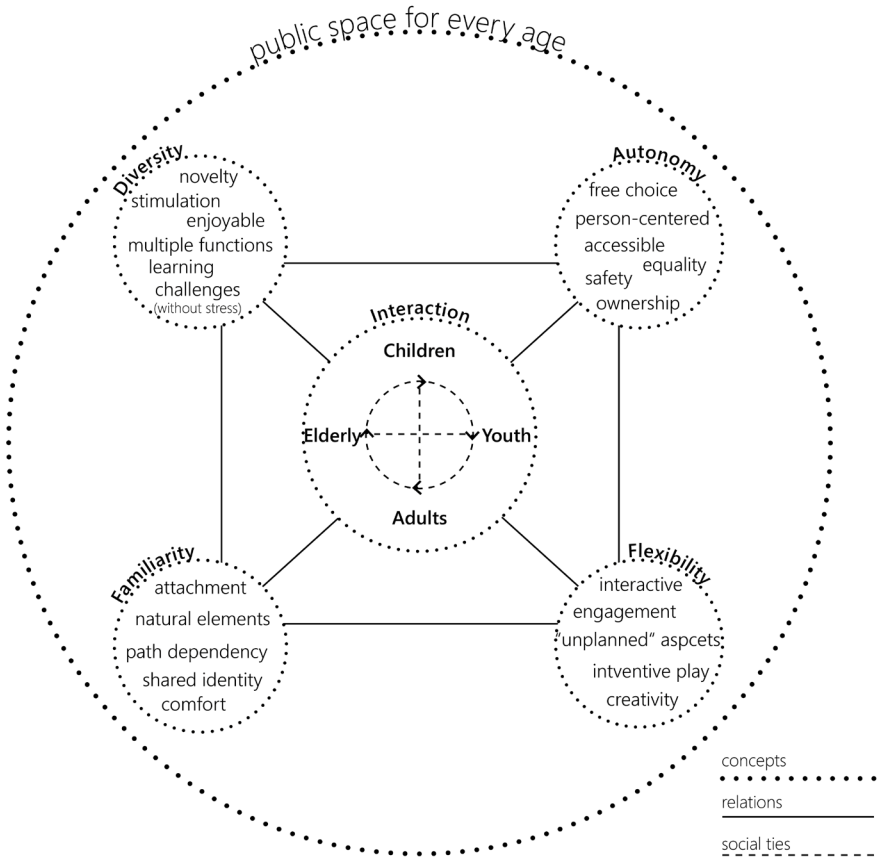
According to Bock (2016), the engagement of people in their village depends on the firmness of the social ties. Social ties cause people to attach meaning to the actions and spaces they frequent (Catell et al., 2008). According to Putnam (2000) there are two kinds of social ties, bridging and bonding, that are both important for acquiring social capital. Bonding social ties are. Bridging social ties stretch out beyond. The social capital these social ties result in have the positive effect of trust and mutual support, which leads to generalised reciprocity: doing good without expecting any direct returns. This attitude results in an increase in informal social control and sense of community (Francis et al., 2012; Wickes et al., 2016; Wekker, 2017). What is also strongly associated with sense of community is the presence of high quality public open spaces and shops, regardless of frequent use (Francis et al., 2012). Another interesting aspect of social capital that Putnam (2000) points out is the variation in perceived importance to people from different generations. He argues that the way children view community life is determined by the social network of their parents.

Table 2.2 gives an overview of public space properties that were found to be linked to the in the studied literature. The life stage specific needs marked in bold text are of main concern regarding the influence of public space.

Table 2.2 **What makes public life suitable for specific age groups?**

Age Group	**Life Stage Specific Needs** Erikson, 1963; (Newman & Newman, 2017)	**Public Space Interventions** (Douglas et al., 2017; Broberg et al., 2013; Larkin et al., 2010)
Children	Self-theory; Fantasy play Self-control; Early moral development Self-evaluation; Gender identification Peer play; Friendship; Team play Concrete operations; Skill learning	Diversity of affordances > experiences Independent access Green Space Peer play Novelty /stimulation
Youth	Physical maturation; Formal operations Emotional development; Membership in the peer group Romantic & sexual relationships Autonomy from parents;, Gender identity Internalized morality; Career choice	Places for meeting friends & hanging out Safe accessible green spaces Hideaways Autonomy Novelty / stimulation
Adults	Exploring intimate relationships Childbearing; Work & Life style Managing career & household Nurturing intimate relationships Expanding caring relationships	Positive relation between greenness & health of unborn children and less stress Opportunities to observe their children Opportunities to socialize (other adults) Interaction Generativity
Elderly	Accepting one's life Redirecting energy to new roles & activities Promoting intellectual vigour Developing a point of view about death Coping with physical changes of aging Developing a psychohistorical perspective Traveling through uncharted terrain	Passive recreation > things/others to observe + comfort Security Facilities > purpose Familiarity Acknowledgement of experience Accessibility

Figure 2.3 **Important concepts for intergenerational public space.**



CONCEPTUAL MODEL

After reviewing the relevant literature about public space, it's users at every age and the relationship between them, it is time to define the actual challenge that is left.

In order to do that, it makes sense to summarise this chapter, by answering the first two research questions.

What are affordances and which are generally providing spatial quality?

An affordance is a relative term based on the actor-environment relationship, presenting itself as an opportunity or a constraint, depending on the perceiver. It is a useful concept for this study, because it allows comparing the use of a certain place for a diverse set of users and vice versa (Gibson, 1979; 2014).

The affordances that were found to generally provide spatial quality are according to Jan Gehl (2010):
1) constraints against high speed traffic, violence and the negative aspects of climate; and
2) opportunities to sit, stand, play, exercise, hear, talk, walk and enjoy beauty and the positive aspects of climate on a human scale.

However, except for the absence of the constraints, there is no absolute need for all the opportunities to be perceived. Furthermore, the diversity of affordances and accessibility to them was emphasised by multiple studies.

What makes public space suitable for specific age groups?

On top of the general affordances for public space there are some properties of public space that may appeal more to specific age groups. Broadly, thes are:

Children
Play-able and explor-able
Youth
Hide-out-able
Adults
Interact-able
Elderly
Recognise-able and access-able

The life stage affordances are written like Gibson would have named them. When putting them together, this translates into:

Public space that provides familiarity and novelty at the same time by providing a diverse range of affordances for interaction, stimulation and autonomy.

Such a public space would theoretically serve any age group. However, as pointed out before, not everyone perceives the affordances the same way. On top of that, these findings only show what people need, which they might not even be aware of themselves. But what do they want? What triggers them to use public space in the first place? These challenges still need to be addressed.

Therefore, the conceptual model on the next page shows the underlying relationships between the concepts that have been discussed so far. The model divides two scales: the individual level (the person) and the collective level (the public). Linked to the person is their psychosocial development, or life stage. This is the age lens through which is looked in this study.

On the collective level this lens is represented through generations. So each person perceives the actual public space through a developmental and a generational lens (among others, but these are the ones of focus in this study). The views of the two perspectives meet in the middle. This is where ones personal identity and group identity meet, and it relates to public space through behaviour. This is where the challenge lies, because behaviour is visible for others, unlike the mental processes behind it. Making space for every age involves understanding the motives for using public space at every age, on a personal as well as a collective level. Therefore, the emperical part of the study needs to include personal as well as group data, in order to find out how people from different age groups view and use their public space.

However, on the other side of the public space the conceptual model addresses the issue of monofunctionality versus multifunctionality, or in other words: the diversity of affordances, which is stressed to be an important requirement for intergenerational public space. Whenever

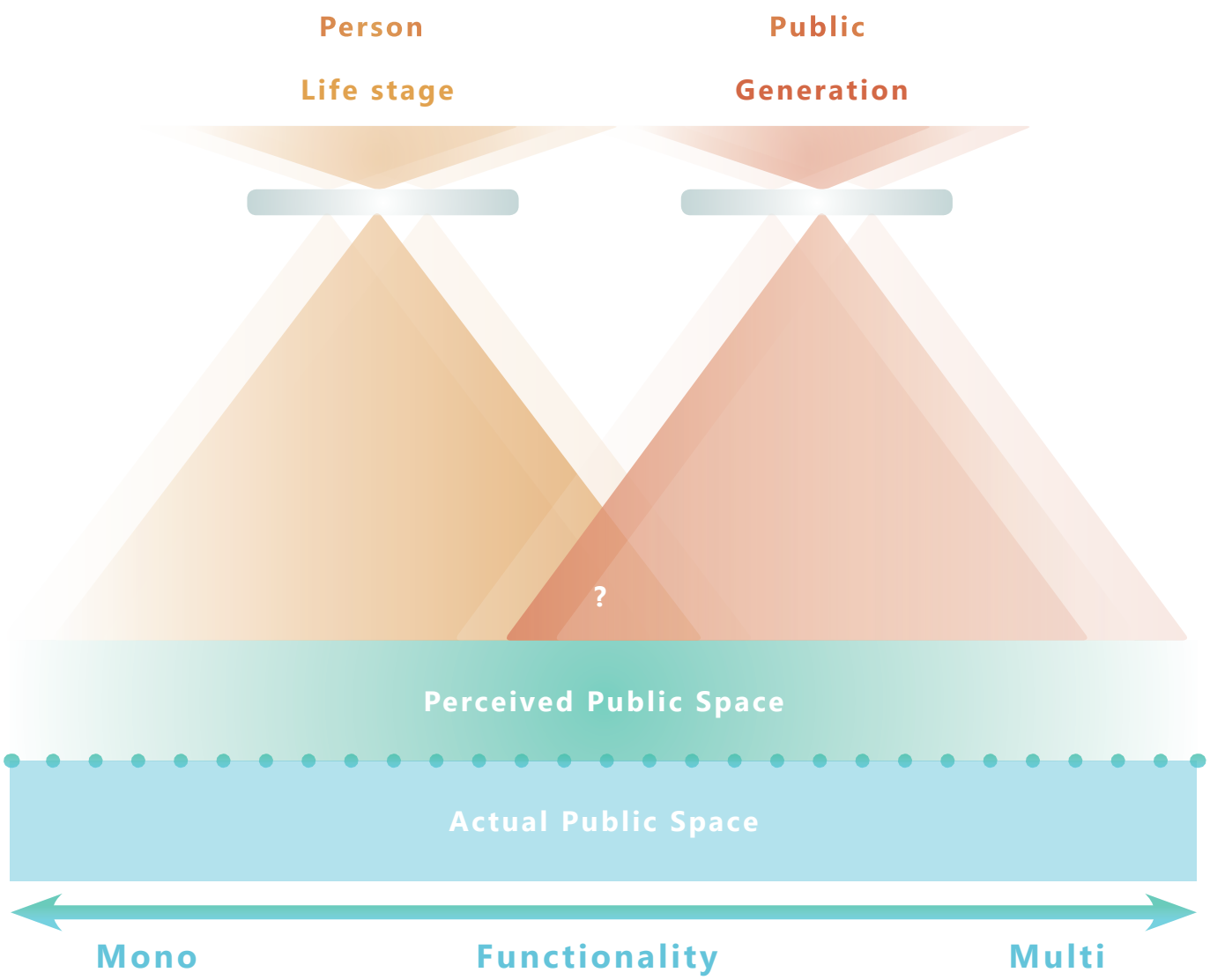
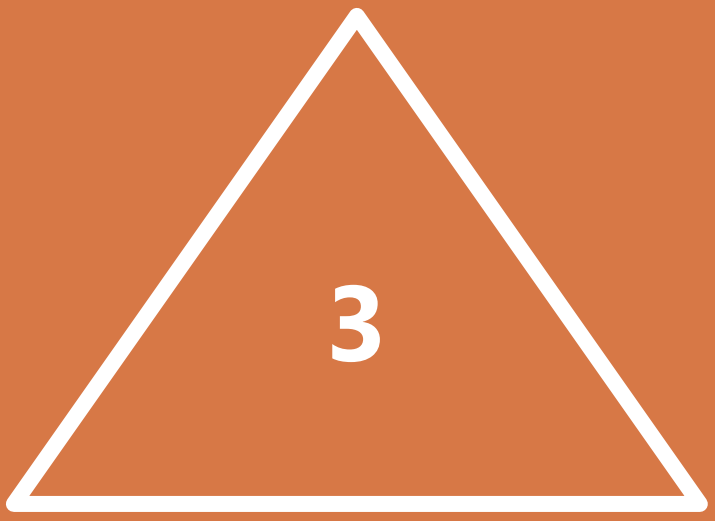


Figure 2.3Conceptual Model

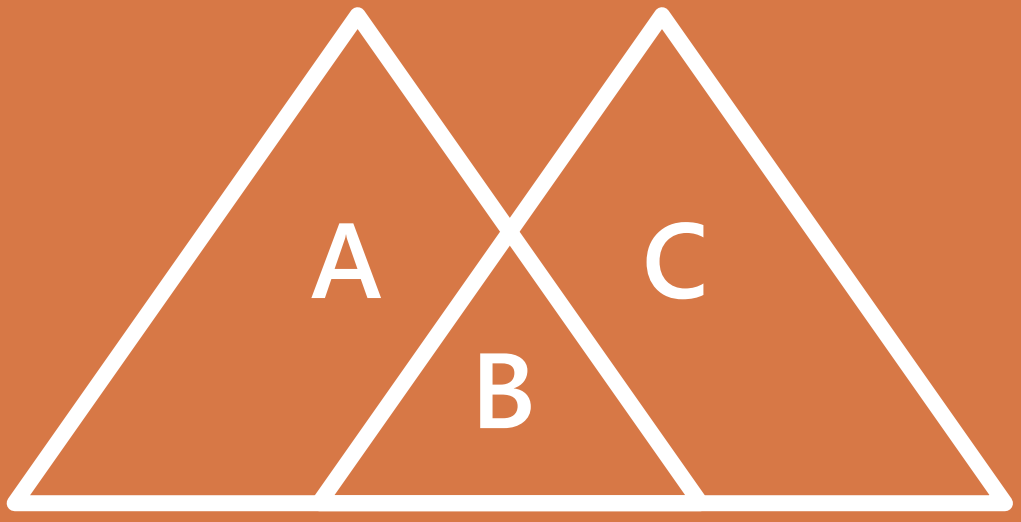
public space is to directly designed to fit a specific life stage, the space becomes to monofunctional and will therefore not contribute to an age-friendly society. Of course this is also related to the way these affordances are perceived. Though, the public space has been separated into perceived publc space and actual public space, since the perception of public space is something that cannot be fully controlled by planners, while the actual public space can be planned. Therefore, the way planners can address the challenge of creating an intergenerational society is by designing multifunctional public space.

But the multiple functions that have to be in that space still has to be determined by the generations in that society.

So, the conceptual model is used as a guiding framework for the rest of the study. The next chapter demonstrates how it is worked out into a research strategy in order to find the missing links regarding the functions that need to be united according to the inhabitants of a small village that lacks multifuncionality in terms of facilities.



METHOD



INTRODUCTION

This chapter is about the search for methods of finding answers to the posed questions. Which options are available, how they can be helpful, which are the best to use for this particular research and why, will be answered here.

In order to find the right methods, more literature is discussed. However, judging on the desired form of analysis which involves individual perspectives as well as compositional and compilational group perspectives, a mixed methodology is favourable.

For every proposed approach some theory is provided first, followed by the actual method that is derived from it. To provide some structure, the chosen methods are labelled A, B and C.

Back to the brain. In order to uncover which affordances are unconsciously important in public space, it is necessary to first understand the unconscious. According to neuroscientist Mariano Sigman (2015) all decisions people make are sent firstly by the unconscious. Consciousness can be seen as a preview mode, where we can edit, adjust and even cancel actions before they go out to the world: we become aware of the decisions our unconscious mind already made for us.

As pointed out in the theory of affordances, people intuitively perceive elements of the environment around them and register what these elements may afford to them (either positive; opportunities, or negative; constraints). This happens in the unconscious mind and goes unnoticed most of the time. For example, you walk in on a door you were supposed to pull instead of push, even when the sign on it suggested to pull it. If the conscious mind would have been in charge you probably would have pulled. However, the conscious mind was thinking of something else, leaving the unconscious mind in charge, who perceived the door to afford pushing, while it did not. This goes for all the other elements in public space as well: even if we do not pay attention to the affordances around us, they are there and we perceive them unconsciously. Or as Després & Piché (2017, p. 67) put it: ***"the environment is cognized as a set of images"***. However, the unconscious processes, hence also called cognition, can change when we not only concern individual affordances, but also how the affordances of the environment could be perceived by other individuals.

Since generations can be viewed as groups that consist of people that share a common history and groups in the same life stage share similar psychologically developmental tasks, while groups of different generations and different life stages do not, it is interesting to know how the unconscious works within groups. When working together each individual contributes to the collective cognition of the group. According to DeChurch & Mesmer-Magnus (2010) collective cognition is an important contributor to team effectiveness. However, different types of teams combine different types of cognitive content. They distinguish two kinds of collective cognition: compositional and compilational. Whereas compositional cognition builds collective knowledge on shared understanding and is stronger related to team performance, compilational cognition acquires complementary knowledge and has a stronger relation to the team process (Mesmer-Magnus et al., 2017). So in same age groups the results are likely to be better, while in a group with mixed ages the process is likely to provide new insights. Therefore, it is interesting to consult both types of groups.

Furthermore, Navajas et al. (2017) and Bang & Frith (2017) found that the finding a collective average opinion to a complex question is more reliable when combining group answers then when combining individual answers straight away. Therefore, discussing in small same age groups before discussing in a large mixed age group can help to find a reliable to the question of what kind of public spaces are important in a village and why. However, for finding affordances something other than individual versus collective insight might be important to consider.

In order to find which properties of public space in a village are beneficial to multiple age groups, it is interesting to ask people what they think is important, as well as what they actually perceive on the spot. This means collecting data about affordances through both mental and physical information.

To find out about these affordances, conducting an experiment could be effective, grounded in the lesson that simply asking people questions in either questionnaires or interviews, will mostly result in knowledge that already exists. People are likely to know what is good and bad about what already exists in their public space (conscious x available affordances) and they would probably be able to communicate their desires as to what should be there, but is not there yet (conscious x missing affordances) (Van Dijk, 2017).

However, in both scenario's the results of the study would not likely amount to the actual requirements needed to build spatial quality. So, by observing and analysing what is missing according to the collected theory minus the affordances that are noticed, an idea could be formed about the unconsciously missing affordances. However, this idea would have to be confirmed by the same people in order to be valid, because otherwise, it is not possible to say whether it would really add value.

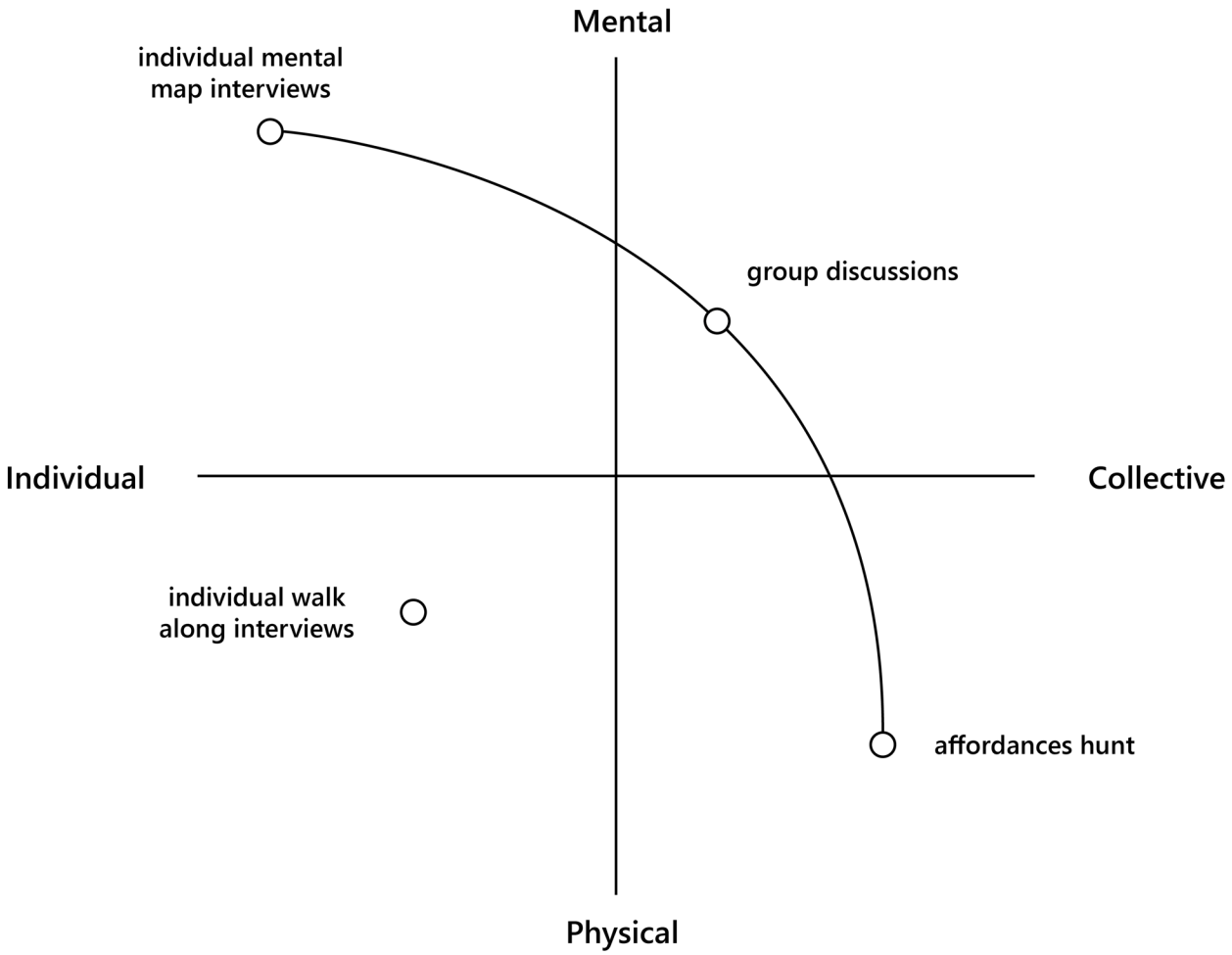
Furthermore, Ward Thompson (2010) stated that the relative importance of factors that matter to most people in relation to spatial quality should be considered,

because spatial quality may be influenced by different factors in practice, than when asked for in a questionnaire (Ward Thompson, 2010). In other words, collecting many individual perspectives may lead to different results than consulting a collective perspective. This was also proved by Navajas et al. (2017) who showed that taking the average answer to a dilemma based on group answers is more accurate than on individual answers.

Group collaboration can have an adaptive effect on people's way of thinking, because they are given the opportunity to see an issue from other points of view, engaging them to think from other perspectives and therefore, coming to a more balanced answer. This adaptation is important to take into account, because it is inherent to dwelling in public space (Van Dijk, 2017). However, designing a whole new research method might be beyond the scope of this research. Therefore, combining multiple existing methods on collecting both mentally and physically perceived affordances from both individual and group perspectives may be a good alternative.

Figure 3.1 shows four options in each category and the path that is chosen to follow. For the individual part, mental map interviews have been chosen above walk along interviews. Since, mentally rendered information is more likely to differ among individuals than physically perceived information, due to the influence of memory and experience, which function as filters. However, physically perceived information can be interesting in the sense that it can give more insight in the actual affordances on the local scale of a specific site. Therefore, the affordances hunt was added as a reality check. This way, on site perceptions are included in the results in order to compare with the mental perceptions resulting from the group discussions. So, forms of information are collected: opportunities & constraints different ages groups perceive based on the individual mental map interviews, same age and mixed group discussions, and an on site same age group survey. Therefore, a cross-comparative analysis can be done. However, one dimension will be missing, since there is not enough time to include walk along interviews or another form of physical individual data collection.

Figure 3.1 **Possible methods and the selected course of action.**



CASE STUDY AREA

As discussed in the introduction, there are multiple reasons for choosing a small village for this research, namely:

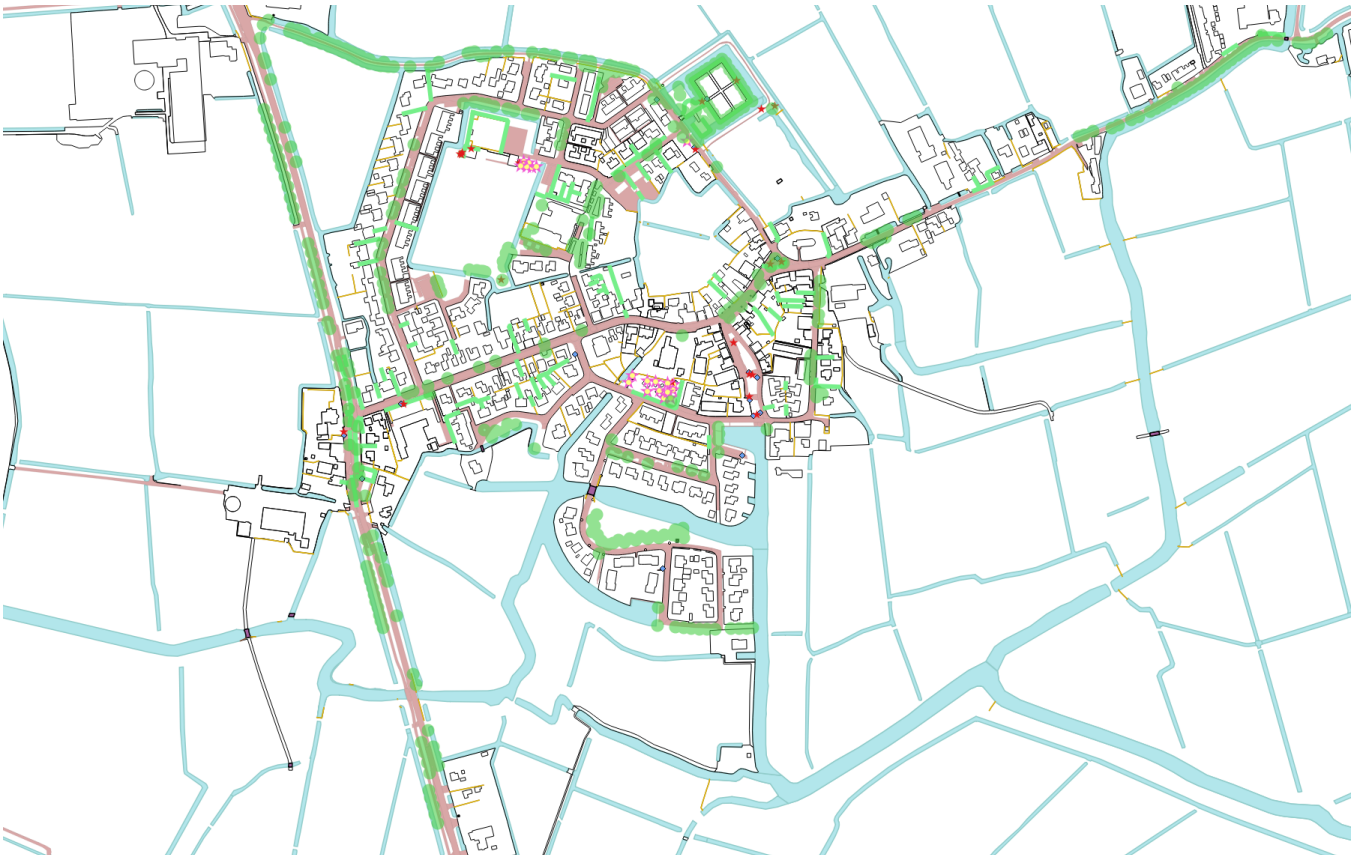
- Small villages contain limited public space and are more isolated compared to cities;
- Small villages are more likely to house a strong sense of community and place identity;
- There is a knowledge gap regarding affordances and design literature on rural areas;
- And, since different environments shape persons in a different way, 'urban knowledge' might be incompatible with rural towns.

However, the lines between rural, suburban and urban areas are fading due to greener cities and more structured rural areas (Lekies & Brensinger, 2017), and of course due to the increasing influence of digital environments. Still, there are some more reasons for focusing on a specific rural village in Friesland, called Reduzum (figure 3.2), considering the research method.

Reduzum is a small village of approximately 1025 inhabitants, divided over 430 households (CBS, 2018) with a strong sense of community and independence. Reduzum is located very central, yet isolated, surrounded by agricultural land, which makes it not very accessible for people who are not able to drive a car, cycle at least seven kilometres or afford the bus that passes once an hour from 6 AM to 7 PM. Reduzum has limited public space and is experiencing a decrease in facilities, which makes the inhabitants more dependent on the outdoor public space for social interaction.

On top of that, the researcher knows Reduzum from the inside out, being raised in this village, and has a rich mental map of this place. This is important, because place based knowledge can influence understanding of the respondents' perspectives, which is key to qualitative research. Furthermore, tapping into the unconscious mind of the participants may be beyond the scope of this research, but the best way to approach this ambition may be through the use of prior knowledge about the mindset of a place. Besides, finding participants for a group experiment is a challenge in itself, especially when you are an outsider - the downside of a strong sense of community.

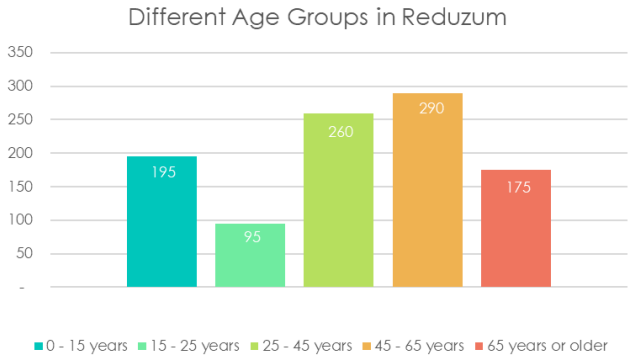
However, keeping objective towards the data may be more difficult, because of a bias towards the town. This is something that should be kept in mind, but because it might be assumed that the respondents are biased the same way, this could also be a positive aspect.



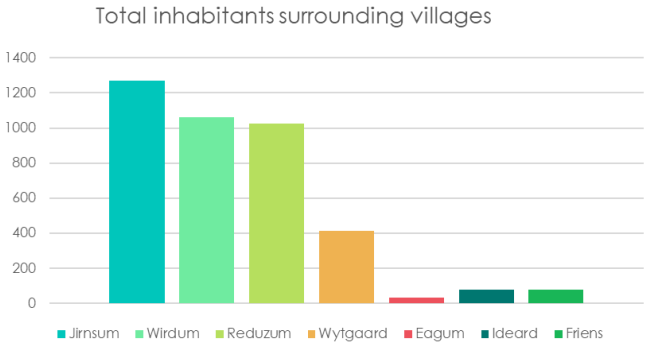
AGE STRUCTURE

Since this study involves an intergenerational perspective, it is appropriate to discuss the age structure of the case study area. According to the Central Statistics Bureau of the Netherlands (2018), the age structure of Reduzum, as shown in figure 3.3, peaks in the age category of 45 to 65 years, followed closely by 24 to 45. These age categories are both included the working population, together with the 15 to 25 age category.

Furthermore, only 40 inhabitants are unemployed (CBS, 2018). It is therefore most likely that the middle section of 645 inhabitants, minus forty, so 605 inhabitants is either at work or at school for most of the day. However, part of this group is employed within the village.



The low amount of persons in the 15 to 25 year old category can be explained by the distance to higher education facilities. However, this does not mean that this category is not using the public space in Reduzum. Because these numbers are based on where each person is registered. Many students live, according to administration, outside of Reduzum, while in practice they may live large parts of the year as ordinary citizens of Reduzum, especially on the weekends. These part-time Redusters could, by estimation, increase the amount of persons in this category with about 40. This estimation is based on the contemporary 18 to 25 year olds who visited the primary school, with about ten children each year, which makes 80 so when assumed that half of them are not sticking around, there are still about 40 extra members in this category on weekends. Still, this could make it more difficult to reach this category. However, judging on the fact that acquaintances are more likely to participate, the youngest and eldest age groups are probably the most difficult to reach.



Furthermore, the graph in figure 3.4 shows the total inhabitants of Reduzum and the nearest surrounding villages According to this grap, Reduzum can be compared best with Wirdum, in terms of population. In order to find out whether the age structure of Reduzum is similar to the age structure of the surrounding villages, a comparison with Jirnsum, Wirdum and Wytgaard is made.

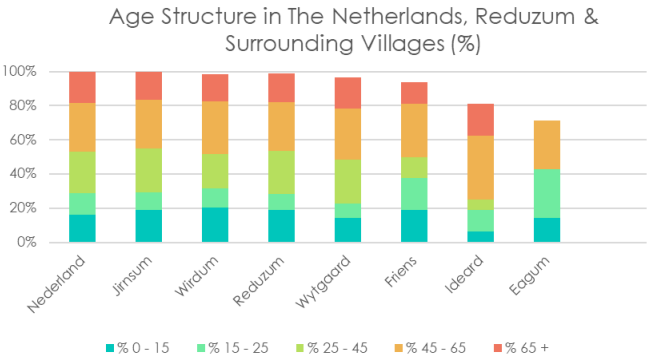


Figure 3.5 shows the age structure of Reduzum and the surrounding villages in proportion to the amount of inhabitants per village. This comparison shows not only a similar age structure between Wirdum and Reduzum, but with Jirnsum and Wytgaard as well. Even Friens shows some similarity. Most importantly, this age structure is proportionally similar to the Netherlands as a whole as well. Therefore, Reduzum is found to be suitable as a case study for testing perspectives of different age groups. However, this data only shows five age categories as opposed to the ten life stages as proposed by psychosocial theory (Newman & Newman, 2018). After establishing no unusual irregularities in the age structure of the village, another important aspect of Reduzum needs to be examined for this study. After all, researching perspectives of different age groups on quality of public space means that the spatial suitability is the other important factor. However, evaluating public space is not as simple as comparing age structures.

PLANNING PERSPECTIVE

This section provides further information on Reduzum from a planning perspective. The village of Reduzum has its own village association with a board, committees and workgroups, called Doarpsbelang. Through this structure they communicate with institutions like the municipality of Leeuwarden and the province of Fryslân. In 2009, Reduzum has proposed a masterplan: a ten-year plan for the village as a guiding document for developments in the village from 2010 – 2020. In this plan, major trends were taken into account like the importance of sustainability, increasing mobility and decreasing support from the government. Since it already is 2018, the village is on the eve of the next ten-year plan.

At the same time, the municipality of Leeuwarden has its own plans and policies. In the document "Dorpsprogramma 2018 Reduzum" (village program), the main activities of the municipality, Doarpsbelang and housing corporation Elkien for 2018 are articulated. These mostly involve maintenance of streets, trees and sewage on behalf of the municipality and improvement of energy efficiency on behalf of Elkien. Furthermore, the municipality states in this document that Doarpsbelang receives money for activities and investments in the village on an annual basis. This provides the village with some financial independence when it comes to their public space.

ON SITE SURVEY SITES

Although it is touched upon in the next paragraph and further explained in part C of the results chapter, it is good to mention that within the case study area of Reduzum, there were two sites selected after completing the individual mental map interviews to do the on-site group survey (affordances hunt) as was shown in figure 3.1. Therefore, these sites are included briefly in this description of the case study area. For the affordances hunt the hills and the harbour, two parts of the street called "De Haven" were selected. The selection is based on the individual mental map interviews, in which these sites showed up for eleven of the twenty respondents. The sports field and school would have been good alternatives. However, none of the respondents in the adult category mentioned the sports field. Furthermore, the distance to the location of the group experiment had to be taken into account, because of the limited time that would be available. On top of that, the four most mentioned spots were all facilities: the school, sports field, pub and the church, of which the church was specifically mentioned as landmark. The only outdoor public spaces mentioned were: the harbour, the hills, the playground, with a shared fourth place for the twice mentioned beach, bus stop and Prinsetún.

RESEARCH STRATEGY

STRUCTURE

The research strategy consists of three parts: A. individual mental map interviews B. group discussions and C. on site group survey (affordances hunt). In part A each respondent is asked to draw a mental map of their environment. Then, like any other semi-structured interview, more questions will be asked in a conversational style to get an understanding of what is really important to the respondent and why. In part B, the respondents are divided into groups based on the age category that best fits their life stage. However, this is not a paired study, so the respondents participating in part B and C may differ from the respondents from part A, since part A is completed before part B and C, which took place on the same day. Part B can be further divided into B1 and B2, where B1 is the discussion between members of the same age group and B2 is the plenary discussion in which all respondents form one group.

Moreover, part C was done in the same groups as part B1. Since the groups had to visit the two selected sites separately, they were sent out to do the survey with a research assistant while the other groups worked on B1. Therefore, B2 was done after B1 and C were completed.

ETHICS

Because of the personal information that is required for this study, it is important to discuss some ethical considerations that were made prior to the data collection. To keep the personal information safe, the names of the respondents will not be used in this study, only their birth year and sex will be revealed. Furthermore, all respondents have been asked to agree to the recording of their drawings and speech during part A and video images from their participation during part B and C.

PART A MENTAL MAP INTERVIEWS

The choice for individual mental map interviews as the first method is based on the opportunity to understand the case study area on a deep level from different life stage perspectives, before diving into any group dynamics. Furthermore, the aspect of drawing could be a means to discover affordances that are perceived unconsciously, because the respondents have to visualise the public space, which makes them think more thoroughly than if they were simply asked to answer a question (then the picture would stay in their head). According to Lynch (1960) capturing the image of a city can serve as valuable input for (re)developing public space. Thompson (2010) also used this method in order to study the relation between landscape quality and quality of life. However, in her research, she warns for the reliability of the predictions that result from this method. Therefore, she aimed at providing a tool between the theory and practice of mental maps. She takes a similar stand point to this study: right between the person and the public space (only with green space). Thereby, she concluded that mental map research on what is missing still has to be done. Moreover, Lynch (1960) suggested group differences to be studied further, and although this was a long time ago, there were no recent studies found on mental mapping of different age groups. Therefore, this study will attempt to take both those suggestions into account.

Based on Lynch (1960) and some additional insights on life stages from Newman & Newman (2017), the following codes are chosen to use for the analysis of the individual mental map interviews:

1. **Black:** personal view of the village
2. **Green:** route(s) that provide the most positive experiences
3. **Red:** route(s) that provide negative experiences
4. **Blue:** important activities & places
5. **Yellow:** places & activities that were important in earlier life stage(s)
6. **Purple:** missing affordances (activities/places)

The coding is already included in the drawing process by letting the respondents use the different colours in their maps. This is done using Adobe Illustrator with a stylus on a touchscreen computer, to make it user and research friendly. One useful aspect of this digital method is the ability to select every drawing based on the colour coding, in order to facilitate analysing answers of all respondents, or from specific age categories. Another useful aspect is the ability to record the drawing process anonymously, by capturing a screen video. This way, it is possible to redirect the spoken interview to specific parts of the drawing, which could be very useful, since the respondents are not expected to be skilled to clearly visualize the mental map in their mind into a drawing.

PART B GROUP EXPERIMENT

This part of the data collection process is all about the collective perspective toward the public space in the village. In order to make this perspective fully understood, two types of group experiments are required: one that involves a group of the same generation and life stage, and one that does not.

B1 SAME AGE GROUPS

Because the same age group can be viewed as a team using compositional cognition (Mesmer-Magnus et al., 2017), the process of discussing with people from the same life stage and generation is expected to be built on mutual understanding, under the condition that there is a shared past and/or present knowledge of the public space. Therefore, only inhabitants of the village were invited for participation. However, people that officially live somewhere else, but have strong ties to the village and still use the public space in the village were also welcome. This was necessary in order to get enough participant in the youth category, since many students officially live somewhere else, but still live part-time at their parents' house.

In order to let the respondents construct an life stage specific model of the public space in the village, they firstly were asked to put their personally most valued places, activities and positive & negative aspects about the village on cards. And secondly, to put them on a large sheet of paper arranged from least to most valuable as a group.

B2 PLENARY GROUP DISCUSSION

So, the first part (B1) is about same age, or compositional, groups defining their collective perspective of the most important public space and activities in the village. Therefore, the second part (B2) involves a compilational approach, which is more focused on the process. The intention of this part of the group experiment is to provide new insights. After all the age groups have spent some time thinking about which places and activities are important to them and why, they are able to formulate a more deliberate point of view during the discussion in a compilational group (Navajas et al., 2017). In order to start the discussion, all groups were asked to put the places they had marked as most important on the map of the village. This way, a list could be constructed with all the places of discussion. For each place, the participants raised their hands and had to discuss what made that place of great importance.

PART C AFFORDANCES HUNT

After concucting the interviews of part A, the public space hot spots of the village became clear. As discussed in the case study explanation, the hills and the harbour were chosen because of their use by all generations, their publicness and the proximity to the location of part B. The latter, mattered because this part was added as a parallel session during the day that part B was done. After dividing the participants into age groups everyone started on the assignment of part B1, exept for the youngest category. They volunteered to be the first to go on the affordances hunt. Therefore, they received a clipboard with a survey and some instructions in Dutch (Figure, 3.7). This was expected to take ten minutes, then the research assistant who filmed the affordances hunt with a camera on her head for further analysis. Then, one of the other groups was to be picked up by the research assistant to walk the route marked in figure 3.7. So, with six groups part B1 and C together would take one hour. However, part B1 turned out to take less time than expected. Therefore, the decision was made to pair the two groups in the middle and the two oldest groups. Although they had to fill in their own forms, the oldest group did discuss everything together. However, each age group came to its own observations on the form. Showing the affordances they perceived as opportunities and conatraints. To further analyse the affordances, they were labeled according to the 12 quality criteria in order to compare the results of the age groups.

PART D COMPARATIVE ANALYSIS

Finally, Table 3.1 gives an overview of the used strategy, with an added part D, which shows how the other methods are combined in Chapter 5.

In the comparative analysis the results from all the other parts are combined to map the similarities and differences between both the individual and collective perspectives as well as the mental and physical findings. This means, a map of the important public space in the village (A+B), that shows the diversity of positive affordances each age group perceives (A+B+C), related to the need that they valued to be the most important (B2).

Such a map shows the most age friendly public space in the village according to the respondents. Therefore, it could point out new insights in the properties that need to be invested in for designing public space for every age.

Figure 3.7 **The instructions and route map of the affordances hunt.**

Reduster Ruimte Spel Speurtocht

Regels:

Blijf als groep bij elkaar
Luister naar de speurtochtleider

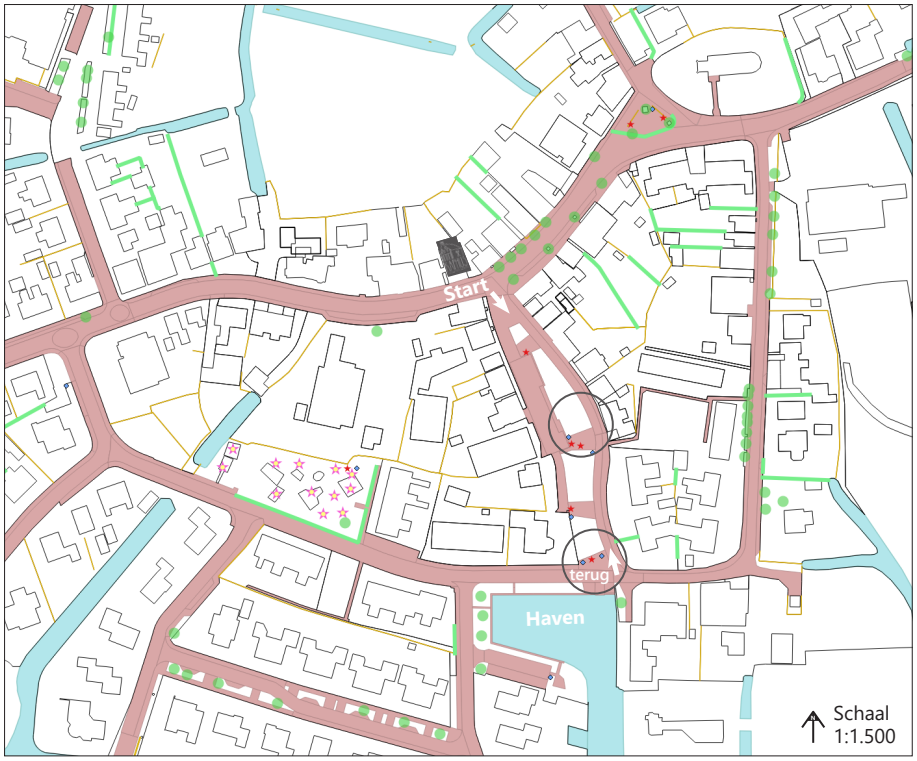
Als je bij een omcirkeld punt komt:
Kijk eerst om je heen
Schrijf de volgende dingen op:

- wat zien jullie hier allemaal?
- wat zou je hier kunnen doen?
- zijn er ook dingen die je
- tegenhouden om iets te doen?

Test ook vooral uit wat er allemaal kan als je het niet zeker weet!

Succes!

De opdracht is simpel: **loop naar de haven en terug in tien minuten**
Noem bij de gemarkeerde plaatsen op de kaart zoveel positieve en negatieve eigenschappen van de ruimte als jullie kunnen bedenken. Voorbeeld bij de locatie van start: **je ziet hier:** bomen, de kapsalon, auto's, struiken, huizen (mensen die naar de kapper gaan). **Je kunt hier:** naar de kapper, lopen, fietsen, autorijden, stoepranden, stoepkrijten, parkeren en praten met mensen, maar **je kunt hier niet:** zitten en ook niet altijd oversteken.



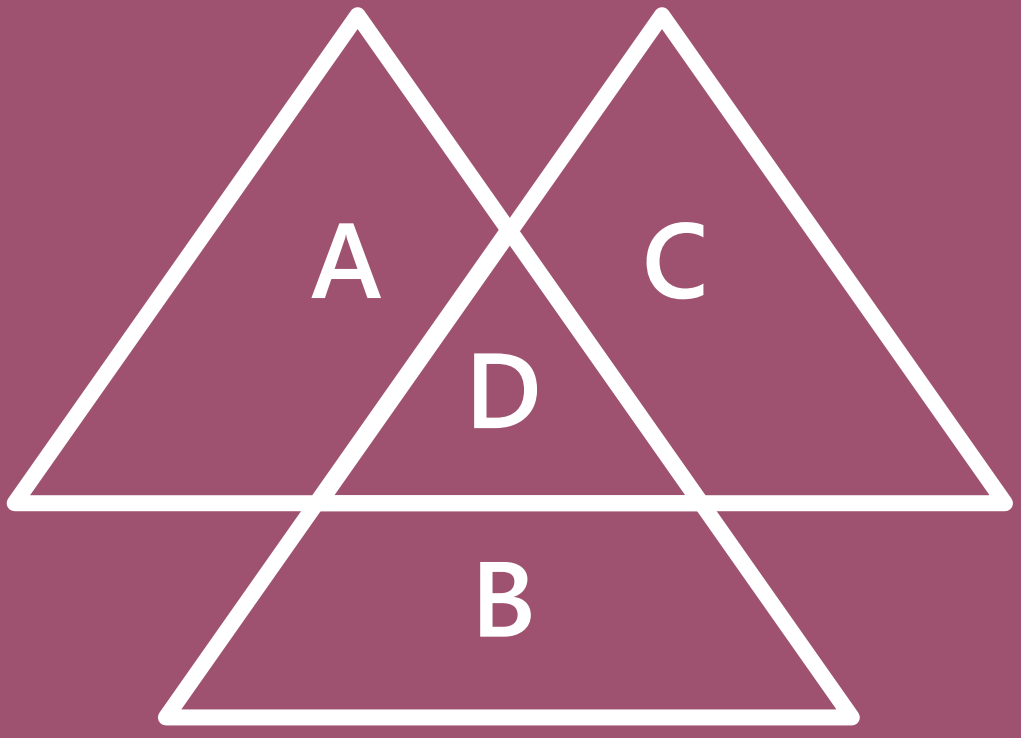
Legenda

boom
bankje
afvalbak
speeltoestel
heg
water
weg
gebouw

Table 3.1 **Overview of the research strategy**

Available sources	Expectation of results from source	How to exploit each source?
A. Mental map interviews (individual + mental)	Difference per life stage	Colour-coded drawings with background motives
B1. Same age groups (compilational + mental)	Difference with other age groups	Construct an age specific model
B2. Plenary group discussion (compositional + mental)	Conflict due to different perspectives	Construct a collective model
C. Affordances hunt (compilational + physical)	Perceived objects and actions	On site questioning
D. Comparative analysis	Relationship between people, age and public space	Mapping similarities & differences

FINDINGS



A. MENTAL MAP INTERVIEWS

For the individual mental map interviews, the respondents were interviewed at home. This was done before the group experiment took place. In order to make sense of the ways in which the respondents from different age groups view the public space in their home town, all the mental maps are merged into one collective mental map per age group.

Due to the age groups that could be formed this resulted in four collective mental maps: young adults (18-25) with six respondents, adults (37-53) with four respondents, older adults (55-64) with four respondents and (young) elderly (65-76) with five respondents. Notice the gaps between the age categories. The categories children and adolescents are completely left out and there is also a large gap between 25 and 37, which contains a lot of people that are starting a career and/or a family. These categories could have given a lot of insight with different perspectives than found in the collected age groups.

However, there have been done a lot of studies on these age groups already. On top of that, all respondents were asked how they perceived their environment at earlier life stages. And however this may differ from the perception of children, adolescents and young parents nowadays, these maps may also provide insight aside from the literature findings. Furthermore, additional mental maps were drawn during the group experiment. This adds two mental maps of children aged 8 and 10. However, all of these drawings have no explanation like in the interviews, due to the time available during the experiment.

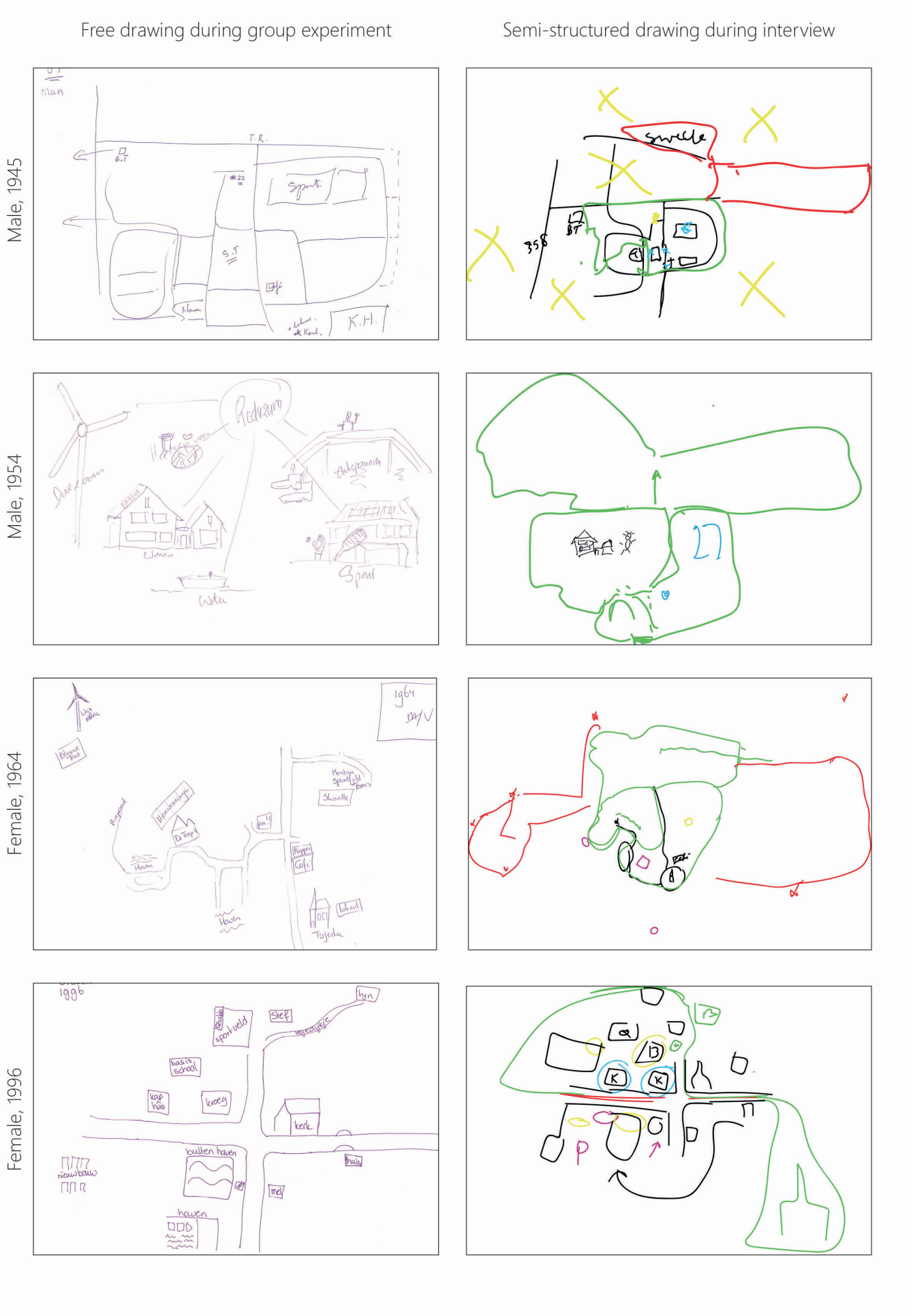
Also, some of the participants of the group experiment were already interviewed beforehand, which means these participants handed in two mental maps. By comparing these drawings, the difference between free drawing and semi-structured drawing can be found.

FREE VS. SEMI-STRUCTURED DRAWING

At the start of the group experiment, the respondents were asked to draw freely how they viewed their village. As seen in figure 4.1 on the next page, the free hand drawn mental maps are very different from the semi-structured computer drawn maps from the same person. This indicates that the drawing method, (paper or computer), the question method (one assignment or a whole interview) and the setting (individually drawing within a group or only with an interviewer) can all influence what will be drawn by the respondent. Moreover, the free hand drawn maps have no additional explanation in words like the drawings from the interviews have. Furthermore, the computer drawings are better visible, as becomes clear in figure 4.1. However, this does not necessarily mean that the free hand drawn mental maps cannot be useful in the construction of a collective mental map image, they could serve as additional information on top of the maps from the individual interviews.

Due to the drawing method, it is easier to merge the computer drawn mental maps together, mainly because the vector lines the respondents created can be scaled in order to make all pieces fit into one whole. Therefore, the computer drawn mental maps formed the basis for merging the mental maps for collective mental maps per age group. The method used for merging these maps consists of collecting the drawings that best reflect the stories told during the interviews, which were transcribed and coded beforehand. The free hand drawn mental maps were analysed for missing elements, judging on the collective computer drawn map. In order to make the missing elements match, they have been traced on the computer before they were added. This also goes for important things that were told in the interviews, but were not drawn because the respondent could not find a way to draw it. The latter is only applicable for the older age categories, since they experienced more difficulty with drawing on the computer.

Figure 4.1 **Free versus semi-structured drawings from the same respondents.**



YOUTH *18-25*

The young adult category gave a very broad image of the places and activities in the village. Especially the question whether different places and activities were important in the past made them draw extensively. For this category, childhood is not so far away yet and all of them lived in Reduzum during their childhood. Therefore, the village is filled with memories of places they used to visit, rather than actually making use of those places nowadays. However, this does not make these places less important to them, since most of those places are still valued as important parts of the village according to their general view of the village.

For every question of the interview, these were the things mentioned most:

General view: home

Average grade: 7,6

Best routes and places: Rondje Reduzum

Worst routes and places: Ayttawei & Smedingstrjitte

Important activities pub, hairdresser, bus stop, harbour (swimming & sailing)

Past activities and places: school, sports field, harbour & hills

Missing activities and places: ATM & store, housing

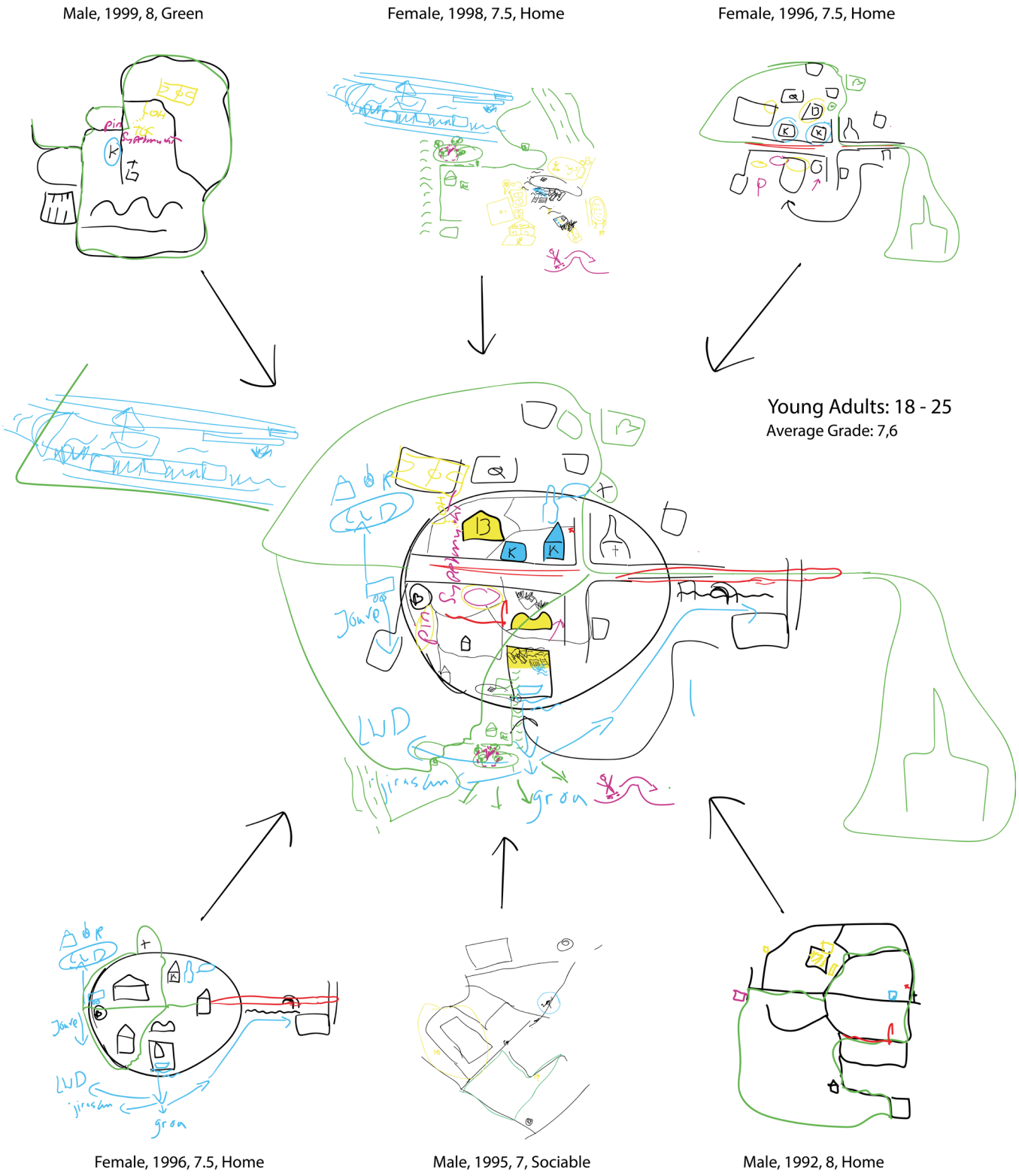
What is curious about the drawings shown in figure 4.2 is that the male respondents focused mostly on the roads in the village, while the female respondents were actively drawing nodes and landmarks.

Furthermore, the young respondents focused more on the village itself than the other age groups did, while most of them spend their work week in the city they study or work. Only two of the interviewed young people still live at their parents house. This explains why they did draw the most past activities (yellow) of all age groups. Their childhood, the time where they spent all their time in this place is very much related to the public space in the village, because they used to play outside as children and even as adolescents, they used the public space to hide away from their parents.

However, when comparing the blue drawings with the yellow ones, a clear shift towards indoor activities inside the village and outdoor activities outside of the village can be noticed. And it turns out that the missing things, beside facilities that have recently dissapeared, can be charactarised as outdoor space: like a place to hang out, a skate park and a restaurant/terrace.

Respondent	1-10	Important	Best route	Worst route	Activities	Past activities	Missing
Male, 1999	8	Bangmastrjitte, harbour, hairdresser, hills, church (landmark), Súderom, Swin.	"Rondje Reduzum", Swin-Swette only in summer. Zwette.	Swin-Swette in winter: wet.	Hairdresser, walking the dogs	Sports field, school, football, catching frogs	ATM, store. Especially for elderly.
Female, 1998	6	Home, church (landmark), sports field.	Pretty, nature			Buorren-Haven: playing	Restaurant/ Lunchroom
Female, 1998	7,5	Harbour, home, church (landmark), hills, pier, water, boats, squares.	Meadows, views, spaciousness, island with trees, benches, water.	Overijsselse-straatweg.	Swimming: Zwette nice bridge and piers with reed, private	Sports field, harbour: playing, behind the cemetery: secret dates.	Hangout spot where you don't cause noise nuisance & skatepark.
Female, 1996	7,5	Home, church (landmark), pub, harbour, family, friends, life, school, Qlubb, bus stop.	"Rondje Reduzum", end Ayttawei, shell paths, quiet, calm, water, bridge, trees, watch trains	Beginning Ayttawei, danger, fast traffic, same road back and forth. Bus takes long & infrequent	Ice skating, Sailing, pub, drink and catch up: social encounter, take the bus.	School, De Haven: yellow stones, playing	ATM, store, going out, restaurant or better public transport to get there.
Female, 1996	7,5	Home, church (landmark), pub, harbour, family, friends, I school, Qlubb, bus stop.	Idaerd, Legedyk - Trije Romers Skate rink, watching how others live.	Ayttawei, danger, Haedstrjitte, abrupt division old & new.	Hairdresser & Pub: joining factor. Merke, swimming, sailing	School, ice skating, bus, trampoline, De Haven.	ATM, store, housing, engagement of tenants.
Male, 1995	7	Sports field, pub, "De Blauwe Tent", hairdresser, butcher.	Swin-Swette paad	Nothing really	watching games in the pub (also elder)	Football on the street & sports field, biking, playing near home	Store
Male, 1992	8	Home, church (landmark), sports field, streets, spaciousness	Rondje Reduzum Green, meadows, no traffic, just nature and quietness.	Smedingsstrjitte & Legedyk. People that don't engage with the rest.	Meeting friends in the pub.	School & sports field	Restaurant, terrace at the waterfront, club, more active youth club

Figure 4.2 **Mental maps from the young respondents of the interviews.**



ADULTS *35-55*

Although this category contains only four respondents, they do account for sixteen pages of transcripts. Among them are an entrepreneur and a former board member of the village concern group (dorpsbelang). What became clear from the interviews was the sense of freedom and autonomy they linked to the village. However, this category contains only female respondents, which may be of influence on their collective map.

For every question of the interview, these were the things mentioned most:

General view: home
Average grade: 7,6
Best routes and places: Rondje Reduzum, Zwette
Worst routes and places: Ayttawei & Tsienzerbuorren
Important activities pub, hairdresser, public room
Past activities and places: school, engagement
Missing activities and places: terrace/coffee house, tourism & store

"I think Reduzum is also close in things like the windmill and with the annual festival that young and old party and play games together." *(Female, 1981)*

The closeness that this quote refers to can be linked to a strong shared identity as well as to the benefits of interaction. This is not to say that intergenerational interaction automatically leads to a strong shared identity and community, but it is likely that "young and old party and play games together" does contribute to this.

"I like the trees on this road and that I can stare into the distance. That you can look back on the village and that I can stop to reflect on everything. It gives me a sense of freedom." *(Female, 1969)*

The quote above shows the importance of autonomy in the sense of feeling free. However, the quote below also does, because it shows freedom of the choice not to participate in any activities:

"You can do all kind of things here! Bridge, gymnastics, shabam and who knows what else, but we have no need for any of that." *(Female, 1967)*

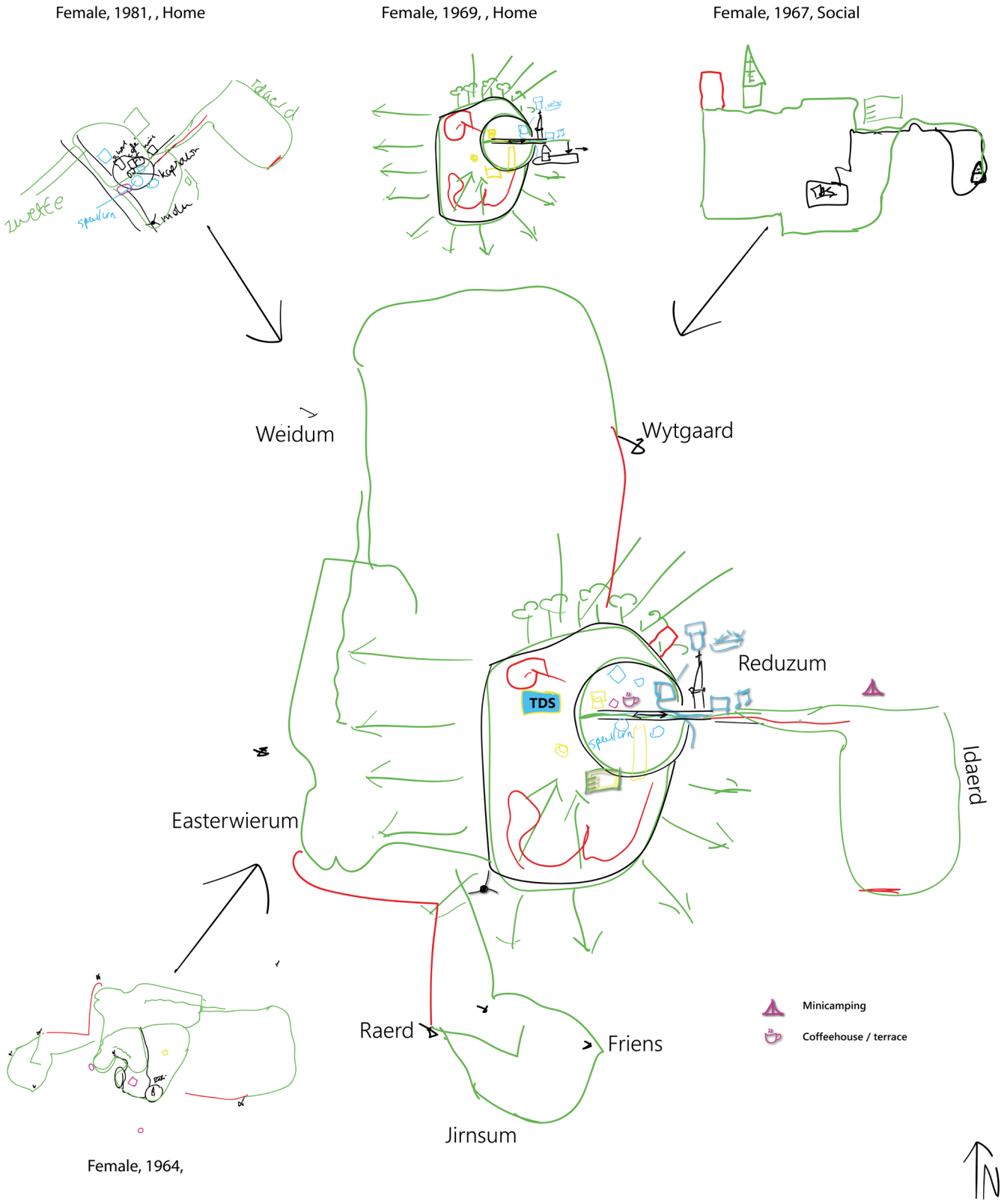
Finally, this story shows a sense of autonomy regarding the planning of the village:

"Ten years ago I was part of the traffic group and we were involved in the development of the new neighbourhood. So, because of that I got to look at the plans, and we were also discussing them with the municipality and other villagers and the village board and some other workgroups. So I had to present on behalf of our group and we were already planning on the scale of which kind of pavement to choose, while the plan was not even there yet. Then, a terp was found and the plan was built around it, because it was an archaeological finding that needed to be conserved of course. And the new plan was even better, so we decided to build our own house." *(Female, 1964)*

It is clear that the villagers have influence on the way their village is organised and designed. Not everyone gets to design their own neighbourhood and build their own house, but this story illustrates that it is possible.

Respondent	1-10	Important	Best route	Worst route	Activities	Past activities	Missing
Female, 1981	7	Home, school, hairdresser (work), windmill & church (landmarks), pub market	Rondje Reduzum, Idaerd, Zwette.	Ayttawei, no sidewalk: *danger* Bangmastrjitte	Walking, running, cycling. Pub quiz	Buorren- Haven path	Uitvalsweg, grocery store, coffee house, terrace, tourism. play area Prinsentún Heechhout
Female, 1969	7,5	Home, garden + view, main road, church (landmark)	Rondje Reduzum, Spaciousness, trees, views, freedom	Streets within the village, where there is are views.	Walking. Pub, for beer & chips on Sunday. Choir singing.	School, engagement street, watching children, playground, leisurely chat	Facilities to stop when taking a walk. Opportunities to meet people spontaneously.
Female, 1967	8	Home, school, church (landmark)	Rondje Reduzum, Zwette	Path around cemetery at Legedyk	School son, walking the dogs	Gymnastics children	Nothing.
Female, 1964	8	Centre: headstrjitte with church and square Prinsetún, home	Rondje Reduzum, Zwette, Friens, Flânsum, Weidum	Tsienzerbuorren, Wytgaard, Ayttawei. *Too much fast traffic*	Pub quiz, theatre, merke, monthly dinner (cooking).	School, knowing people, behind the scenes, engagement	Mini-camping, something at the harbour & pub, terrace, tourism.

Figure 4.3 **Mental maps from the adult respondents of the interviews.**



OLDER ADULTS AND ELDERLY *55+*

For every question of the interview, these were the things mentioned most:

General view: home
Average grade: 7,6
Best routes and places: Rondje Reduzum, Zwette
Worst routes and places: Ayttawei & Tsienzerbuorren
Important activities sports, walking, cycling, sailing
Past activities and places: school, work/engagement
Missing activities and places: stores & housing

Some interesting quotes from this group were:

"It's not only about yourself, but for young and old that there is something" *(Female, 1954)*

"The only thing missing here are houses for young people who would like to stay here, but also for transferring to old age. So there should be done something with lifelong living homes" *(Male, 1954)*

These quotes point toward the perspective of this category being focused not only on their own lives, but on those of different generations as well. Though, they have their own concerns as well:

"Just a good store is something that I miss. Because that used to be a place where you came together. Not that I need that right now, because you have friends and associations and I don't need a lot more contacts. But I still think a store is the only thing missing in the village." *(Female, 1949)*

"The everyday vivacity of people shopping is not coming back, it's only going to get worse. Even in bigger villages the shops are disappearing. People get things delivered at home, so they don't need to go outside anymore (...) but on the positive side: I think, if this carries on, that we can stay for a long time in Reduzum. As long as we're mobile, we don't have much to worry about, and if we aren't mobile anymore, we can always have everything delivered." *(Male, 1945)*

These quotes clearly reflect what Jacobs (1961) meant by the importance of mixed functions. However, when people are starting to get everything delivered, this will give them more spare time. Therefore recreational functions might become more important, if shops are not profitable anymore, which could make investing in public space worthwile. However, this does not take away the importance of mixed functions, which in this case could be diversity of affordances.

Another important theme in the interviews in this category was the community spirit or "mienskip". Five respondents pointed out that the villagers look out for each other on the one hand, but leave each other be on the other hand. This had to do with a feeling of acceptance:

"It's just a little bigger than small. In a really small village everyone knows everything about everyone, but it's not like that here. You can be anonymous if you like to be." *(Male, 1954)*

"If you misbehave during the merke, you probably be laughed at for a bit, but its not like you cannot show yourself the next day. You can be who you are and that is incredibly important. You don't have to stick to the status quo" *(Male, 1953)*

Also, the community spirit is strengthened by the school:

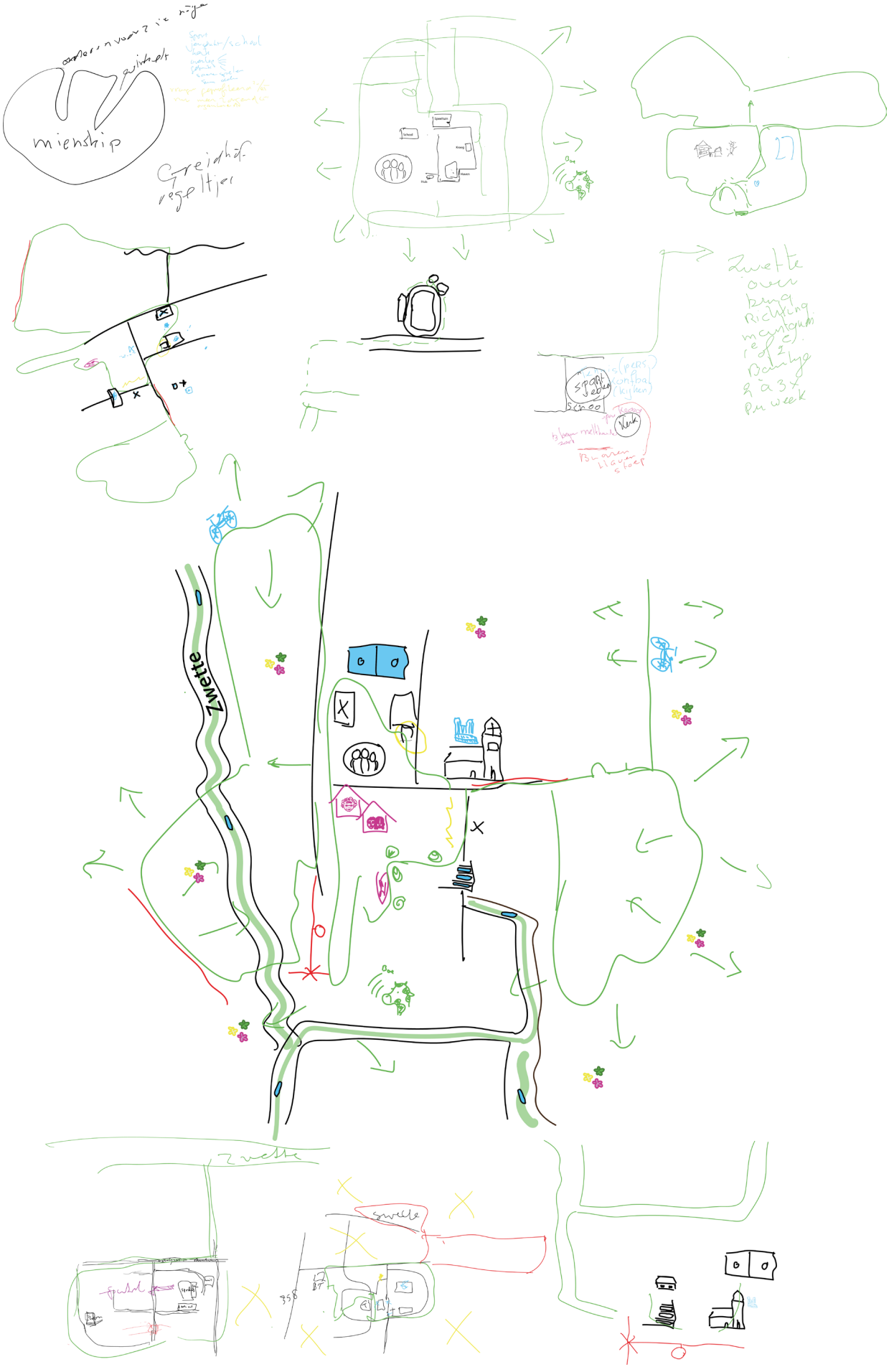
"I used to be in favor of Christian over public education, until I saw what one school meant to the village. The school has such an important function for the unity of the village. And it prevents children from having any division from other children, they are all one. And I think it is really important that children are able to play freely without supervision." *(Female, 1954)*

The statement above underlines the opportunity for unity and interaction that the school provides, but also the importance of social safety for the autonomy of children, which is in line with the literature findings about the affordances for children in public space (p. 19).

"My husband and I were both not economically tied to the village, so I only know parents from children that my daughter used to play with in the village. And people from the other activities I do myself." *(Female, 1955)*

This indicates the impact of children and engaging in activities on the social ties of someone who works outside the village. Furthermore, the absence of a store in the village bothers almost every respondent, and is often linked to interaction too.

Figure 4.4 **Mental maps from the elder respondents of the interviews.**



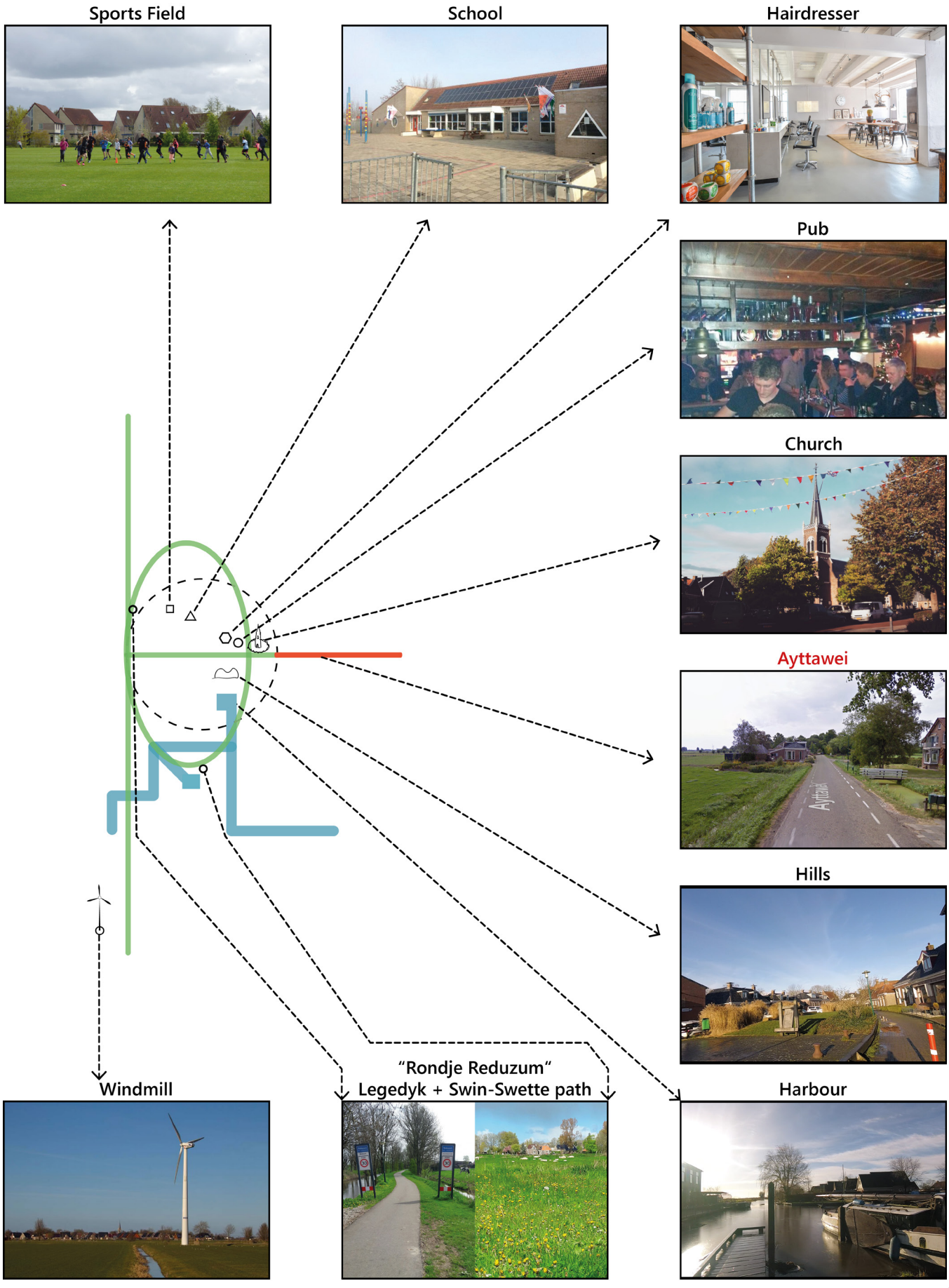
A. MENTAL MAP INTERVIEWS

OLDER ADULTS AND ELDERLY *55+*

Respondent	1-10	Important	Best route	Worst route	Activities	Past activities	Missing
Female, 1955	8	School, bridgeclub, sports, ice skating rink Church, library cupboard, harbour, train in cycle distance.	Rondje Reduzum, Idaerd, Dearsum, Zwette	Ayttawei & Tsienzerbu orren	Nordic walking, bridge, ice skating, sailing	School, keep an eye on children playing, monthly elderly dinner (part-charity)	Store, vegetable bags, book club, outdoor swim club
Male, 1954	8	Home, people, sportiness, activities	Rondje Reduzum, Zwette (both ways), nature, pretty, quiet, water.	Nowhere	Sports, pub, hobbies	No personal change, korfball club has less influence.	Extra bridge new neighbourhood, gym, housing for starters and elderly, store.
Female, 1954	7,5	Harbour, playground, one school, pub (youth), spaciousness: home feeling, social acceptance, unity	Rondje Reduzum, wind, views, cow sounds	Always the same. Ayttawei: danger	Cycling, sailing, walking	School & Qlubb, for the children	Diversity in footpaths
Male, 1953	8	Home, neighbours, church, harbour, sports field, unity playground, spaciousness, acceptance.	Haven – Grou / Zwette (boat)	Crossing at Blauwe Tent: dangerous	Sailing, cycling, church pipes, korfball (for the village)	Nothing different	Nothing missing
Female, 1949	8	Home, school, sports field, tennis court, new neighbourhood, footpaths.	Zwette. Nature, green, quiet, alone time.	Walking inside the village, steep bridge Swinland	Sports, contemporary women association, friends, family.	School, kindergarten	Accessibility sports field: extra bridge. Store.
Female, 1949	8	Home, sports field, streets, church, school.	Zwette, over the bridge Flowers, birds, beautiful nature	In the village itself, trash, dog shit, some broken sidewalks	Tennis, walking (2-3 times a week, 1st or 2nd bench, sit and back)	School, store	Store > interaction, activities for elderly (pub, gymnastics)
Male, 1947	8	School, sports field Well-planned, spacious, possibilities, mienskip: community.	Zwette, Rondje Reduzum, Wirdum	Ayttawei	Sport, youth activities, school, organising.	Benefitting from others	Housing & facilities for elderly, stores.
Male, 1945	7	Spacious, beautiful, green village. Blauwe Tent, church + public room, pub, playground, water, well-planned. Sports field.	Rondje Reduzum. Zwette. Space & water	Less birds & flowers in the meadows: agricultural industry sites	Sports, school bus, visit playground with grandchildren.	School (work). Landscape biodiversity. Greithof.	Stores, bank, vivacity
Female, 1941	6	Sports field, school, pub, church, street.	Legedyk - Zwette	Not much choice	Bringing grandchildren to school and babysitting. Cycling/driving to Leeuwarden.	Evangelise, bringing up children	Stores

Figure 4.5 **Important places in the village derived from the interviews.**

Following the results of the mental map interviews with people from different age groups, it can be concluded that these are the ten most important places in Reduzum. This overview gives an impression of each of those places.



B1 SAME AGE GROUPS

The age categories in the experiment are different than established in the life stage and generation literature, due to the ages of the participants that showed up. At the day of the experiment, a rough distribution was made based on the life stages of the participants: <12: primary school, 13-18: secondary school (missing), 19-22: students, 24-34: early adulthood, 35-55: later adulthood & 55+: early elderhood.

<12
From this category only two children showed up, two girls aged 8 and 10. They were very excited about the drawing exercise and the treasure hunt, but remained a bit silent in the final group discussion. However, they did write down some of the key concepts that were written down by all ages. Home, tennis court, beach & club!

13-18
From this category, no one showed up during the group experiment. Therefore, they either do not care or they were not atble to come for another reason. The former would indicate a different point of view than the other groups, which would be interesting. Therefore it would have been interesting to make them do the group experiment nonetheless.

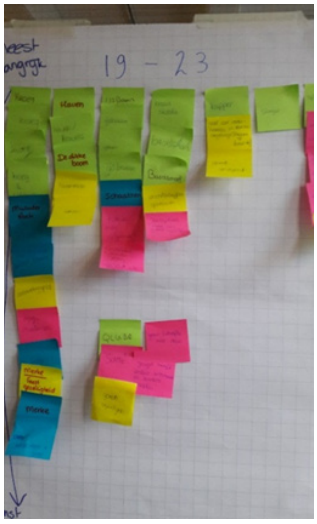
19-24

This age category was largely represented, but only by girls. This is probably because it is my own age category. Therefore I know all the respondents very well, because we shared our childhood together in Reduzum.
So, although the group did a great job at structuring their vision of Reduzum, the results are very biased. For example, the majority of the group lives in the same part of the village, which influences the importance of places in that area strongly. Doing another group experiment with male respondents from this age category that live in another area of the village could have resulted in very different results.
However, the most important places according to this this age group are: pub, De Haven, ice skating rink, school, hairdresser, butcher & sport facilities.

24-34
This age category contained only two people, who were really on the edge of two groups. This group could have been more representative if there were inhabitants with small children participating, since this is what makes this age category stand out in their dependence of social ties and facilities in the village. However, the two participants in this age group noted some important insights that are specific for their age group as well. As most important place in the village they chose the pub, with the corresponding activity of 'sociaal onderhoud' (social maintanance). The second most important places to them are the ice skate rink, the sports field, for sports, and the school. Lastly they mentioned Qlubb, but emphasized the negative aspect of too little activities and attendance. They explicitly stated that "youngsters are less connected to the village", this statement might explain the low attendance of underaged inhabitants during the event. Furthermore, the highest notes on the right side are about the lack of housing for starters and the absence of the grocery store and ATM.

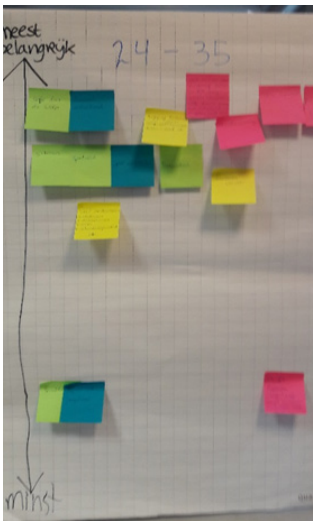
35-55

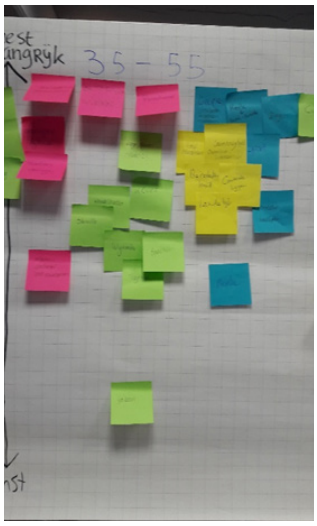
The age category that was defined as 35-60 was modified according to the respondents. Leaving the people that were still employed, mostly with children in the 13-18 and 19-24 categories as representatives of this age group. This category was probably the most representative age group according to gender distribution and different points of view, followed by the last category. Especially because one of the participants was mobility impaired. This is why the absence of the grocery store and ATM scored highest in this age group. The pub and church were mentioned as the most important places, followed by the hills at De Haven. Their most important activities were related to sports and music and the most positive aspects were perceived to be the active participation, solidarity, ("saamhorigheid"), accessibility and rurality ("landelijk").



55+

As becomes clear from the last board below, the 55+ category came up with a lot of cards. What is curious though, is the amount of negative aspects. These aspects are mostly about traffic and mobility, planned developments that stay away, and the lack of housing for elderly and starters. The top row reads from left to right: sport field, windmill, making music, most positive: spaciousness, accessibility, and most negative: ATM & housing for life. Other important notes were about walking, the organisation of the town and yearly activities.





B2 GROUP DISCUSSION

Due to the results of the same group experiment, which turned out to be quite similar, the choice was made to reflect on these results with the entire group and discuss the meaning and motivation behind the choices that were made. This means that the stage in which the same age groups had to be mixed and then perform the same task again in this different group composition was skipped.

This can be justified because the hypothesis that the results of the same age groups would be different had to be rejected. Therefore, mixing the groups would have added little value.

However, the mixed age group discussion did add some value, because the underlying motivations revealed that, although the different groups came to very similar conclusions, their paths toward that result differed.

On top of that, the value behind the conclusions and the motivations was similar again, namely: they all valued social interaction the most. But, while every place had an underlying social motivation, not every group used every place in the same way. The pub and Qlubb, the youth version of the pub, were split up, as would be expected, because the specific target groups of these facilities.

However, the older age groups that used to go to Qlubb were negative about it, because they perceived it to be almost bankrupt, while the children were very positive about it. Besides using different places for the same purpose, there were also places that were perceived to serve multiple purposes, namely: the hairdresser and the school.

Someone from the 35-55 age group suggested the hairdresser fulfilled a part of the function the village shop used to have. Furthermore, participants from the 18-24 and 25-34 groups suggested that the hairdresser as well as the pub are run by entrepreneurs that stimulate other entrepreneurs by hosting events and renewing their own business.

The school was of course very important for the youngest category, since they daily attend to this school, as was clear from their drawings as well. However, all the other age categories, while not being connected to the school themselves (anymore), valued this place highly. In de group discussion they concluded that the school was a place that united villagers from all age groups, by organizing events like the Christmas market and the talent show, but also by providing room for other parties to organise events like lectures and meetings.

On top of that, it was mentioned that the school attracted families with children to live in Reduzum and that they would stay away if the school would disappear. Contradictory, issues with housing were emphasized by the 18-24, 25-34 and 55+ age groups. They had noticed in their social network that there is a shortage of tenement housing, causing young adults and elderly to move away, while they would like to stay.

This was also mentioned during multiple individual interviews, of which some also participated in the group experiment, but were not the ones starting the discussion on the housing crisis. Furthermore, the issue was blamed on the policy of the housing corporation, therefore tiny houses and co-housing were mentioned as possible solutions. This is interesting since Dorpsbelang worked together with the housing corporation Elkien and research bureau Partoer last year to investigate the housing demand in Reduzum, which also concluded that there is a shortage of fitting (tenement) housing. Partoer (2018) recommends Dorpsbelang, Elkien and the municipality of Leeuwarden to cooperate on defining what the problems and possible solutions on this subject are.

Concluding, the home, school, sport facilities and a social meeting place (like the pub/qlubb) are important in every age group. This is not to say that this is universal for all villages, but the underlying social interaction associated with these places may be. Furthermore, the diversity of activities associated with these places was emphasized, which may point towards another key factor of public space for every age.

Table 4.4 **Outcome of part B2 the group discussion: importance per age group and why.**

	Ice skate rink	Pub	ATM	Qlubb	Home (Living)	Hairdresser	School	Sport field
<12	✓			✓	✓		✓	✓
18-24	✓	✓	✓	✓	✓	✓	✓	✓
25-34		✓	✓	✓	✓	✓	✓	✓
35-55		✓	✓		✓	✓	✓	✓
55+		✓	✓		✓		✓	✓
Reasons	Social Skating Fun	Social Diverse Stimulates entrepre-neurship	Meeting place Charity money	Social Fun Doesn't run smoothly	Main purpose Housing issue (rent) starters & elderly	Social Replaces shop function Stimulates entrepre-neurship	Social Attracts families Unites Room for meetings	Social Sport

✓ Important for the village ✓ Important for the village, but not good right now

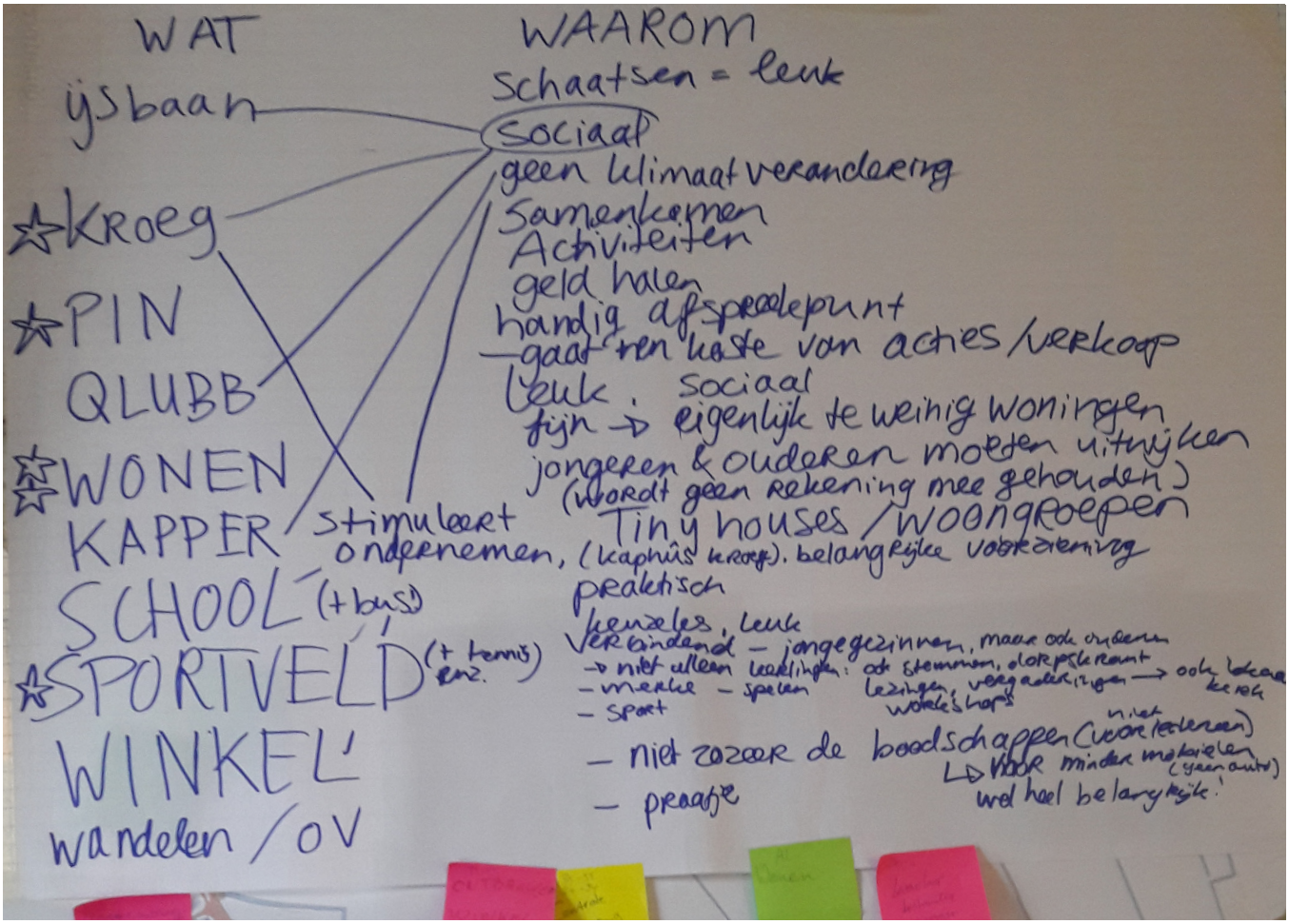


Figure 4.7 **Original scheme of important places and why**

C1 THE HILLS

The first site that was visited has a history that reflects the attitude of the villagers when it comes to managing their village, and in this case especially: the quality of its public space. This site was developed twenty years ago, 6-7 October 1997, by initiative of the inhabitants themselves for the television program "De Uitdaging" (The Challenge). At that time, the site was known as the dry harbour, because the harbour used to run into the village to the point where now the hairdresser is located. For the challenge the villagers turned this site into a small park, because restoring the harbour was rejected due to pollution. The part where this pollution was located, was turned into an elevated platform enclosed in wooden shoring, with hills referring to the water that used to be there, a Miscanthus variety referring to reed, and squares with bollards and a memorial stone.

However, the site has been neglected for a while now, which could mean the older participants taking a different viewpoint to the site than the younger participants, which in turn may have more attachment to this place due to its function as play area and meeting place, as was established in multiple mental map interviews. On top of that, the choice for this site can be explained from a practical perspective: since the time for the affordance hunt was limited, the number of sites that could be evaluated was limited as well. So by choosing two sites that were significantly different in affordances, but close enough to each other and the location of the rest of the experiment, enough information could be gathered on the perception of affordances to compare the viewpoints of the different age groups.

Nobody explicitly mentioned the scale, social safety, shelter or talking. However, talking is implied in their own actions and in other activities that were named, as was aesthetics. Social safety, seemed to be covered, but it was mentioned that some people misbehave at the yearly "merke" event. The only negative aspects that were named had to do with walking from onto the platform due to its height and the absence of ramps and therefore: reaching all the positive affordances. Also the maintenance of the place was named, particularly regarding the wooden edge of the platform that was broken at some places and was very slippery, which was perceived as dangerous.

An interesting observation is that the only group mentioning something about the scale of the site was the 19-24 age group. This can be explained by their former use of this place.
With the statement at photo 3, she accurately described what Heft (1999) pointed out about affordances related to children from different ages. The object has moved from climb-on-able to step-on-able in her perception. This points to a different perception of affordances that is directly related to physical capabilities of the person, which in this case is also directly related to age.

On top of that another physical related perception of the step-on-able affordance of the site as a whole was mentioned (photo 4). This statement was age related as well, though the age related aspect was based on an assumption of physical conditions related to mobility and elderly. Therefore, it is not directly age related like the previous statement. However, it does point to the way the participants perceive their environment not solely from their own perspective, but fill in possible perspectives from other (age) groups as well. In relation to the affordances theory, the site was declared as not-roll-on-able, which was labelled as not-walkable by the participants of all age groups except for the under twelve category. Moreover, a walking related statement that has more to do with the environment, rather than physical capabilities of the person, was mentioned (photo 5).

Gibson would call this fall-of-able, an affordance that was named by Douglas et al. (2017) as well as an example for

affordances in the spaces dimension. Again this age group fills in the affordance from another point of view than their own age, this time by thinking about what the broken and slippery shoring would mean for children who use the site to play. Which also implies it being not-play-able, but this is compensated for by all the play activities the children themselves mentioned (photo 1 and 2).

"In the summer all those bushes are green and then there are also flowers over there, and more cars, so then you can hide better when playing hide and seek."

"Rollerblading is not really possible here, but we do that sometimes on the parking lot."
"There is no play equipment, that's a pity"
"And talking, but that's obvious."
(Group, <12)

"Wow, this thing suddenly feels really small!
I remember how I used to climb on top of this,
and now I could just step on it."
(female, 1998)

"This is not wheelchair friendly!
If you want to sit on that bench with your grandma,
what are you supposed to do?
Leave your grandma downstairs?" (female, 1996)

"Watch out, it is slippery"
"Do we need to write that down as well?"
"This is dangerous and also broken over there."
"It is also dangerous for children who want to play here"

"What can you do? Fall off."
(Group 19-24)

C. AFFORDANCES HUNT

"This is fun, I can sit on it." *(Female, 1946)*
"There is also a bench over there." *(Female, 1969)*
"Only you cannot reach it if you have a bad leg" *(Male, 1965)*
"There are stairs on the other side, but here they are missing" *(Female, 1967)*
"So there is a bench, but does it invite you to sit there?" *(Female, 1969)*
"No, I never sit there, only when there is a market or so, you know, if you have been strolling for a while and you are tired. And I can reach it because I train this every day when I walk my dog, but when I am ten years older, I won't be able to do it anymore" *(Female, 1946)*

"And isn't this slippery?"
"Yeah, I think that's pretty dangerous"
"Yes, I remember when coming from the other side with groceries that it was really dangerous"
"Oh, yes because you can only park on the other side of course and then you need to cross the platform"
"And there is also no railing to support you"

"Maybe that bench should be faced the other way, then you can watch toward the end of the village, now you only see bushes." "But then you just see a lot of cars" "Actually, this is just not a nice place to sit" "So what could you do then?" "Well it's a play area I think" "There also used to be a marble shooting pit" "It's full of grass now!" "Just make it an open barbecue spot" "I think what's missing is the spaciousness, it's too closed with all those bushes" "But it is still not private, because it gives you a stage feeling"

"This is already more inviting" "Yes, this also attracts more people" "Maybe because there are two benches" "And because there is more to see, you can see further here" "it's open"

"I think it looks really unnatural" "They didn't ask us anything, they just did it." "Gevalletje Rijdende Rechter" "Yes, really strange, and a waste, you cannot use that space to play or for doing treasure hunts with children anymore" (Female, 1967)
"I used to walk there myself as well, now that's not possible anymore, while everybody had a right to walk there, it was a public pathway. You can't just take away that right." (Male, 1945) "So, we see a fence and we can't move through."

C2 THE HARBOUR

"Well, you can swim here, but I wouldn't, because sometimes there are blue-green algae" *(female, 2010)*
"There is also some kind of artwork over there, I don't know what it is, but it's ugly nonetheless." *(female, 2008)*
"In the summer there are inflatable balls on the water where can play in, but only for a really short time" *(female, 2010)*

"There's a lot of trash in the water, they should dredge it (...) you know, we could set up our own action plan!" *(female, 1998)* *"No." "Sure, you go ahead"*
"I have swom here a lot" "but because it's sometimes so dirty they made that other harbour with a beach where you can swim" *(female, 1998 & 1996)*
"Isn't this is also a spot to let your dog swim? Positive and negative, because on the one hand they shit everywhere and on the other hand I think: let them swim" *(female, 1996)*

"There are a lot of old and ugly boats actually" *(female, 1996)*

"There's a bench where you can sit and look across the water" *(female, 1996)*

"But also next to the bench you can sit, because during the fun fair everyone is sitting on that ridge." *(female, 1998)*

"I think this is a beautiful spot" *(female, 1964)*
"The annual farewell party is here in the summer" *(male, 1965)*
"And this is where Sinterklaas arrives" *(female, 1967)*
"It is not a tourist-friendly harbour, there's no bathroom and you can't get a cup of coffee anywhere" *(female, 1969)*
"But are there even tourists coming here?" *(male, 1963)*
"Sometimes, there are people who accidently wash up here" *(female, 1964)*

B
C
5
A
D
ANALYSIS

Figure 5.1 Abstract map of the youth group

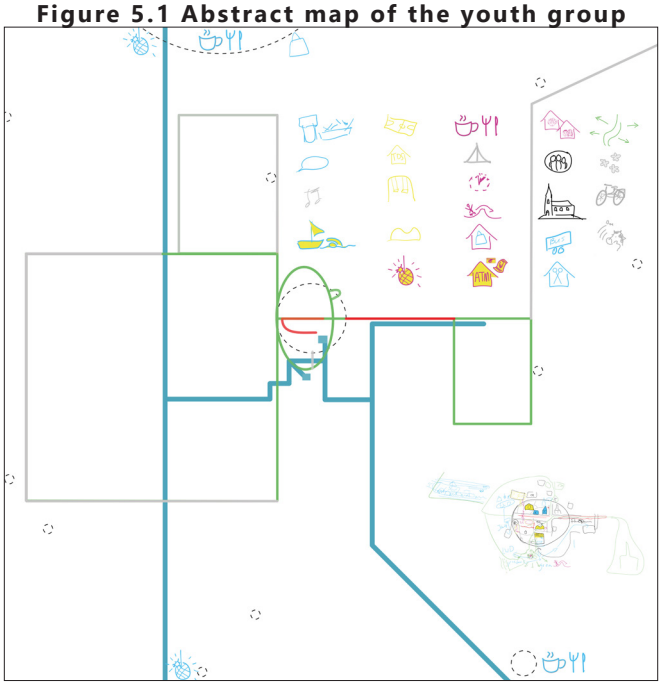
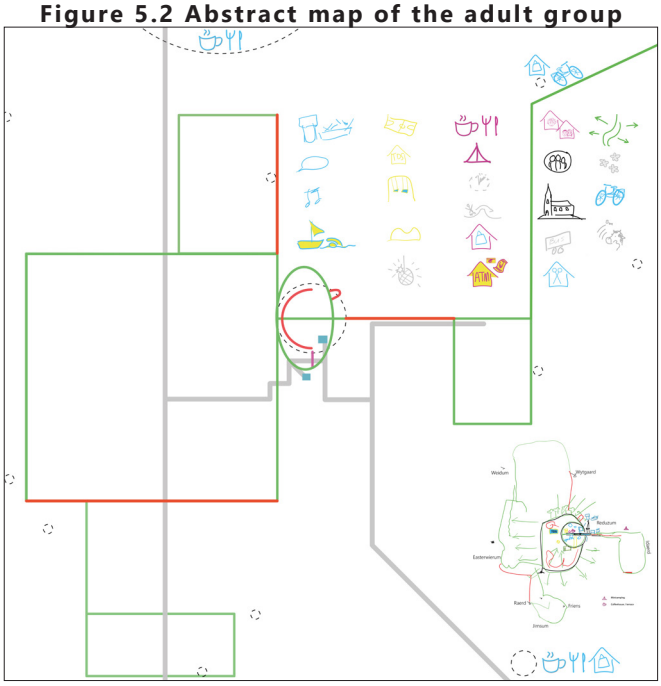


Figure 5.2 Abstract map of the adult group



The maps above show the opportunities and constraints as perceived by the interviewed individuals joined together per age group and standardised for comparison. From left to right the young, adults and elderly groups are displayed. Comparing these maps brings to light both differences and similarities in perception of the village.

When it comes to the differences, what stands out is the orientation of the activities that the respondents from different age groups describe. The elderly describe way more activities inherent to the village, while the respondents of the younger categories look for them outside of the village. This difference in daily activity radius may be caused by different levels of mobility, but also by a difference in their social network and obligations.

Furthermore, there is a difference in the nature of activities they either do or miss. For example, the activities that the young people miss in the village or do elsewhere are primarily related to forms of social interaction that appeal to their own life stage: going out, trying new things and hanging out with peers. The other two categories seem to be more rooted in the village, focusing their attention on the possibilities of every day recreation around it, like walking, cycling and sailing. The elderly even seem to appreciate the quiet of the rural area around it over the absence of activities within, because they don't look for those in the nearby places either.

This probably all has to do with the daily activity radius: the young people are used to travel the furtherst to the city they study in and the activities they like to engage in on the weekends, when they are in the village are either in the pub or outside of the village, while the adults spend their free time during the work week as well as their weekend in the village, and the elderly spend almost all their time in the village.

However, all categories valued the spaciousness and the sociable nature they associated with the village, and they appreciated the presence of landmarks such as the church, regardless of the function. Mainly activities tied to sports and socialising were valued in all categories, however this still resulted in different kind of spaces they missed. This is interesting, because it makes clear that **similar needs do not necessarily equal similar spaces.**

So, if similar needs do not equal similar spaces throughout the life stages, then similar needs might rather be met with diverse spaces. For instance, if people from different life stages all want to socialise (similar need), but want to do so in different ways, their spatial needs may still be different, like playing (children), hanging out (young), talking and watching (adults & elderly).

This would indicate the need for a diverse range of opportunities for socialising activities in public space. As found in the interviews, the young people all perceived that their spatial needs had shifted from sports, swimming & (ice)skating facilities and playgrounds to bars, coffee houses, restaurants, stores and clubs, while the older respondents noticed a shift towards the home and going

Figure 5.3 Abstract map of the elderly group

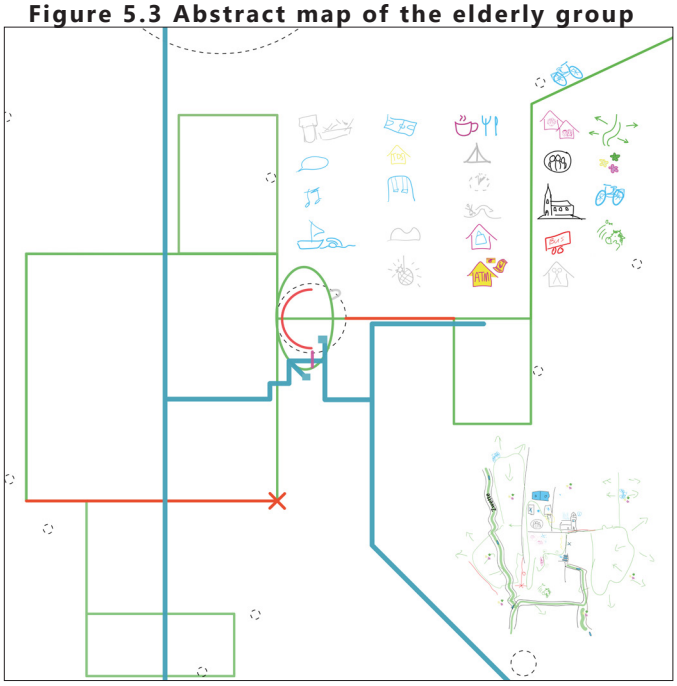
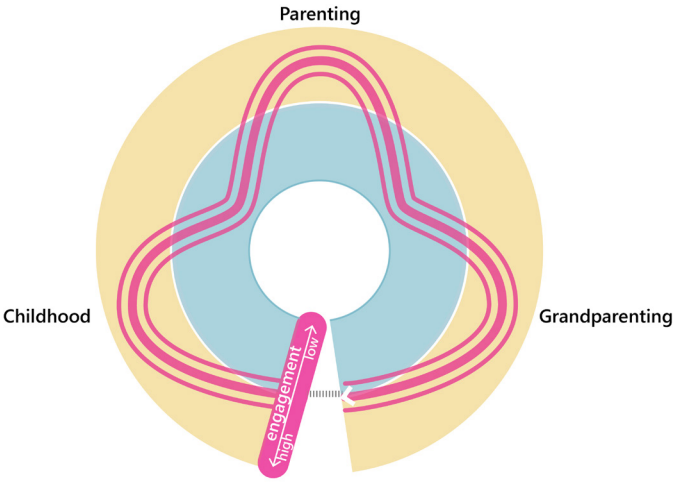


Figure 5.4 Engagement cycle



outside for recreational activities such as walking and riding their bicycles.

So, indeed people in different life stages tend to prefer different activities. However, the activities that are important to people close to one, because they are in an other life stage or for another reason, influence ones own behaviour. This is particularly true for people in three specific situations: childhood, parenting and grandparenting.

This is very much visible in the maps of the adults and the elderly. While the map of the adults looks similar to that of the young people regarding the yellow drawings that indicate past activities, it is for very different reasons. While the young people mentioned these places and activities regarding their own childhood, the adults did that regarding the childhood of their children. Many of the adults are parents of people that are in the later adolescense or early adulthood stage now. Only one of the respondents has children in the toddlerhood and early school age stages. Therefore, her activities still include watching her children, something that many respondents from the elderly category also do, but with their grandchildren, though, some are already beyond that as well.

So, this cycle (Figure 5.4) goes on, but the times, spaces and your own role in it change every time. Moreover, these stages may predict the amount of engagement to the village in general, because as pointed out by Van Vliet (2011) and Biggs & Carr (2015) the dependence of children on their direct environment, combined with the care for them, makes people more concerned for the direct environment as well.

Moreover, the respondents that were in between children and grandchildren declared to have less social ties in the village then when their children were attending the school. These findings underline the importance of a school for intergenerational ties, but they also show gaps in term of the social network as a whole. If this cycle repeats itself, the generations keep skipping, like they do in families as well.

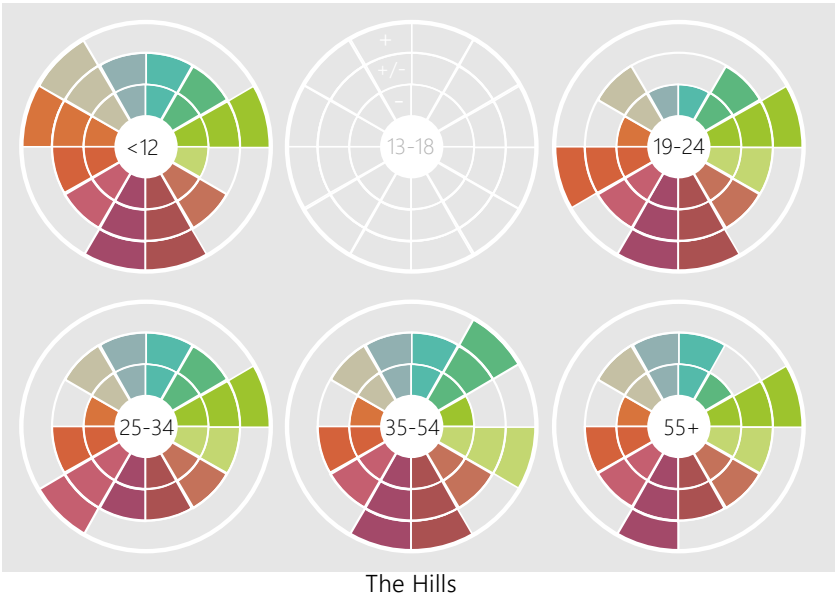
Therefore, additional intergenerational activities that are not related to children could be important, in order to form intergenerational social capital. These activities include work, however, most of the working people do so outside of the village. Hence, recreational activities are the best fit for generating intergenerational ties outside of the flow displayed in figure 5.4. In case of Reduzum, the sports field provides such a place, according to the results of the group discussion and some of the interviews. However, people that are not into sports might require a similar space for other activities.

So, most interesting for answeringing the research question is finding out which social activities were favoured by each age group and which places in the village are best suited to do those activities. Therefore, it is necessary to further analyse the affordances that wer found during part C.

C. PERCEIVED AFFORDANCES

The wide range of opportunities and constraints for two of the hot spots in Reduzum have been categorised into the twelve quality criteria of Jan Gehl.

C1 THE HILLS



The Hills

Traffic Sitting Standing Walking Playing Seeing
Talking Aesthetics Shelter Scale Safety Sun

As visible in the diagrams on the left, the positive experienced affordances in terms of the quality criteria found by multiple age groups were: playing, standing and sitting. The negative affordances perceived in multiple age groups were related to walking. The only category that was not mentioned at all was shelter, which is strange, since it is actually missing.

This data suggests that this place is mainly suited for children, even though they pointed out to miss play equipment. The young people aged 19-24 scored the most negative, this might have to do with their perception of this place compared to their memory of it from when they were children, who scored the most positive. However, their pattern is quite similar.

C2 THE HARBOUR

The Harbour

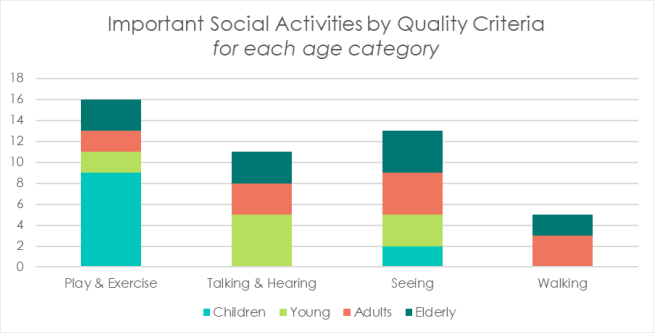
Traffic Sitting Standing Walking Playing Seeing
Talking Aesthetics Shelter Scale Safety Sun

The positive experienced affordances for multiple age groups in this site were: playing, seeing, talking, sitting and enjoying pleasant weather. The negative affordances perceived in multiple age groups were related to walking, shelter and aesthetics. The two oldest categories scored the most negative here. It's funny to see how they mentioned shelter this time, because of their concerns for tourists who would have nowhere to go. The data suggests that this place has generally more spatial quality and is intergenerational in five different ways. But, the affordances named are very seasonal (like skating and swimming) and, while the other categories all perceived this site to afford playing, the children themselves would rather play somewhere esle, unless there was something extra.

D. SOCIAL ACTIVITIES

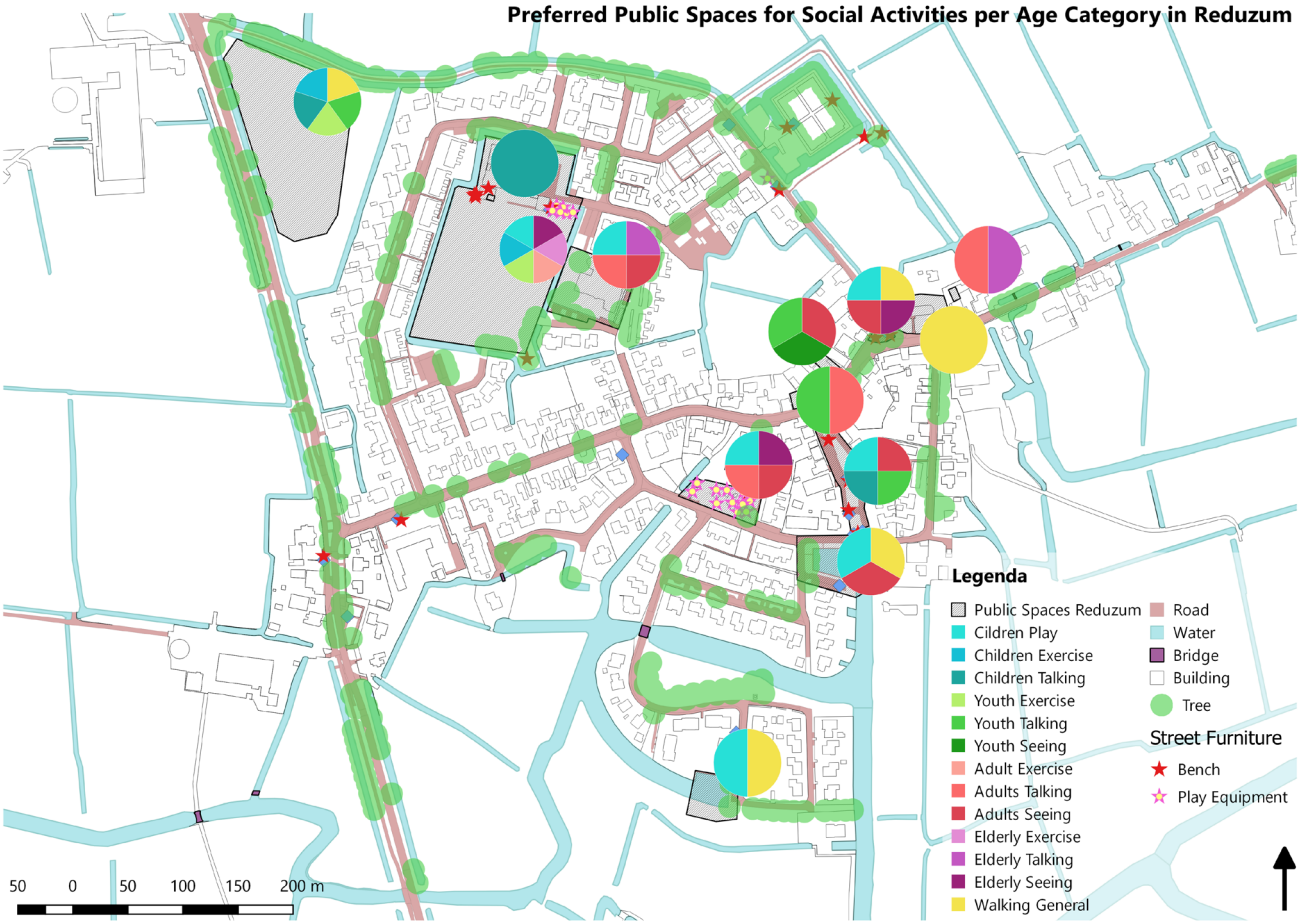
As resulted from part B2 of the research, social interaction was a central theme in all of the important places and activities that were listed in part B1. Following the categories used in part C, the quality criteria most linked to social activities are play & exercise, talking & hearing and seeing. Therefore, some reflection on part A was done, by scanning the interviews on key words that can be linked to these kinds of activities (play, sport, talk, meet, see, watch), supplemented by statements from participants of the group experiment that had not been interviewed. This resulted in a distribution of important activities within the categories as mentioned in each of the four age categories (graph 4.1).

Some respondents mentioned the sportiness of the village as a positive quality. This sportiness shows up in graph 4.1. The exercise part of the play and exercise category consists mostly of respondents that mentioned (rea) tennis and running as important activities. Walking, however, were mostly linked to talking whenever it was mentioned as a social activity. Therefore, this form of exercise was listed under talking & hearing. A side note to the play part is that the data from the children category was provided mostly by the young people as a result from the question "how has your use of public space changed regarding the past?",



on which they all emphasised the importance of playing outside and playing sports. However, the two children that participated in the group experiment also emphasised the importance of play and exercise (especially tennis). The category seeing also includes chilling, or hanging out, something that was mentioned only by the young category (and for some during their childhood as well). Furthermore, respondents from the young and adult category mentioned watching football at the pub, while many elderly mentioned watching grandchildren play and watching sport games at the sports field.

Figure 4.14 shows a map of how the activities that were important to the different age groups linked to the public space in the village.



6

CONCLUSION

Which properties in public space generate spatial quality for as many age groups as possible?

After studying relevant literature and different perspectives on the topic of intergenerational public space, it can be concluded that diversity of context-specific positively perceived affordances, within a mutual need, is key to public space for every age.

The perception of affordances within any given space depends on the perceiver. Therefore, the properties of public space are etiher perceived as opportunities, constraints, or not at all. This perception can happen consciously, but also unconsiously. It is therefore that, unconscious mental processes, as well as other people may influence the perception of public space and what it offers.

Knowing this, the influence of psychosocial development at every life stage and the generation one identifies with, have been taken into account in this study. This has resulted in a case study with respondents from different age groups, who provided an individual and a collective perspective on the public space in their village.

After the literature review, it was concluded that intergenerational public space provides familiarity and novelty at the same time by providing a diverse range of affordances for interaction, stimulation and autonomy. Two of these affordances categories were brought up by the respondents as well. They agreed that the needs that the village fulfilled most positively were: spaciousness, accessibility, autonomy and social interaction. However, they mentioned some affordances within the need for social interaction that were still missing. And since this need is inherent to all the life stage specific needs, this might be the mutual need that is best to focus on when designing intergenerational public space., at least for this case.

The affordances that were found to generally provide spatial quality are according to Jan Gehl (2010):
1) constraints against high speed traffic, violence and the negative aspects of climate; and
2) opportunities to sit, stand, play, exercise, hear, talk, walk and enjoy beauty and the positive aspects of climate on a human scale.

However, except for the absence of the constraints, there is no absolute need for all the opportunities to be perceived. Furthermore, the diversity of affordances and accessibility to them was emphasised by multiple studies. Besides the absence of the three constaints, four of the quality criteria came to light through the respondents as social activities, whcih were opportunities to play, exercise, see, talk & walk. These affordances were perceived positive in all age groups.

However, not every age group used these affordances equally. Therefore, it can be concluded that intergenerational public space requires a combination of the following functions: play & exercise, talking & hearing, seeing and walking combined into one space, on the condition that multiple age groups are served within each of these categories.

For example, if there is a playground which combines objects for children to play and benches for parents and grandparents to watch, that is not enough, because the life stages in between are left out, which means the engagement cycle (figure 5.4) will not be broken. However, if objects for exercise and / or spaces for talking are added and the site is accessible to and visible from an attractive route for walking (and cycling), that changes the story. Because in that case, there is no single focus on playing, seeing and talking inside of the cycle, but also on social activities outside of the cycle.

Therefore, the location of the site matters as well, because if people do not pass by unintentionally, the site becomes segregated from the othe public spaces. While, if all public spaces are connected by the function of walking, the chance of unexpected social interaction (the kind that was formerly provided by the local store) is likely to become much higher.

So, intergenerational public space can be realised by investing in multi-functionality through diversity of affordances that provide opportunities for social interaction that appeal to people from every life stage. However, in order to make this work with a limited budget a certain amount of flexibility will be needed.

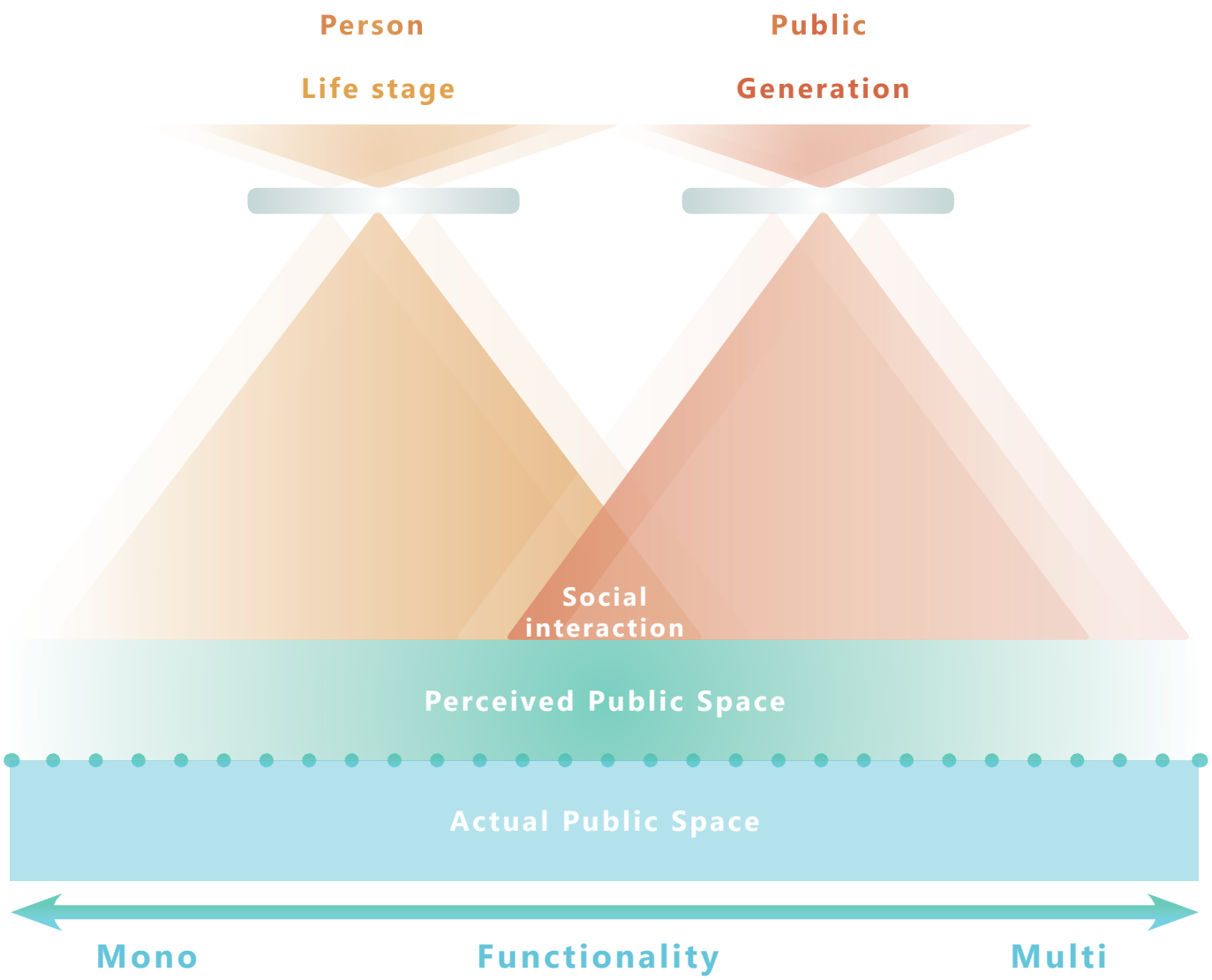


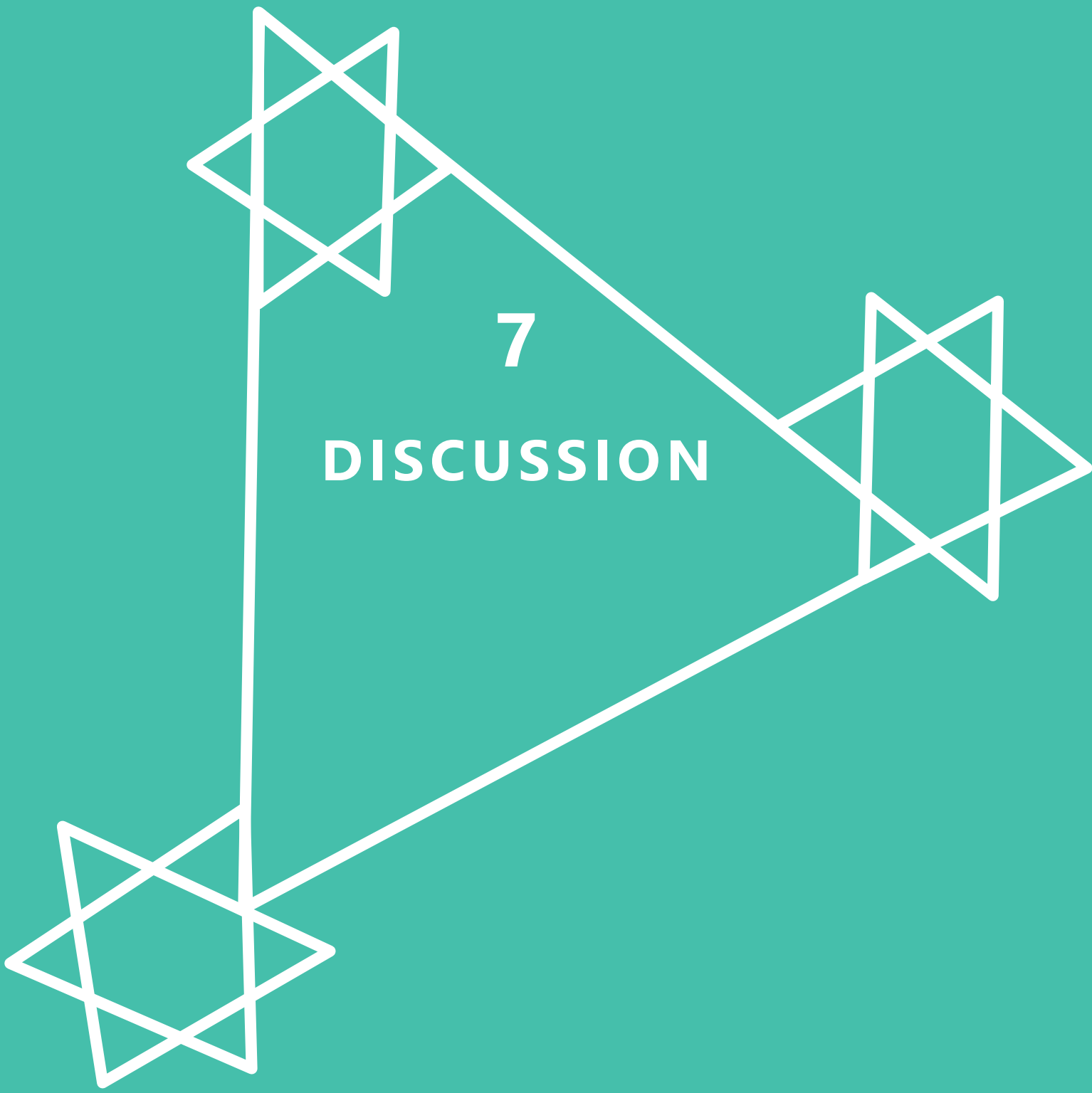
Figure 6.1 Revised Conceptual Model

This is where the problem becomes the solution. Because, if diversity of affordances is needed, and affordances depend on the perceiver, then the actual public space does not equal the perceived public space. Which means that, diversity of affordances does not necessarily equal a diverse range of investments in the actual public space.

So, adding flexibility of the actual public space to the equation can provide a higher diversity of affordances in the perceived public space, when this flexibility provides multifunctionality. This can be done by creating opportunities for adjustments, making it possible to autonomously (re)create a space depending on the affordance that is needed. Like with ship or a camper where the bench becomes a bed and the kitchen can be pulled out or in a gym, where the baskets, the climbing frames and the ropes can be pulled out in seconds.

In public space this can be done quite the same way. For example, by choosing objects in a playground that can be scaled to create an opportunity for people of other life stages to play or exercise.
This idea is further explored in the recommendations (Chapter 8).

Concluding, public space for every age requires opportunities for social interaction that appeal to people from every life stage. Therefore, it requires multifunctionality, which means diversity of affordances that fulfill a mutual need (which can vary across places). And this can be realised with minimal investment by focusing on flexibility in terms of catering to different life stage specific needs.



7

DISCUSSION

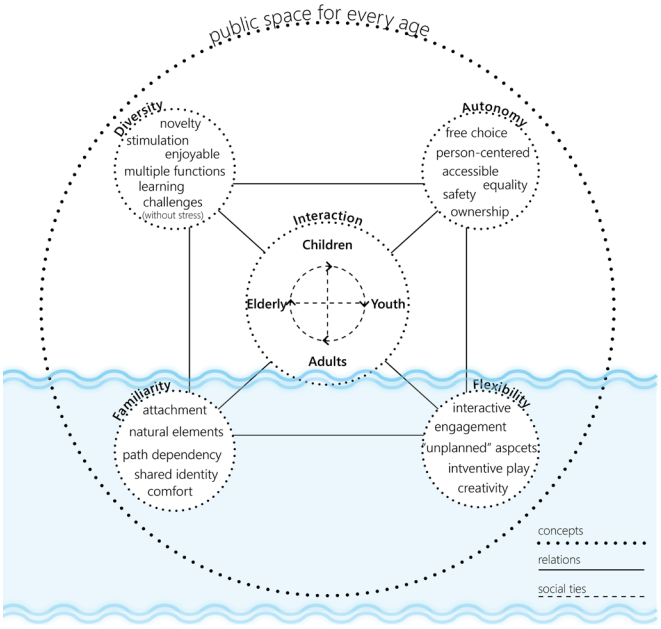
The analysis and conclusion mainly focused on social interaction because it was strongly underlined in part B2, the group discussion. However, in part A, the individual interviews, many of the respondents emphasised how important the calm and quiet was to them, particularly in relation to the routes they enjoyed for walking. This difference between the individual and collective findings could point towards a problem in communicative planning that might be easily overlooked: peer-pressure.

Furthermore, good public space meets the needs that are not met by private space, and since many people in Reduzum have their own garden, the treshold for using public space may be much higher than it would be in a city. This is probably why the sports field, the harbour and the ice skating rink turned out to be so highly valued. In these cases, scale plays an important role, while in the case of a playground, objects would make the difference.

Another topic for discussion is the engagement cycle (Figure 5.4). Some findings suggest that it may be different for the next generation. What is curious about the findings from the past places and activities question in the mental map interviews is that the engagement with the village seems to change more for women than it does for men. The women in the study especially told about the influence that the school and keeping an eye on the children playing outside had on their connection to the village. This is also connected to the engagement cycle.

Therefore, it would be interesting to further examine whether shifting gender roles and change in behaviour of children, affect the social ties in a village. Because if women are putting more time into their jobs, causing them to be less engaging in school matters, and children are playing more inside, which gives no reason for parents to engage in neighbourhood matters, there may be less opportunities for bonding social ties to form with neighbours and other parents, causing the whole adult age category to become disengaged, like some the men in this study. Exceptions to this were the men that taught at the school, since their job caused them to be engaged in the village. Therefore, it can be recommended to the village board that they appoint as many people to their workgroups and committees who are not yet engaged in through their job or home life, in order to get them involved in village matters and to make them part of the social structure of the village, to prevent segregation and support trust (Putnam, 2000; Uhlenberg, 2006; Wekker, 2017).

Finally, one of the original ambitions of the study was to find unconsciously missing affordances. This turned out to be hard to prove. However, by revising the model that was drawn from the intergenerational space literature after the analysis of the primary data, some requirements appeared to be less specifically mentioned and more in between the lines. Further examination of the concepts of familiarity and flexibility on this topic is needed.



RECOMMENDATIONS

If only one investment can be done, due to limited time or funds, then make sure the design that is implemented is adaptable, so it can change over time without much interference of the government or economic forces. Make sure it is something people really want. Even when it is unconscious: what they want is novelty, built up from a familiar basis (Brandt & Eagleman, 2017; Larkin et al., 2010).

So, establish the important factors of what is familiar (e.g. history, identity, routines, habits, important places and activities) and built add something new to that. Something new, which keeps bringing opportunities to discover, enjoy and interact, but also stays familiar and secure. Both these things can be accomplished by combining change-ability and choose-ability: giving the users of public space the opportunity to change the affordances of the environment to fit their capabilities. If we invest in the relationship between persons and spaces instead of just one of them, people get more choose-ability (agency) and the environment gets more change-ability (diversity).

To illustrate this conclusion, an investment for the case study village is proposed in the next chapter. The people of Reduzum already got the autonomy part down, this is why the choose-and-change concept even fits them extra well. As arose from the interview with chairman Otto van der Meulen, the harbour is of concern for renovation. Furthermore, multiple respondents marked this place as important at different times and for different actions, but also found missing affordances here. Both these findings were later emphasized by multiple groups during the affordances hunt as well. Finally, the group discussion resulted in a strong opinion on the importance of social interaction, accessibility, and autonomy, which are embedded in the shared identity of the village.

So, the challenge would be transforming the simple picnic bench into a proper meeting place that can serve inhabitants as well as tourists of as many ages as possible. This can be done by investing in an object that is scalable, that can even adjust the experience of different spaces, and, depending on the times and persons, can be used to perform the desired actions, like finding shelter when it is raining, offering opportunities for play and exercise, to sit and talk or even to have some alone time. Therefore, it is necessary to take a modular approach. Like with the bench/table in figure 6.1.

Figure 8.1 Changable street furniture

Since this area has a naval character, which is further emphasized by the design of the hills down the street, it makes sense to keep following this path to make it recognisable, i.e. familiar and connected to the shared identity as proposed by Larkin et al. (2010). This can be done by using materials such as sail and ropes, steel cables, wooden ridges and mooring posts, like the ones are already there but with holes in them to attach other elements or for providing electricity. And of course: inflatable elements, they are the perfect way of making sitting and playing elements (dis)appear, and as the youngest participants pointed out:

"sometimes there are hamster balls in which you can play on the water, it's a pity they are not always there."
(female, 2010)

Some examples of modular street furniture of this kind can be found in figure 6.2**.** Though, it can be argued that this is not just one investment. However, this impression should not be viewed as something that is developed all at one time, rather it should be viewed as a goal to realise over time, that can be altered along the way. Because that is what this modular concept is all about: provide a basis, that makes it possible to keep adding and inventing new extensions. That way, only one investment has to be done by, for instance, the municipality, and the rest of the development is left to the inhabitants, giving them the opportunity to choose and change, creating their own public space for every age.

Figure 8.2 Some examples of flexible and temporary objects in public space (Johnson, 2015).

THE AFFORDANCES FLOWER

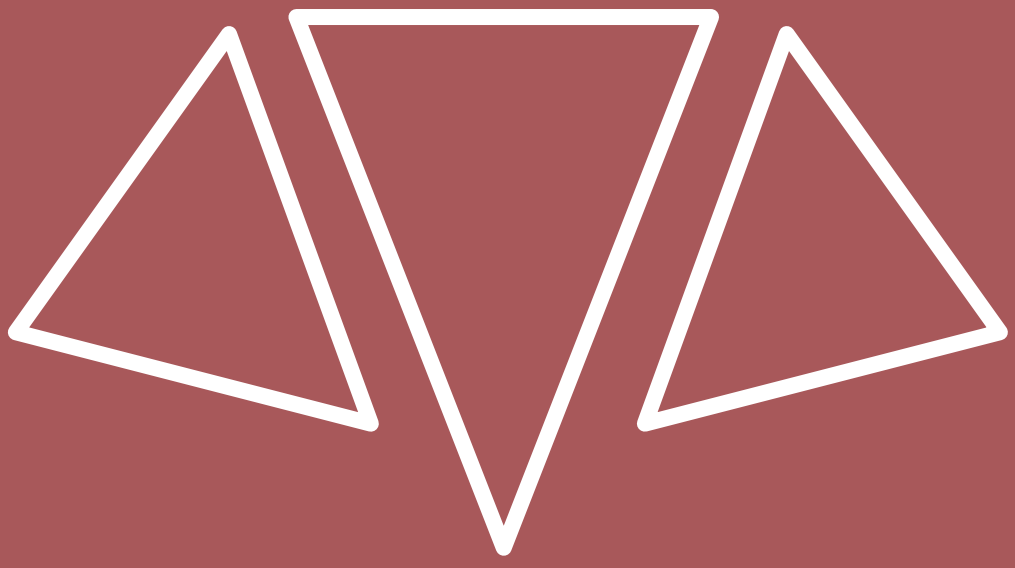
Furthermore, it can be recommended for planning practice to adopt a tool similar to the affordances star. Because, in this study, it was noticed that the affordances star includes all possible affordances, which makes it holistic, but also hard to focus on what matters in public space. Therefore, the affordances flower, a combination of the affordances star and the twelve quality criteria is presented as a recommended tool for public space design.

All the quality criteria are placed within the affordances star between the two perspectives that are expected to have the most influence on it. However, it is important to keep in mind that any affordance can be viewed from any perspective, so all the quality criteria are influenced by all perspectives. For example, the experience of walking is mostly influenced by personal capabilities and the scale of the environment, while sitting requires objects, just like finding shelter for unpleasant weather, but only at certain times. However, objects can form negative affordances for walking and could therefore also influence this criterium.

Finally, it is important to recommend covering at least all protection criteria and multiple criteria that meet the need for social interaction at multiple life stages.

Figure 8.2 The affordances flower

REFLECTION



GENERALISATION

After reading the conclusion, it may seem as though the puzzle of intergenerational public space has been solved, or at least for Reduzum. However, in the entire study, it has not really been considered whether this was even a problem for Reduzum to begin with. This problem (or not) has not been addressed previously, because the requirements of the case selection were primarily focused on the quality of the data collection, which required the researcher to understand the place from within in order to understand the respondents. This is not to say that this would never have worked, had an other village been chosen. However, it is likely that the interviews would have resulted into less detailed information, because people tend to leave things out if they think the person they are speaking with will not understand them.

And still, finding respondents was no easy task. After going door to door and calling people to invite them, there were still some generations missing from the data. For the individual interviews no children were found. Therefore, the school was approached, but they did not want to cooperate. However, handing out flyers for the group experiment and putting up a poster was possible.

Eventually, two children showed up for the experiment. They were pretty quiet in the group discussion, while they were pretty articulate among themselves. So, when taking children into account in the planning process it may be advisable to let them discuss with peers, so they feel like they can say everything and to make them feel heard. Since there were only two children, an extra group session would have made the results more representative.

However, due to the available time this has not been done. This also goes for the groups that did not show up at all. So, finding the right respondents turned out to be more difficult than expected. Especially for participating in the group experiment. Doing the experiment on a Saturday could have been one of the reasons that people from the 13-18 and 35-45 categories did not show up, because Saturday is a day that many people have sport related activities they need to attend.

However, the location was not available on a Sunday and any other day, the experiment would have been during opening hours of the hairdresser, which was not ideal either. Another location would have been chosen then.

Furthermore, it could have been good to do separate group experiments for the missing age categories. Especially for comparing the view of the previous generation with the view of the contemporary generation. Maybe that should have been the approach from the start. Because, by doing a comparative study, the conclusions that can be drawn are probably more grounded and clear. Now the conclusions are still partially drawn on literature findings.

Reflecting on the ability to make generalisations based on the collected data in this study, it can be said that such a small sample is not valid to make major statements.
Therefore, this qualitative research may not have discovered universal truths about the design of public space, but that is exactly the point. Meaning that, when it comes to public space, in which multiple public interests are involved, there might not be a universal design.

If individual human beings are already highly complex down to the wiring of their brain, that constantly craves a balance between familiarity and novelty, and therefore depending on the existing frame of reference, then it is even more complex to construct an environment that is suitable for multiple individuals, especially if they do not share a common frame of reference, which comes with different experiences during different life stages, or in other words: generational differences.

So, designing intergenerational public space is an issue of multiplicity, as demonstrated in the conceptual model. Therefore, focusing on the similar familiarities is the key towards novelty that everyone can be comfortable with. There may be no universal design to public space, intergenerationality might not even be an issue of concern, but understanding a place and the way the image of that place is constructed should be regarded as a universal design tool, because there is always context, and without connecting the new to the old, chances are that change results in incomprehension, no matter how perfect the design.

Though, this study was not intended to find a particular solution to a particular problem of a particular place (i.e. solving the case study), nor was it aimed at discovering universal truths, it did provide some insight inpossible solutions regarding issues of age-friendliness. However, anyone who would use this study in order to design public space should always consider the context specific aspects.

10

REFERENCES

10

- Biggs, S. & Carr, A. (2015). Age- and Child-Friendly Cities and the Promise of Intergenerational Space, Journal of Social Work Practice, 29:1, 99-112.
- Biggs, S. & Lowenstein, A. (2011). Generational Intelligence. A Critical Approach to Age Relations, Rout ledge, London.
- Broberg, A., Kyttä, M., & Fagerholm, N. (2013). Child-friendly urban structures: Bullerby revisited. Journal of Environmental Psychology, 35, 110-120.
- Cattell, V., Dines, N., Gesler, W., & Curtis, S. (2008). Mingling, observing, and lingering: Everyday public spaces and their implications for well-being and social relations. Health and Place, 14(3), 544–561. http://doi.org/10.1016/j.healthplace.2007.10.007
- CBS (2018). "Kerncijfers wijken en buurten 2017, Reduzum" Viewed on 13-02-2018, via: http:// statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=83765NED&D1=7-11&D2=8870&HDR=T&ST B=G1&CHARTTYPE=1&VW=G
- Clark, C., & Uzzell, D. L. (2002). The affordances of the home, neighbourhood, school and town centre for adolescents. Journal of environmental psychology, 22(1-2), 95-108.
- Després, C., & Piché, D. (2017). Linking People-Environment Research and Design. What Is Missing?. In Handbook of Environmental Psychology and Quality of Life Research (pp. 65-83). Springer International Publishing.
- Diamond, M., & Hopson, J. (1998). Magic trees of the mind: How to nurture your child's intelligence, creativity, and healthy emotions from birth through adoles- cence. New York: Penguin Putnam.
- Dijk, T. van (2017). Populism in planning and the denial of our expertise. Space & Society, 8 (3), p. 1-9. Apeldoorn: Garant.
- Douglas, O., Lennon, M., & Scott, M. (2017). Urban green space for health and well-being: developing an 'affordances' framework for planning and design. Journal of Urban Design, 1.
- Douglas, O., Lennon, M., & Scott, M. (2017). Green space benefits for health and well-being: A life-course approach for urban planning, design and management. Cities, 66, 53-62.
- Eagleman, D. (2011). Incognito (Enhanced Edition): The Secret Lives of the Brain. Knopf.
- Eagleman, D. (2015). The brain: The story of you. Vintage.
- Francis, J., Giles-Corti, B., Wood, L., Knuiman, M. (2012). Creating sense of community: the role of public space. Journal of Environmental Psychology, 32, 401–409.
- Gehl, J. (2011). Life between buildings: using public space. Washington: Island press.
- Gehl, J. (2010). Cities for people. Washington: Island press.
- Gibson, J. J. (1979). The ecological approach to visual perception. Boston: Houghton Mifflin.
- Gibson, J. J. (2014). The ecological approach to visual perception: classic edition. Psychology Press.
- Ghavampour, E., Aguila, M., & Vale, B. (2017). GIS mapping and analysis of behaviour in small urban public spaces. Area.
- Hadavi, S., Kaplan, R., & Hunter, M. C. R. (2015). Environmental affordances: A practical approach for design of nearby outdoor settings in urban spatial areas. Landscape and Urban Planning, 134, 19-32.
- Hadavi, S., & Kaplan, R. (2016). Neighborhood satisfaction and use patterns in urban public outdoor spaces: Multidimensionality and two-way relationships. Urban Forestry & Urban Greening, 19, 110-122.
- Hagestad, G. O., & Uhlenberg, P. (2006). Should we be concerned about age segregation? Some theoretical and empirical explorations. Research on Aging, 28(6), 638-653.
- Harris, V., Kendal, D., Hahs, A. K., & Threlfall, C. G. (2017). Green space context and vegetation complexity shape people's preferences for urban public parks and spatial gardens. Landscape Research, 1-13.

- Heft, H., & Chawla, L. (2006). Children as agents in sustainable development: The ecology of competence. In C. Spencer & M. Blades (Eds.), Children and their Environments: Learning, Using and Designing Spaces (pp. 199-216). Cambridge: Cambridge University Press.
- Horelli, L. (2006). A learning-based network approach to urban planning with young people. In C. Spencer & M. Blades (Eds.), Children and their Environments: Learning, Using and Designing Spaces (pp. 238-255). Cambridge: Cambridge University Press.
- Johnson, P. (2015). Play and art in Boston. 12-04-2018, via: http://www.play-scapes.com/play-design/ contemporary-design/play-and-art-in-boston-2015-playday-lawnond/?utm_source=Playscapes&utm_campaign=b56b23e88d-Main_RSS_Feed12_12_2014&utm_medium=email&utm_term=0_a5a90f23d8-b56b23e88d-253084953
- Jonietz, D., & Timpf, S. (2013). An affordance-based simulation framework for assessing spatial suitability. In: International Conference on Spatial Information Theory Springer, Cham, 169-184.
- Kail, R. V., & Cavanaugh, J. C. (2018). Human development: A life-span view. Cengage Learning.
- Kyttä, A. M., Broberg, A. K., & Kahila, M. H. (2012). Urban environment and children's active lifestyle: SoftGIS revealing children's behavioral patterns and meaningful places. American Journal of Health Promotion, 26(5), e137-e148.
- Larkin, E. EdD, Kaplan, M.S. PhD & Rushton, S. PhD. (2010). Designing Brain Healthy Environments for Intergenerational Programs, Journal of Intergenerational Relationships, 8:2, 161-176.
- Lekies, K. S., & Brensinger, J. D. (2017). Childhood nature experiences across spatial settings: Rural, suburban, and urban. Risk, Protection, Provision and Policy, 67-86.
- Lilius, J. (2017). Urban space in the everyday lives of mothers and fathers on family leave in Helsinki. European Urban and Regional Studies, 24(1), 104-118.
- Mesmer-Magnus, J., Niler, A.A., Plummer, G., Larson, L.E., & DeChurch, L.A. (2017). The cognitive underpinnings of effective teamwork: a continuation. Career Development International, 22(5), 507-519.
- Navajas, J., Niella, T., Garbulsky, G., Bahrami, B., & Sigman, M. (2017). Aggregated knowledge from a small number of debates outperforms the wisdom of large crowds.
- Puhakka, R., Poikolainen, J., & Karisto, A. (2015). Spatial Practises and Preferences of Older and Younger People: Findings from the Finnish Studies. Journal of Social Work Practice, 29(1), 69-83.
- Scopelliti, M., Giuliani, M.V. (2004). Choosing restorative environments across the lifespan: a matter of place experience. Journal of Environmental Psychology, 24, 423–437
- Spangenberg, F., & Lampert, M. (2013). De grenzeloze generatie: en de eeuwige jeugd van hun opvoeders. Nieuw Amsterdam.
- Spencer, C., & Blades, M. (Eds.). (2006). Children and their Environments: Learning, Using and Designing Spaces. Cambridge: Cambridge University Press.
- Thompson, C. W., Aspinall, P., & Bell, S. (Eds.). (2010). Innovative approaches to researching landscape and health: open space: people space 2. Routledge.
- Vanderbeck, R., & Worth, N. (2015). Intergenerational space. Routledge.
- Wagenaar, C. (2015). Town planning in the Netherlands since 1800. Rotterdam: 010 Publishers.
- Wernke, S. A., Kohut, L. E., & Traslaviña, A. (2017). A GIS of affordances: Movement and visibility at a planned colonial town in highland Peru. Journal of Archaeological Science.
- Wilson, R. S., Bienias, J. L., Evans, D. A., & Bennett, D. A. (2004). Religious Orders Study: overview and change in cognitive and motor speed. Aging Neuropsychology and Cognition, 11(2-3), 280-303.
- Yung E.H.K., Ho W.K.O., Chan E.H.W. (2017). Elderly satisfaction with planning and design of public parks in high density old districts: An ordered logit model. Landscape and Urban Planning, 165: 39-53.
- Zijlstra, E. (1997). Mogelijkheden van droge haven te Reduzum. Visited on 25-02-2018 via: http://docplayer.nl/17433067-Mogelijkheden-van-droge-haven-te-reduzum.html

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