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## **Towards an age-friendly village**

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How can the subjective wellbeing of older adults in Vledder be explained by the age-friendliness of the environment?

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## **Abstract**

The objective of this study is to get a better understanding about how the subjective wellbeing of older adults in Vledder can be explained by the age-friendliness of the environment, as shaped by competence and press. The theoretical foundations of the research are the Person-Environment Fit model and the age-friendly cities of the WHO. Research has shown that in rural areas especially problems can occur in elements of the physical environment and therefore, this research focussed on the four elements of transportation, housing, outdoor spaces and buildings and community support and health services. This study contributes to the current literature because it applied elements of age-friendly cities by the WHO (2007) in a rural area and looked at how the subjective wellbeing is shaped by this. Data have been collected through ten in-depth, semi-structured interviews and seven walking interviews. The findings showed that for the participants, adapting the home and using informal care was a way to cope with barriers in and outside the home. Physical accessibility and proximity of facilities and activities were important characteristics in the village and did not always meet the needs of the participants. Concluding, both in and outside the home there are elements that either positively or negatively influence the subjective wellbeing of older adults. The importance of the garden, the (electrical) bicycle and the need for homes in the village where care could be provided, turned out to be more significant than previous literature suggested.

**Keywords.** Age-friendly villages, older adults, subjective wellbeing, ageing in the home, ageing outside of the home

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# 1 Introduction

## 1.1 Background

Between 2015 and 2030, the number of people in the Netherlands aged 60 years or older is projected to grow from 24.5 per cent in 2015 to 32 per cent in 2030 (UN, 2015). Having an ageing population together with the policy goal of supporting people to stay in their own homes for as long as possible has stimulated the debate about what is needed to make the environment ‘age-friendly’ for older adults. The World Health Organisation (WHO) (2007) researched which elements were important for older adults in cities to be ‘age-friendly’ and subsequently introduced the concept of age-friendly cities. It is important to focus on the environment when making this age-friendly as it has especially a significant impact on older adults because they often rely on the locality for support and assistance (Buffel et al., 2012). Furthermore, older adults are sensitive for changes in the environment as the home and the space around it is often a place where they spend most of their days. They will face more challenges in and outside their homes, as for instance poorer health causes restrictions in movement. This makes the environmental factors of their homes and neighbourhood more significant (Wahl & Oswald, 2010). Furthermore, making cities or villages an age-friendly environment is important because it can have a positive influence on the subjective wellbeing of older adults. Subjective wellbeing is about the own evaluation that an individual has about his or her life and is therefore, subjective and influenced by their personal conceptions (Sastre, 1999). It is closely related to health and also affected by social relationships, activities and other factors in the environment that change with age. Being able to maintain subjective wellbeing at older ages is becoming more important because of the higher life expectancies and the increases in treatments for life-threatening diseases available (Steptoe et al., 2015).

Some countries have already paid attention to creating age-friendly cities (Fitzgerald & Caro, 2014; Plouffe & Kalache, 2010). However, less attention has been paid to the age-friendliness of rural areas. Therefore, how the subjective wellbeing can be explained by elements of an age-friendly environment was researched in a rural area. In this case-study the focus laid on the village of Vledder. Vledder is a village in province of Drenthe the Netherlands (see figure 1).



Figure 1 | Location of Vledder | Source: adapted from ArcGIS (n.d.).

In 2016 around 2,000 people were living in Vledder. Vledder lies in the municipality Westerveld which has to deal with a growing ageing population. The population aged 65 years and older is expected to grow in the municipality Westerveld in the coming years with 26% in 2015 to 44% in 2040 (see table 1). In chapter three more information will be given about the research location.

Age category	2015	2025	2040
65 year or older (%)	26.25	33.01	43.78
Total population	19,080	18,010	15,440

Table 1 | Percentage of population that is 65 years or older and total population municipality Westerveld | Source: Provincie Drenthe (2015).

## 1.2 Problem statement

The pursuit of subjective wellbeing is a frequent rationale behind national and local policies (van Hoorn, 2007; Steptoe et al., 2015). Although some countries have already given attention to an age-friendly environment, still little is known about the experiences of older adults in rural areas. A starting point for age-friendly initiatives is to establish the perceptions older adults have on their own communities (Neville et al., 2016). Creating better understanding about what older adults in Vledder think is necessary to make their environment age-friendly and how this affects their subjective wellbeing can be used as input for designing policy.

## 1.3 Research questions

To study the subject, the following research question is formulated:

*How can the subjective wellbeing of older adults in Vledder be explained by the age-friendliness of the environment, as shaped by competences and press?*

The general research question will be answered by the specific research questions:

1. To what extent do older adults in Vledder experience their environment as age-friendly?
2. How do older adults in Vledder deal with barriers in their environment?
3. How is the subjective wellbeing of older adults in Vledder shaped by age-friendliness?



## 2 Theoretical framework

### 2.1 Person- Environment Fit

An important theory that can be used to research older adults, their subjective wellbeing and their environment is the theory of Person and Environment fit (P-E). The theory of P-E fit has been used in the disciplines of psychology, sociology, epidemiology, geography, and anthropology and has been redeveloped over time. Lawton and Nahemow (1973) first developed the theory in 1973. A few years later Kahana (1982) applied it to the situation of older adults and stresses the relevance of the model when the individual has impairments.

The theory of P-E studies the relation between two concepts; personal competence and environmental press. Personal competences are external or internal resources that a person has, for instance social networks, personality or financial status. The competence of a person can be viewed on a continuum from low to high. Older adults who have a low competence level will have few resources and those who have a high competence level will have a lot of resources. The environmental press looks at the environmental demands and how a person responds to this, based on their competence level. When the environmental press is strong there are challenging elements in the environment, for instance many stairs in the house, uneven paving or not enough care. Environmental press also includes socio-environmental relationships, such as a person's relationship with family, friends and neighbours and being involved in cultural or social groups (Smith, 2009). When older adults feel that their personal competence is in balance with their environmental press, it has a positive effect on their subjective wellbeing. As shown in blue in figure 2.1 when the competence and the environmental press are in balance, this has a positive affect on the subjective wellbeing of older adults. When there is incongruence between the personal competence and the environmental press, it can ask for adaptation, which can have a negative affect on the subjective wellbeing (Hooyman & Kiyak, 1993).

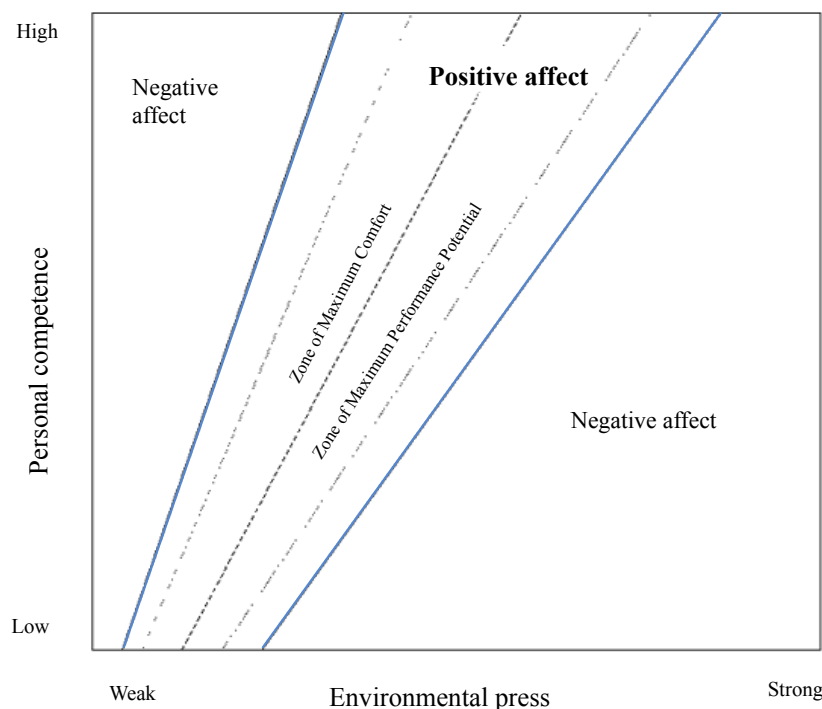


Figure 2.1 | Person-Environment Fit | Source: Adapted from Lawton and Nahemow (1973)

## **2.2 Subjective wellbeing of older adults**

The Person-Environment fit illustrates that the environment is an important element that, when interacting with the personal competence, can influence the subjective wellbeing of older adults. There are different ways to look at the quality of life of older adults. However, in this research the own experiences that older adults have are important. Therefore, the focus will lie on subjective wellbeing as this focuses on the own evaluation that an individual has about his or her life (Sastre, 1999).

It is known that lower subjective wellbeing is associated with a higher risk of physical illness. However, some research also suggests that higher subjective wellbeing can also be a protective factor in reducing risk to health as people age (Steptoe et al., 2012; Steptoe et al., 2015; Lyubomirsky et al., 2005). These studies do not establish causality but suggest that improving the subjective wellbeing of older adults may be associated with favourable health outcomes. It is clear that subjective wellbeing is important but what do older adults themselves find contributing to their subjective wellbeing? Douma et al. (2017) asked older adults, aged 75 years and older, which elements were important for their subjective wellbeing. They found that the multidimensional domains of social life, space and place, health and activities were most important for older adults. This pattern was the same for all groups. Other studies that focussed on older adults' own understanding of subjective wellbeing showed consistent results as Douma et al. (2017). They found that for instance social relationships, home and neighbourhood, physical and psychological health, activities and mobility are important for older adults subjective wellbeing (Fry & Ikels, 2011; Bowling, 2007). It appears that different elements of subjective wellbeing are important for older adults but that the environment seems to be the umbrella dimension.

## **2.3 Age-friendly environments**

In paragraph 2.1 it was discussed that the environment of older adults can have an influence on their subjective wellbeing. But what does an age-friendly environment look like? The WHO wrote a report about the most important aspects of an age-friendly environment focusing especially on cities. According to the WHO (2007) an age-friendly city is a place where policies, services, settings and structures support and enable people to age actively. By doing focus group discussions in more than 30 cities worldwide, they identified eight characteristics that are important in making cities age-friendly (see figure 2.2). With identifying these eight characteristics they wanted to decrease the environment press and increase the personal competence of older adults.

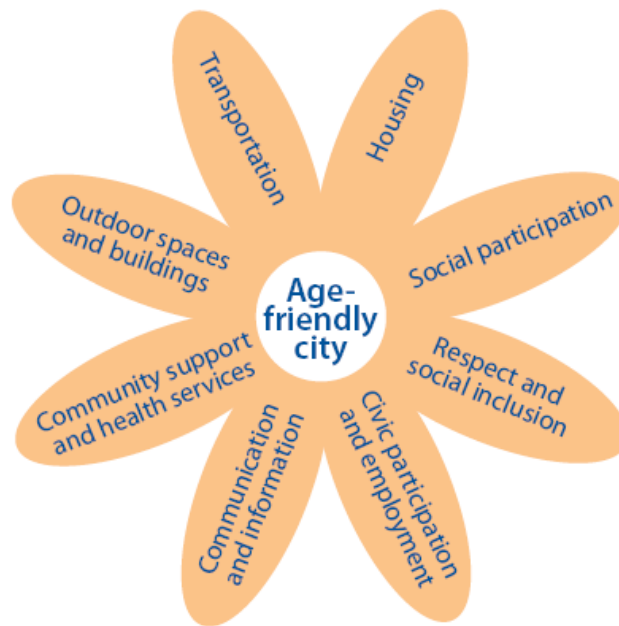


Figure 2.2 | Aspects of an Age-friendly city | Source: WHO (2007).

Key features of a city’s physical environment are outdoor spaces and buildings, transportation and housing. Three other aspects: respect and social inclusion, social participation and civic participation and employment focus on the social environment. The three aspects of the social environment may effect participation and mental wellbeing. The last two topics communication and information and community support and health services, involves both the social environment and health and social service determinants.

The idea of a rural age-friendly environment builds on the report of age-friendly cities by the WHO. Research of the government of Canada has shown that the elements of an age-friendly environment are applicable in rural areas (Gallagher et al., 2006). The only difference is that rural areas have different barriers in becoming age-friendly and therefore in rural areas different elements of the age-friendly environment need more attention. For instance, Spina and Menec (2015) found that it is not easy for all rural communities to become age-friendly because some are too small to provide all the services and opportunities for older adults. When people get older, they not only require more housing options but also transportation, shopping facilities and other services. In more rural communities a lack of these services can create problems in meeting the needs of older adults (Hodge & Gordon, 2008). Therefore, more attention needs to go towards the physical environment of older adults living in rural areas.

The concept of an age-friendly environment has had a great influence in raising awareness for issues concerning population ageing and especially for how this can be managed and planned. However, it has been criticized for giving an ideal and fixed model that does not take into account the diversity of older adults (Plouffe et al., 2016). Furthermore, the age-friendly environment uses a top-down approach meaning that mainly policy-makers were involved and only focus group discussions were used to gain more information. It is said that by using this approach it may undermine engagement by older adults in community development (Buffels, 2012). Although there are different perspectives, in this research the concept of age-friendly environments is used as it provides a good basis for what is needed to make the environment age-friendly for older adults.

## **2.4 Subjective wellbeing and age-friendly environments**

Research has shown that in rural areas especially problems can occur in elements of the physical environment, as villages often have difficulties in providing facilities and services and good transportation links (Spina & Menec, 2015; Hodge & Gordon, 2008; Fitzgerald & Caro, 2014). Therefore, this research focussed on the four elements of transportation, housing, outdoor spaces and buildings and community support and health services.

An important element of the physical environment is transportation. It is about being mobile and includes accessible and affordable public transport. Transportation influences the social and civic participation and gives access to health and community services (WHO, 2007). In rural areas, transportation can be limited and might isolate older adults when they are not able to drive anymore (Lehning & Harmon, 2013). Furthermore, mobility is an important element of transportation and can be described as walking or active transportation (Yen & Anderson, 2012). Being mobile is seen as the best guarantee for older adults to be able to remain in their homes and communities. When the mobility of older adults is limited this can have a negative effect on their mental health. Furthermore, not being able to go out or engage in social activities can be detrimental for their subjective wellbeing (WHO, 2015). The outdoor spaces and buildings also have an influence on how age-friendly the physical environment is for older adults. Ottoni et al. (2016) found that simple alterations to the built environment can help older adults to maintain their mobility. For instance, benches can be a 'mobility aid' for older adults as they adapt the routes they walk and the places they go to depending on the location of benches. They found that older adults feel that benches encourage human activity on the street and that it adds to social cohesion. Furthermore, according to research from Dill (2009) providing cycle paths that are wide and safe for older adults to cycle on, can encourage cycling at an older age. Good roads to walk or cycle on and having enough green spaces where older adults can enjoy nature, are important for the subjective wellbeing of older adults (WHO, 2007). Furthermore, housing is an important element in the physical environment, as having enough housing options that suit the needs of older adults, can be challenging in villages. To be able to suit the needs of older adults with different incomes and various disabilities, the housing options should be varied (Lehning & Harmon, 2013). This is important because having accessible housing has a positive influence on the subjective wellbeing of older adults (Oswald & Wahl, 2005). For instance, the participants that lived in houses accessible for them and who perceived their home as useful and valuable, were more independent and had higher levels of subjective wellbeing. This is inline with Oswald et al. (2007); Wahl et al. (2012) as they found that housing-related agency and belonging were related to autonomy and subjective wellbeing. Lastly, an important element is community support and health services. According to Fitzgerald and Caro (2014) providing specialized health and social services are essential for health and subjective wellbeing. The distance and a lack of transportation are barriers in using health and social services. Especially in rural areas this can play a role in whether health services are perceived as age-friendly. The WHO (2007) also states that having accessible health and support services are vital to maintaining health and independence. Furthermore they also focussed on the importance of home care and residential facilities for people unable to live at home and found that the lack of these services is a concern for older adults.

## 2.5 Conceptual model

From the theory and literature review a conceptual model has been made (see figure 2.2). The age-friendly environment is an important concept in the model. In this research the main focus lies on the four elements of transportation, housing, outdoors spaces and buildings and community support and health services. The social environment might also play an important role in villages but this will not be the main focus of this research and is therefore not included in the model. The four elements are shown as part of the age-friendly environment and influence the subjective wellbeing of the older adult. According to the WHO (2007) the elements of an age-friendly environment overlap and interact, therefore there is also looked at what the relation is between the elements. The P-E theory is included in the conceptual model and is used to explain how the interaction between the personal competence and the environmental press influences the subjective wellbeing. The environmental press can occur in the four elements presented in the conceptual model. For instance, the stairs or small doors can become a barrier in the house when the mobility of older adults becomes impaired. Or, in the outdoor spaces and buildings the access to buildings or uneven paving can be a barrier. It depends on the interaction with the personal competences whether it has a positive or negative effect on the subjective wellbeing. This is displayed with the arrow going both ways from the personal competence to the elements of the age-friendly environment and back.

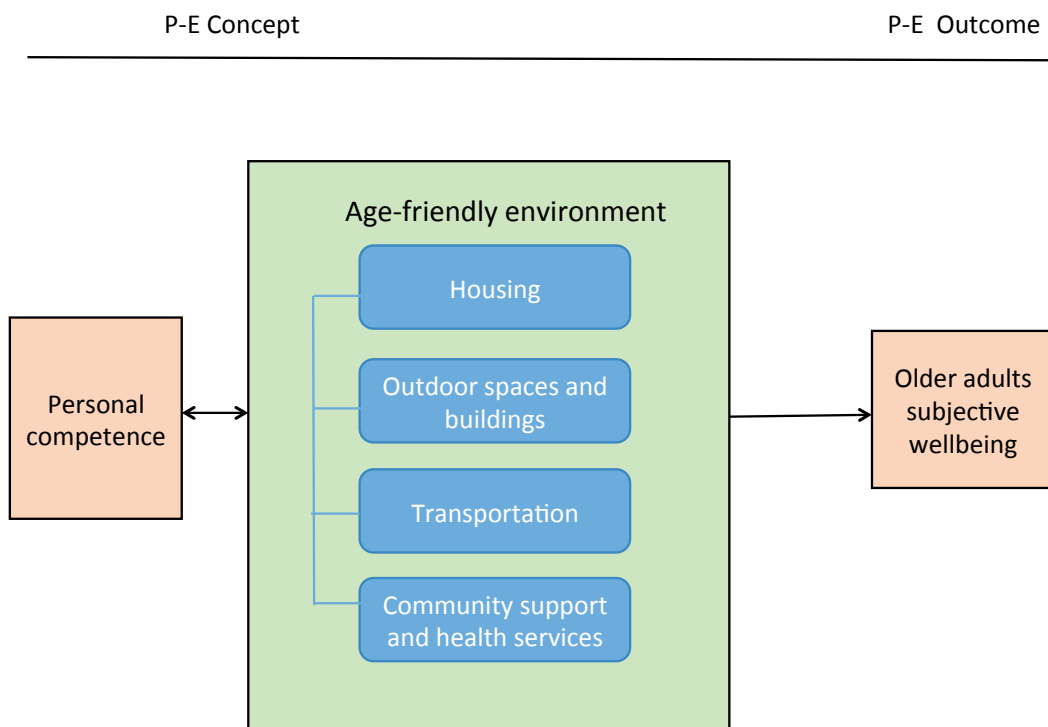


Figure 2.3 | Conceptual Model

## 3 Research Design

### 3.1 Type of research

This study is a qualitative study. The aim of qualitative research is not only to understand social phenomena but also to ‘verstehen’. Verstehen is about knowing the subjective meaning that people attach to their experiences and their views (Hennink et al., 2011). In the case of this research the experiences that older adults in Vledder have with their environment and how this influences the subjective wellbeing were explored.

### 3.2 Research location

As explained in chapter 1 this research focused on one specific village called Vledder. From the nearly 2000 inhabitants only 15% were born and raised in Vledder. Other inhabitants moved to Vledder from other places because of the peace and quietness that it offers (Dorpsbelang, 2017). Thus the inhabitants are a mix of so called ‘Drenthenaren’ and people that come from outside Drenthe. Vledder lies close to a national park called the Drents Friese Wold and other nature areas in the province of Friesland and Overijssel. It is located approximately 11 kilometres from Steenwijk, where more shops are located. Furthermore, it lies 25 kilometres from Meppel, where the hospital is located. There is a bus service that connects Vledder to Steenwijk and Beilen. There are three bus stops in Vledder shown in figure 3. The bus goes once an hour from 6:38 in the morning until 18:48 in the evening and only operates on weekdays. Vledder has basic facilities such as one supermarket, a baker, a restaurants and a general practitioner. Most facilities are located at the Dorpsstraat (see figure 3).

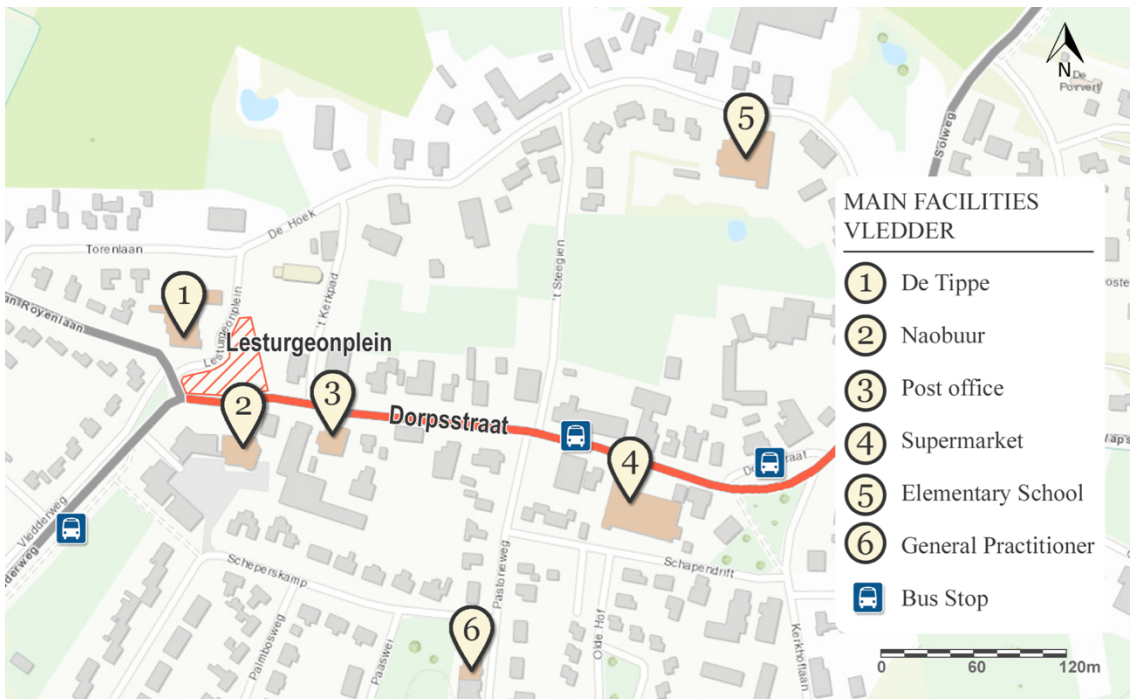


Figure 3 | Map of Vledder and its main facilities. | Source: adapted from ArcGIS (n.d.).

Enthusiastic people in the community created an organisation called ‘Dorpsbelang’. Together they want to serve the interest of the people in the village, improve the liveability and keep the facilities running. A few years ago, they founded an organisation called Naabuur.

Naobuur is located at the main square of Vledder called the Lesturegonplein. It is situated in the library of Vledder and organises activities mainly focussed on older adults, such as coffee mornings or computer courses.

### **3.3 Methods of data collection**

For this study, the data collection was conducted with in-depth, semi-structured interviews and walking interviews. This fits the research because interviews are well-suited to generate insight into the experiences older adults have. An in-depth interview can be described as a conversation with a specific reason (Hennink et al., 2011). In this research, the in-depth interviews were conducted at the homes of the participants because the close environment of the older adults plays an important role in the interview. Furthermore, walking interviews, also named go-along interviews, were conducted because this unique method can give contextually based information about how older adults experience their local world and the influence this has on their subjective wellbeing (Carpiano, 2009). First, the in-depth interview was conducted at the participant's home and subsequently, a walking interview was done, if the participant agreed to take part in it. As a result, one session with a participant took on average an hour and a half to two hours in total. The in-depth interviews took about 45 minutes to an hour and the walking interviews took, depending on the mobility impairments and preferences of the older adults, around 15 to 30 minutes. Using multiple methods provided additional information because the information gathered in the semi-structured interview was used as probes for the walking interview. An example of this was that one participant mentioned during the interview that walking was not always easy for her. During the walking interview more questions could be asked about this and the participant came up with more examples about certain situations where difficulties would occur. Furthermore, by letting the participants choose themselves where they wanted to go during the walking interview, it is a more participant-led approach, which empowers the participant (Evans & Jones, 2011).

An interview guide was made to conduct these interviews. The guide gave structure to the interview and helped to make sure that the same general issues were discussed with the participants. The questions in the interview guide were open questions, as open questions invite the participant to give more detailed personal answers and avoid influencing the participant (Flick, 2015). The main concepts of this research were: age-friendly environment and subjective wellbeing. These concepts were used as the basis in designing the interview guide (see appendix I). With an age-friendly environment the elements of the WHO (2007) are meant. As mentioned in chapter 2 the physical environment includes: transportation, housing and outdoor spaces and buildings. Transportation involves accessible and affordable public transport. The concept of transportation was operationalized with questions about their mobility, the importance of it and the different modalities they used. Some elements that are mentioned in the checklist of the WHO (2007) concerning housing are: affordability, modification, being able to maintain the house and if there are housing options. Elements of this checklist for instance modification and housing options were included in the interview guide. Outdoor spaces and buildings was operationalized by asking questions about green spaces, accessibility, pavements, crossings and buildings. The element community support and health services was also included in this research. This was operationalized by asking about the accessibility, offer of health care facilities and about voluntary work. Elements of the social environment were not included in this research. However, the social environment played a role because the idea is that elements of the physical environment together lead to more social participation by enabling older adults to meet new people. Lastly, the personal

competence and the environmental press influences the concept of subjective wellbeing. By asking what the older adults think is important in their lives, which difficulties they encounter and how they deal with this, the concept of subjective wellbeing was operationalized. The focus has been on a eudemonic perspective as this perspective states that subjective wellbeing is not just an outcome or end state, but a process of fulfilling one's potential (Deci & Ryan, 2008). A eudemonic perspective addresses whether older adults enhance their ability and opportunities to actively pursue self-realisation (Ryff, 1989).

After transcribing the first interview, some small changes were made to the interview guide, whereas some relevant questions were added. For instance, whether the participant could think of any other examples of what is important for them in life. This was added to get more information about the subjective wellbeing of the older adults. The interview guide is in Dutch because the interviews were also conducted in Dutch. The quotes that were used in this thesis were translated from Dutch to English.

Before the walking interview started, the participants were asked to choose a route that was familiar to them. It was left up to the participants to choose where they wanted to go for a walk and how long these walks would take. The interviews at the participants' homes were done in a quiet and private space and no other people were present during the interviews. However, there were three cases where a couple and in another case where two friends wanted to be interviewed together.

### 3.4 Participant recruitment

The population of this research is older adults that live in Vledder. In qualitative research, it is often important that participants with particular characteristics are recruited (Hennink et al., 2011). In this case it was important to select adults that live in Vledder and that were 65 years and older. Furthermore, the goal was to select participants that were mobile and less mobile because the daily environment can be perceived differently when one's mobility is less. The participant recruitment was done by two different tactics of sampling: snowball sampling and formal networks. The participant recruitment started with formal networks. With help of Cees Hesse the chairman of the 'Dorpsbelang' in Vledder the first six participants were recruited during a Coffee Morning in Naobuur. Snowball sampling was then used to find the other participants. In total ten in-depth interviews at the home of the participants and seven walking interviews were conducted. Three participants did not participate in the walking interview. This was either because they did not have enough time, their mobility was impaired or they just did not feel like going for a walk. In table 2 the participants and their characteristics are shown.

Pseudonym	Age	Marital Status	Mobility aids	Walking interview	Living situation
Mrs. De Jong	90	Widowed	Walker	Yes	Two story house
Mrs. Jansen	87	Widowed	Walker or walking stick	No	Two story house
Mrs. Van Dijk	81	Widowed	-	Yes	Apartment
Mrs. Bakker	82	Widowed	-	Yes	Apartment
Mrs. Visser	65	Married	-	Yes	Two story house
Mrs. Smit	85	Widowed	-	Yes	Two story house



Mr & Mrs Bos	75 & 75	Married	-	Yes	Two story house
Mrs. Mulder	71	Widowed	Walker or mobility scooter	No	Two story house
Mr & Mrs Hendriks	78 & 79	Married	-	No	Two story house
Mr & Mrs Driessen	79 & 83	Married	-	Yes	Two story house

Table 2 | The participants

In total ten females were interviewed and three males. Data saturation was reached after around eight or nine interviews but a tenth interview with a couple was conducted to get the viewpoint of another male. It is important to mention that the composition of the participants is not equally divided, as there were more females interviewed than males. In this research the gender dimension was not taken into account explicitly. However, it could be potentially interesting, because it can have an influence on the results as men might have different views and find different elements of their environment important.

### 3.5 Reflection on the gathering and analysing of the data

The interviews went quite well but first it took some time to get used to the interview guide, the target group and interviewing in general. After the pilot interview I realised that I could do more probing and ask more open questions to gain more information. With every interview I felt that this went a bit better. Some participants enjoyed talking a lot and it was difficult to intervene. However, this did not harm the research because also information could be gathered that was relevant. It occurred that sometimes not everything that was audiotaped was clear. This was caused either by wind during the walking interviews or because the participants talked really soft and didn't finish their sentences. Nevertheless, this only occurred in a few situations and no important information was lost. Some of the participants talked in dialect, this was usually not the case for the entire interview but only for some sentences. As I do not come from the same area as the participants, I was not familiar with the dialect that they spoke. This made interpreting what the participants were saying sometimes a bit hard. But I dealt with this by carefully listening to the context in which it was said. Furthermore, some information needed to be translated what might have led to some information to be lost. By carefully translating this was avoided as much as possible.

For the data analysis, a thematic analysis was applied, as this allows the researcher to identify certain patterns within the data (Braun & Clarke, 2006). The interviews were transcribed in Dutch. The transcripts were written carefully and were re-read to make sure that the text was the same as the spoken words during the interview. The transcripts were anonymized to preserve the confidentiality of information shared by the participants. Secondly, these transcriptions were imported to Atlas.ti 7, a software package for qualitative data-analysis. Subsequently, a code tree was made with deductive codes based on the theory and concepts that were already there. In this case these deductive codes were based on the main topics of age-friendly environments and subjective wellbeing. After transcribing, inductive codes were added, as they help with finding new processes and explanations. The code tree can be found in the appendix. Thirdly, the process of coding started very specific. For instance, siblings, daughters, sons, friends were all coded separately. After this, these codes were merged together to the code family social life. So the process of coding went from specific codes to more concrete codes. Some parts were given multiple codes, whereas other parts were just given one code. After coding the data was analysed by finding relations

between codes. For instance, whether adaptations in the home were related to feeling satisfied about the home.

A requirement of doing qualitative research is that the statements by participants and the interpretation that the researcher makes of it are clearly shown. This can be done by increasing the reliability and validity. Reliability in qualitative research is about being consistent with the analytical procedures, which means that if another person would do the analysis, this would result into the same findings. To increase the reliability, I tried to document the research process in detail and reflect on this process, why and which decisions were made. Furthermore, validity is about integrity, the application of the methods used and whether the findings accurately reflect the data (Noble & Smith, 2015). To increase the validity of the research, there was critically looked at how participants answered the questions (Flick, 2015). For instance, in one case the participant talked about the feeling of shame that participating in a certain activity gave her. Firstly, she did not mention this specifically but showed it in the movements that she made. More explanation was asked after this to get a better understanding about what the participant meant.

### **3.6 Ethical considerations**

The Belmont report identifies three principles that are important for ethically conducting a research. These three principles are: Respect of persons, beneficence and justice (see Hennink et al., 2011). These principles were taken in consideration while conducting this research.

Firstly, the participants were given information about the study through a flyer. To make it understandable, the study was presented in clear and simple language and examples were given about what they could expect. Also during the interview, it was asked if they had any questions and if necessary more explanation was given.

Secondly, the interview was audio taped. Before every interview this was mentioned and the researcher asked permission to do so. The researcher told the participants that they could stop with participating with the study at any time if they wanted to. None of the participants wanted to stop. In two of the interviews the participants paused the interview to make some tea. The participants were also told that their name would not be linked to what they said in any publication. Thus, the participation was voluntary, and they received verbal and written information about the study. They indicated they were properly informed, and aware of the consequence of participation, by signing an informed consent form.

Furthermore, as a researcher, it is important to minimize the risk of doing any harm to the participant. Therefore, the interview questions were conducted carefully. By thinking about a logical order of the questions and making sure that there were no questions included that may be too emotional. Before the interview started, the researcher made sure that the participants felt comfortable and reminded the participant that their participation was voluntary. To protect the identity of the participant, the transcripts were anonymized. If quotes were used, all the personal information is left out so that nobody can identify the participant who said it.

Because in four cases the participant was joined by either their partner or friend, additional ethical consideration is needed. In these cases, information could be lost because it was not a private interview and the participant might not be as open as if it was private interview. Furthermore, in the case of the friend, one participant was more dominant than the other what lead to a situation whereby it was hard to get all the information out of the less dominant participant. Nevertheless, the additional information gained by having two participants at once outweighed the negative consequences. In the three cases with the couples both the female and male spend an equal amount of time answering the interview

questions. They reminded each other of situations or examples and sometimes started discussing certain topics if they disagreed. For instance, in one of the cases the couple started discussing the impact it would have on their lives if they would not be able to drive anymore. It was interesting to see the different viewpoints that they had and this gave more information than if they were interviewed alone. Thus, also in the case of the couples the additional information retrieved outweighed the negative consequences.

The person that does the researching influences the research (Hennink et al., 2011). Therefore, reflecting on your own positionality is important when doing research. Before I started my interviews I tried to make the participant feel comfortable through making some small talk. The power relations between the participant and me could have been influenced by the age gap and by the profession of being a student from the University. Firstly, to keep the power relations balanced I decided to wear casual day-to-day clothing. Secondly, I tried to prepare myself sufficiently so that I could answer the questions they asked me. In this way I wanted to show that I knew where I was talking about and so to be taken seriously. I hoped that this would have an impact on how serious the participants would answer the questions. Furthermore, I tried to stay as neutral as possible before and during the interviews as giving my own opinion could have influenced the answers of the participant.

## 4 Findings

In this chapter the results are presented regarding the experiences that older adults in Vledder have with the age-friendliness of their environment and how the subjective wellbeing is shaped by this. The analysis revealed several aspects of the environment that were important for the participants. Section 4.1 discusses the different experiences that the participants had with their homes, gardens and the adaptations that they made to cope with barriers. Section 4.2 discusses how mobility and the infrastructure played an important role in how the participants moved from their homes to different places in and outside the village. Also the different modalities that were used are discussed. Then, in section 4.3 the experiences that the participants had with the age-friendliness of the facilities in Vledder are outlined.

### 4.1 Ageing in the home

All the participants lived independently, either with a partner or alone. A common theme that made the participants feel good about their homes was that adaptations had been made or could be made. This could be in the home but also played a role in the garden.

#### 4.1.1 Preventive adaptations

From the ten interviewed households, nine had a bedroom and bathroom downstairs. All houses had multiple floors. Some participants had renovated their houses by making a bedroom and bathroom downstairs when they bought the house, whereas others had bought the house because everything was on the same floor. These adaptations were preventive, so that if their health would deteriorate, their houses would already be adapted to their needs. These adaptations enabled the participants to stay in their home for as long as possible and were the main reason that the participants felt satisfied about their current home. For instance, a participant made changes to the bathroom after a friend told her that a wheelchair would not fit into the shower. This was a reason for her to make the shower bigger so, if her mobility would become impaired, it would still be accessible for her:

*“We have changed the bathroom so that (-) well we wanted a really big walk-in shower. (...) And then a friend of mine who is a doctor said: “well a wheelchair won’t fit in your shower’. Well now [after changing the shower] it is possible, if one day we might need it.” – Mrs Visser*

Living in a home that is already adapted, seemed to give most of the participants a good feeling. In this way, they have control over the situation and can stay independent for as long as possible. It must be noted that making preventive adaptations is not reimbursed by the municipality, meaning that the participants had to pay for these adaptations themselves. Due to the higher socio-economic status of most participants, this did not seem to be a problem but could lead to problems for older adults with fewer financial resources.

Besides adapting the home, also informal care can be seen as a way of coping with barriers that can occur in the home. Informal care enabled participants to cope with their declining mobility or health if this was necessary. The neighbours played a very important role in this. All participants, except those living in the apartment buildings, mentioned that they had good and regular contact with their neighbours. It appeared that two participants living in apartment buildings felt less connected to their neighbours. Gossiping neighbours was a reason mentioned by one of the participants:

*“Because here two or three women living next to each other always gossip about each other to me. And then I think please take each other like you are. I don’t want to participate in that.” Mrs van Dijk*

However, this was not the case with the other participants living in detached or terraced houses, as they all checked up and watched out for each other. This could be a simple thing such as watching if they opened the curtains in the morning or helping out with some small chores:

*“I experience how pleasant it is here (-). In the morning he [neighbour] waves at you. He will pick the dustbin if he passes by and he will put it at the street. It are the small things that make life nice.” – Mr Brink*

Mr Brink explained that it gave him a good feeling knowing that his neighbour looked out for him. The participants also helped each other with more demanding tasks such as doing grocery shopping or cooking. For instance, Mrs Bos did the shopping for her widowed neighbour every day for the last two years, until the neighbour moved to a care home:

*“Well yes we had the telephone at our bed so if something would happen she knew that she could call us. (...) I have done the grocery shopping for her every day. And yes that [giving care] just developed over time and that is no problem. If we are gone, then someone else does it. That is how we do it here.” – Mr Bos and Mrs Bos*

The participants said that they helped their neighbours and others in the village when their health got less, to enable them to continue living in their homes for as long as possible. It gave them a good feeling that they knew that they had each other to fall back on. Some participants mentioned that different daily schedules could make contact a bit harder. As Mrs Jansen explained her younger neighbours were very helpful, but they were not always at home:

*“Yes I have good neighbours on both sides. (...) Well at one side it are young people that work. But when something occurs I can always ask them. (...). Well if they are at home of course” – Mrs Jansen*

Adapting the house and giving and receiving informal care are two ways in which the participants tried to deal with the environmental press that occurred in their homes. By preventative action most participants have avoided an unbalance between the personal competence and the environmental press. This had a positive influence on the subjective wellbeing of the participants according to the person and environment fit theory.

#### 4.1.2 Possible adaptations for the future

Only one participant, living in a rental house, had not made adaptations to her house. Other participants had made adaptations but did not adapt everything in the house that was possible. Adaptations such as a chairlift were felt as adaptations that could be made later, when it would be necessary. This is also the case with Mrs Smit. Her house is not adapted yet, however she explained that she thought about what she would do if her health would get less:

*“Yes that has been taken into consideration. Because when my husband was ill these houses got renovated. (...) And then all the sliding doors [dividing front room with rear room] in these houses got removed. (...) And then my husband was already ailing; I said we are not going to do that. If my husband cannot go up the stairs anymore, then we maybe can make it a bedroom [rear room]. Then we will sleep there. (...) And I am still happy that they are there. Because if I get ill then that is also a possibility.” – Mrs Smit*

She explained that it was a comfort to her that if her health would get less, she would still be able to live in her home. Just by closing the sliding doors in the middle of her living room and moving the bed downstairs, she would be able to create a bedroom downstairs. It must be noted that Mrs Smit lives in a rental house, which can be a reason why she did not make any adaptations that require redesigning the house. Another example of an adaptation that could be made later was that of Mrs Bakker. She explained how a small adaptation in the bathroom could help her to have a shower when her mobility would get less:

*“(...) Then [when I was sick last year] I could walk well enough to get into the shower. But if that won't be possible anymore and I need a wheelchair then this can easily be removed [ridge that keeps the water in the shower] and then you can easily access the shower.” – Mrs Bakker*

It appeared that every participant had thought about adapting. Regardless whether the adaptations were done preventive or not, having the choice to make adaptations gave the participants a feeling of having control. It was a way for them to be able to cope with possible future mobility impairments. Even though they did not adapt their houses yet, it has a positive influence on their subjective wellbeing. For now they felt that both their personal competence and environmental press were in balance.

#### 4.1.3 Garden

When the participants talked about their home and making adaptations, the garden was also often mentioned. Of the ten households interviewed, eight had a garden and two had a balcony. The sizes of the gardens varied also depending on whether the participant lived in a (semi-) detached house or in a terraced house. The participants in a detached house usually had a bigger garden around the house than those with a semi-detached or terraced house. Figure 4.1 shows two examples of typical gardens in Vledder. The left garden belongs to a semi-detached house and the right garden belongs to a detached house.



Figure 4.1 | Gardens in Vledder | Source: own picture.

Of those participants with a garden, three did the gardening by themselves. The other participants had a gardener. Firstly, many participants enjoyed having a garden, sitting outside and making sure that their property looked neat. Some participants really enjoyed gardening and saw it as a hobby. As a result, they would really mind it if they would not be able to garden anymore:

*“I would mind that [not having a garden] very much. The first thing that I do in the mornings is working in the garden, so that [not having a garden] would really bother me.” – Mrs Driessen*

*“It is our hobby.” – Mr Driessen*

Secondly, some participants mentioned the importance of having a garden as a meeting point to talk to neighbours or other people passing by:

*“Well when you work outside in the garden then often someone passes by on the bicycle and says something or will make a small chat with me. And when I am at the back of the house the same occurs, because my house is located on the corner [of the street] having contact is easy. For people it is important to have contact because when you live alone you will become lonely.” – Mrs de Jong*

Thus, the garden was important for a lot of participants because they enjoyed gardening or because it was a place where they could meet others. However, for others, the garden could also raise negative feelings. This happened, for instance, when participants wanted to maintain the garden but their health did not enable them to do so. Some participants hired a gardener as a solution to this problem. However, a small group of participants did not want to hire a gardener because they felt that a gardener did not do the job properly, or because of the costs. Mrs de Jong explained the financial aspects of having to hire a gardener:

*“We [Mrs de Jong and Mrs Jansen] both have domestic help, so about your home you do not need to worry. But when you worry, you worry about the garden. Because having both domestic help and a gardener is expensive.” – Mrs de Jong*

One other participant also explained how money played a role in the decisions she made. For the other participants, finances did not seem to be a problem; they did not mention it. There was one participant who was looking for a new place to live, as she could not maintain the garden anymore:

*“Well I live at the [road in Vledder] in a bungalow but I want to sell my house because the garden is becoming way too big for me. (...) I like everything [of my home] apart from that big garden.” – Mrs Jansen*

When the daily environment, in this case the garden, asked too much of the personal competences of the participants, it had a negative influence on their subjective wellbeing. For those participants who were still able to do the garden themselves it had a positive influence on their subjective wellbeing as their personal competences were able to cope with the environmental press. Whether or not the garden was perceived as positive or negative had to do with the health of the participants and the willingness to hire a gardener. However, nearly all participants who still had a garden worried about the future. They acknowledged that having a garden might become a problem in the future when their mobility and health would get less and this might be a reason to move to a house with a smaller garden. Whereas adapting the home or thinking about possible adaptations in the home seems a logical thing to do for the participants, this seems different for the garden. None of the participants mentioned the option of adapting the garden so that it is less labour intensive.

## **4.2 Moving through spaces in the village**

Being mobile was very important for the participants. Mobility can be defined as the capacity to move through physical space (Schwanen & Ziegler, 2011). Becoming less mobile had an influence on whether the participants were able to live in their own home for as long as possible. Furthermore, mobility also played an important role in the outdoor spaces, as it influenced whether facilities were reachable and if participants were able to participate in activities. The mobility of the participants was dependent on their health, the infrastructure and on which modalities they could use. Of the thirteen participants, three participants used mobility aids. In most cases this was a walker and in one case a mobility scooter.

### **4.2.1 Walking through the village**

The infrastructure played a part in the ability of the participants to reach facilities or move around easily. In figure 4.4 the seven different walking interviews are shown. Most participants participating in the walking-interview were used to walking, mostly for pleasure. They had certain routes that they enjoyed walking which usually passed woodland or had nice views. The participants, who walked less often, did so because they preferred the bicycle to walking or because walking was difficult for them. These participants choose a short route during the walking interview. Because of the narrow pavements and the quietness of the area, nearly all participants were used to walking on the road. This made walking more pleasant for some participants and enabled them to walk next to someone. However, a few participants mentioned that in some places walking on the road, because of the lack of footpaths, was dangerous (see figure 4.2).



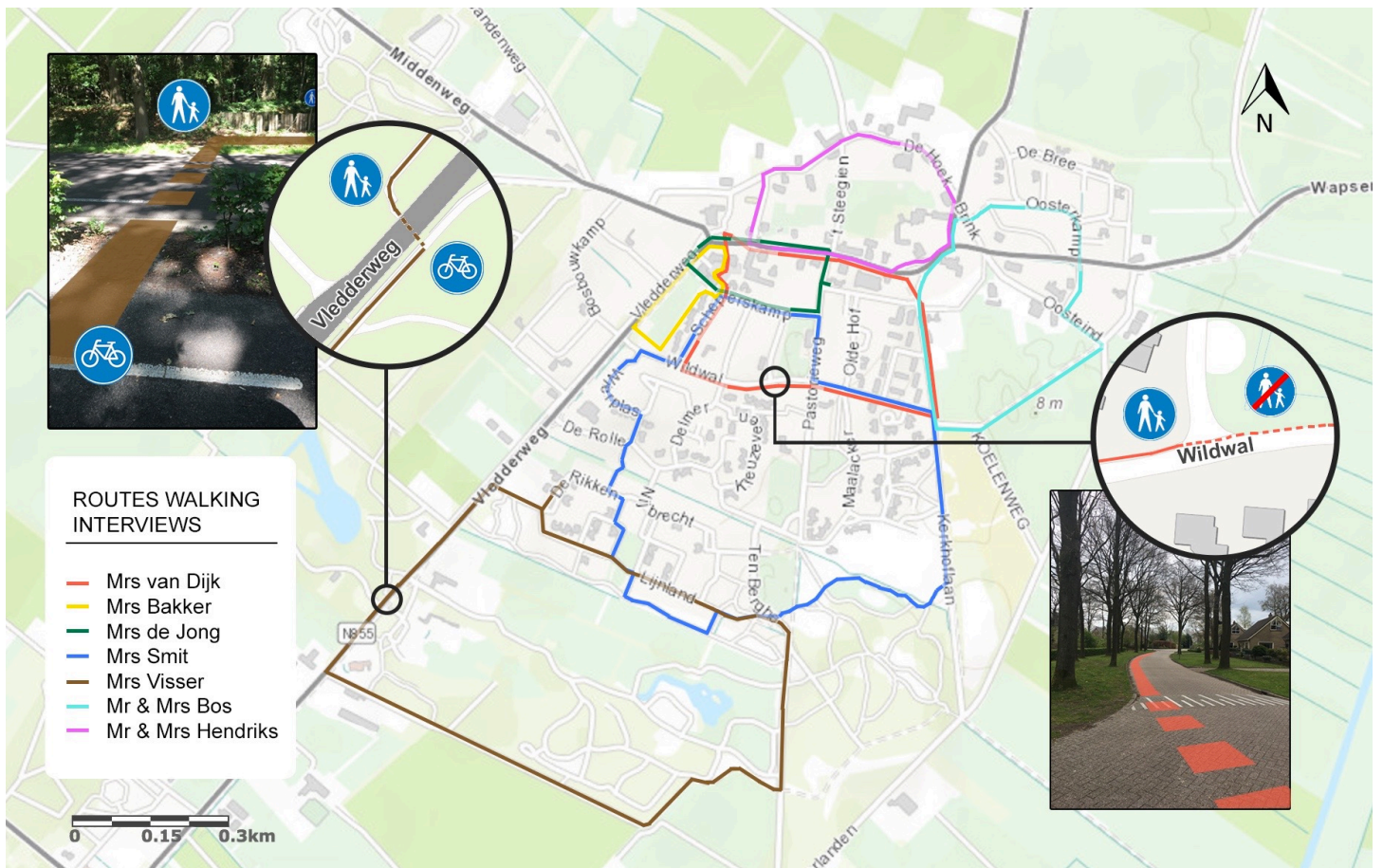


Figure 4.2 | Routes walking interview and locations where there was a lack of footpaths. Source: adapted from ArcGIS (n.d.) and own pictures.

Here, they were forced to either walk on the road or on the cycle path. This led to some dangerous situations and made walking less attractive as Mrs van Dijk explained:

*“Last week I was walking here [on the road] and then a man came in a car. I think he did not see me. I was walking left so I had to go into the grass. Otherwise he would have hit me. Well just because there is no pavement”. – Mrs van Dijk*

Inconvenient situations not only happened due to cars but also because of bicycles in the case of Mrs Visser. She regularly walked to a nearby village. For the first hundred meters this was not a problem because she could walk on a footpath. However, at a certain point she had to cross over the road because the footpath stopped. On the other side of the road no new footpath began, so she was forced to walk on the cycle path:

*“So when you want to go in that direction [of village] as a pedestrian you can only walk on the cycle path. (...) Especially in the summer this not pleasant because many bikes will come racing by.” – Mrs Visser*

When the participants talked about the accessibility of footpaths, two participants also mentioned the Lesturgeonplein. Due to the layout of the square, these participants mentioned that it seemed not clear for everyone where they could park or where they were supposed to walk. A participant explained that situations would occur whereby she could not walk on the

footpath that crossed the square (shown in red, see figure 4.3) with her walker because it was blocked by a car. This made the Lesturgeonplein less accessible for her on busy days.



Figure 4.3 | Lesturgeonplein | Source: Google maps (n.d.).

Furthermore, the different paving and the smoothness of the roads were also mentioned as elements that could make walking more or less pleasant. Mostly the participants were satisfied, however some participants mentioned that for instance the cobbled streets behind the church were not accessible for them or others (see figure 4.4).



Figure 4.4 | Cobbled streets around the church | Source: own picture.

This had to do with the cobbles used for the paving, which made the paving uneven. Mrs Smit described a situation whereby she searched for routes that were more enjoyable for her to walk:

*“A concrete road is nice to walk on because my feet sometimes bother me. Then I look for places that are more comfortable for me to walk on. This [paving currently walking on] is okay, pretty flat. However, behind the church, there are very bad stones. People with a walker also do not like that” – Mrs Smit*

The paving was also a reason for a couple of other participants who were less mobile to choose another route to walk. For instance, Mrs de Jong explained that she had to choose wisely where she walked:

*“Over there you have a corner (...). You can hardly walk there with a walker. The stones are not even and it goes in a circle there. Yes otherwise I would have taken you there. (...) But it is better not to take that road.” – Mrs de Jong*

Thus, the quality of the roads and pavements can make being mobile more difficult. When the paving is uneven, this can lead to environmental press. Whether or not the quality of the roads has a negative effect on the subjective wellbeing of the participants, had to do with their personal competences. For the participants who did have mobility impairments, it had a negative influence on their subjective wellbeing. Some participants tried to cope with the environmental press by walking different routes. In this way they decreased the environmental press.

#### 4.2.2 Cycling and driving through the village

The infrastructure was mainly mentioned as a barrier whilst walking, but also played a role in how safe the participants felt whilst cycling. Nearly all participants except for one were still able to use the bicycle. As Mrs de Jong explained narrow cycle paths was mentioned as a barriers when cycling:

*“They have said when I fall [with the bicycle] I will never walk again. So we [Mrs Jansen and Mrs de Jong] do not cycling on narrow cycle paths. (...) Because when someone comes your way you need to get of your bike and then get back on it again. The cycle paths are hard to cycling on when they are narrow.” – Mrs de Jong*

Even though not every participant felt safe whilst cycling, they kept cycling for as long as possible. All participants that were able to cycle had two bicycles, one electric bicycle and one regular bicycle. Most participants recharged their electrical bicycles at home but there was also a recharge point at the Lesturgeonplein (see figure 4.5).



Figure 4.5 | Electric bicycle recharge point Lesturgeonplein.  
Source: Own picture.

The regular bicycle was mostly used for smaller distances to reach facilities in Vledder. The electric bicycle was used for further distances, mainly outside of Vledder as Mrs Smit explained:

*“When I want to go to [village approximately 11 kilometres away] I use the electric bike. (...). Just for the support. Because the long cycle rides are becoming harder for me to bear. Yes I use it just for support.” – Mrs Smit*

The bicycle was, besides walking, the most important way of transport for the participants. As Mrs de Jong explained she felt that being able to cycle is important for her:

*“Then we say: it is nice that we still can cycle. Because when you can’t cycle anymore, you won’t be able to go anywhere. Then you will be totally dependent on others, as I do not walk that far anymore.” – Mrs de Jong*

Thus, being able to cycle was especially important for Mrs de Jong because she was dependent on it to reach places in and outside Vledder. The participants used the bicycle to visit family or friends, shopping in, for instance, Steenwijk or for doing the grocery shopping in Vledder. Some of the participants also mentioned how they enjoyed going on cycle rides to see more of the countryside and other villages in the area. As Mrs van Dijk explained, she enjoys cycling so much that she called off her appointment in the weekend with her son to go cycling instead:

*“Well yesterday afternoon my son would come and visit me but I called him and said do not come because I want to go and cycle. This afternoon it will be good weather and tomorrow it will be less. So I went cycling instead.” – Mrs van Dijk*

Besides the practical side of being able to cycle and therefore visit places or people, it also gave the participants enjoyment. However, the fear of falling was a reason to contemplate to stop using the bicycle for some participants. They mentioned the inconvenience that not having a bicycle would bring them as they relied on it. Therefore, some participants enrolled themselves at Duofiets. Duofiets organizes trips whereby two people sit on a special designed bicycle. Only one of the riders on the bicycle has to cycle and the other can enjoy the ride. Even though some participants admitted that Duofiets was a good alternative in case they would not be able to cycle anymore, a few felt slightly ashamed of participating:

*“Well you have to submit and the first time I will be on it and you see someone you know I think I will do this [covers face with hands] (...) I don’t know why. I think that it looks a little silly, when I am on it and I will think god o god here I am. Because you do not do anything you see, yes you paddle but it is nonsense that you do it.”*

– Mrs de Jong

It seemed like some participants felt that participating in activities, especially organized for older adults, was something to be ashamed of. They wanted to participate because they liked the idea of being able to go out. However, the opinion other might have when you need help and cannot do it by yourself was a reason to feel ashamed.

The bicycle was especially important for the four participants who did not have a car. They were dependent on the bicycle to travel to places in and outside Vledder. The seven participants who used both modalities also used the electric bicycle to travel further distances, which in some cases was preferred over the car. The participants with a car mentioned that they used it to travel to many places throughout the Netherlands. They usually did this to visit friends or family. These participants using the car also mentioned the fear of what would happen if they would not be able to drive anymore. Mrs Driessen explained her concerns:

*“Well tomorrow we have to go to [place 12 kilometres away] [to visit the dentist]. That is no problem because we can both drive the car, but when you end up alone and you don’t drive anymore, well then you will not be able to go to a dentist anymore.”* – Mrs Driessen

Even though the electrical bicycle enabled the participants to travel to places outside Vledder, some places were too far to cycle and therefore only accessibly by car. In those cases some participants relied on family, neighbours or the taxi.

Concluding, being able to cycle was of great importance for the participants. Due to the bicycle they were able to visit other people or reach facilities both in and outside the village. For those participants who were able to cycle, it had a positive influence on their subjective wellbeing as it helped them to visit places they otherwise might not have been able to reach. In some cases the quality of the cycle paths had an influence on whether the participants were able to cycle certain routes or whether they felt safe. This had a negative influence on the subjective wellbeing of the participants and resulted in a few participants thinking about stopping with cycling. For the participants not able to drive, it had a negative influence on their subjective wellbeing that facilities such as a dentist and hospital were only reachable by car. This meant that their personal competences did not enable to deal with the distance. However, a solution for some participants was to make use of family or a taxi to get to the facilities.

#### 4.2.3 Taxi and public transportation

For the four participants who did not use a car, the taxi helped them to visit people and go to facilities. There are two types of taxi services especially meant for older adults. One that offers rides in the region and another that offers rides outside of the region. Most participants used the taxi for rides in the region, whereby they could use the taxi for a lower price than a regular taxi. The participants did not mention the costs of using the taxi as a barrier. The participants used the taxi to visit family or friends in the region as explained by Mrs de Jong:

*“I have two sisters living in [place Drenthe] so I visit them occasionally. And we [Mrs Jansen and I] have been together to [place 12 kilometres away]. You can use the taxi for anything you want.”* – Mrs de Jong

This taxi needs to be called beforehand and sometimes shared with others. So some of the participants who used the taxi mentioned that it could take a while to get to their destination. However, they were mostly positive about using the taxi. It enabled them to go on outings and visit places that were not reachable with the (electric) bicycle. The taxi services enabled the participants to deal with the distance to different places outside of the village. This had a positive influence on their subjective wellbeing. It seemed that those participants who used the taxi were more positive about it than those participants who did not use it. Those who still

used the car did not like the idea of needing to share the taxi with others and that they would be dependent on when the taxi could pick them up. In comparison with the freedom that having their own car gave them, the taxi did not seem the ideal solution for them.

Using public transportation was not popular under the participants. Only some had tried it once and were not very positive about it. They felt that it was not quick enough as it did not drive directly to the place of destination but stopped regularly. Furthermore, the participants felt that the choice of destinations was limited. In their opinion the car or taxi was more convenient to use.

### 4.3 Age-friendly facilities in the village

Due to reduced mobility or the perspective of becoming less mobile in the future, it was important for the participants to have most facilities close by. The experiences that the participants had with facilities in the village varied, however there were also common experiences.

#### 4.3.1 Main facilities

Nearly all participants could walk to the supermarket and Naobuur and the others cycled to the facilities. Naobuur, the local supermarket, the GP and pharmacy and de Tippe are shown in figure 4.6.



Figure 4.6 | Facilities Vledder | Source: own picture.

Being close to facilities encouraged the independence of the participants because they needed less help from others to reach it. As facilities were so important for the participants, there was a fear of them disappearing from the village. As Mr Bos explained, he is well aware of the importance of having for instance a supermarket close by:

*“We are consciously not doing our grocery shopping in other villages. We try to keep that to a minimum because we find that we should support the facilities here because they are very important for us of course. If the supermarket here would go away, Vledder will become way less attractive. And how should the older adults do their shopping then?” – Mr Bos*

Mr Bos was not the only one, there were more participants that were aware of the importance and therefore did their shopping in Vledder and told each other to do so. Besides the facilities, the activities organised in Vledder were also important for nearly all participants. There were many different activities mentioned, for instance: older adult gym, dancing classes, singing in a choir, coffee mornings and going to older adult clubs. Many participants mentioned that the main reason they participated in these activities was for the social contacts. Especially the activities organised by Naobuur were mentioned as important as the participants could meet other older adults there:

*“There [Naobuur] you can drink coffee in the mornings and Wednesday afternoon we go Bridging there. Not that I care so much about that but I have noticed that at my age you should make sure that you have social contacts, otherwise you will become lonely. So that is what I do.” – Mrs van Dijk*

Mrs van Dijk explained that she went to Naobuur not because she enjoyed the games that much but to prevent becoming lonely. It became clear that having activities and main facilities close by, such as a supermarket and GP was very important for the participants and lead to weak environmental press. It was especially important for those participants who could not travel far distances because of their mobility impairments. Because of this they could walk or cycle to the facilities, which had a positive influence on the subjective wellbeing of the participants.

#### 4.3.2 Care facilities

Formal care enabled some participants to stay in their homes and receive care when they were ill. Home care was mentioned as a form of formal care that was often used. All participants with experience with home care mentioned the importance of receiving care at home. One participant mentioned that it made her feel safe that there was always someone who could give her medical assistance if she needed it:

*“(…) They have said that I always could call them, even if it was in the middle of the night. And you know especially for my [medical condition]. It gives me peace that it can be arranged like that. Because if I have problems and I can't handle it myself, then they said that someone always will come.” – Mrs Smit*

Home care played an important role for participants and enabled them to stay at home when their health was impaired. This had a positive influence on their subjective wellbeing.

However, most participants mentioned that they missed a combination of care and housing in Vledder, where they could move to when they needed more care. At the moment there are no homes in Vledder where also 24/7 care can be arranged. As a result some participants mentioned that they might need to move in the future to get the care they need. As Mrs de Jong explained there are no opportunities in Vledder:

*“It can happen very quickly that you need to move. (...) When I can’t do anything anymore then I don’t care [where I need to move to]. But when I still am mentally fit then I would rather stay in Vledder. But well that is not possible. There is no care here in Vledder.”* – Mrs de Jong

Moving to another place is against the wishes of most participants. They mentioned that they feel at home in Vledder and that it is important for them to know people in the village:

*“We [Mr Driessen and Mrs Driessen] concluded that because of everything that we created here, we really want to stay here [in Vledder]. We know so much people here.”* – Mr Driessen

Mrs Hendriks explained having care apartments or a care home in the vicinity would give him the possibility not only to be cared for but also to have the necessary social contacts:

*“And yes [they say], all older adults prefer to live as long as possible in their homes. Of course you want to stay in your own home but look, it might be arranged okay that they help you with your support stockings and get your food delivered at your home. Maybe they do the washing for you. But then you ignore the fact that many older adults feel lonely. In the morning someone will come and then in the afternoon. But you will just sit there the whole day because you cannot do much anymore. Your eyesight and hearing will become less. And a lot of people become lonely in their homes. And therefore these care homes, what they want to do with Vledder Noord is important. (...) Then you have a place with a common room. Just to play a game and have some coffee.”* – Mrs and Mr Hendriks

Many participants mentioned the project of Vledder Noord and that they hoped that the project would continue. Vledder Noord is a project that plans to build lifetime homes for older adults near the centre of Vledder. Furthermore, they plan to build care apartments that are rentable for older adults, maybe in combination with additional nursing facilities.

Getting home care or having apartments with care facilities in the village can enable the participants to deal with their health problems whilst still staying in the village environment. At the moment, the participants are not able to stay in Vledder when they cannot live independently anymore. In this case they might be forced to move causing a negative influence on the subjective wellbeing of the participants.



## **5 Discussion and conclusion**

In this final chapter the questions that were posed in the first chapter will be answered. Then, the findings of the previous chapter will be discussed and compared to existing literature. Furthermore, in the last section some limitations of this study and some recommendations for further research will be made. Lastly, also some policy recommendations are discussed.

### **5.1 Summary of results**

The aim of this research was to find an answer to the following research question:

*How can the subjective wellbeing of older adults in Vledder be explained by the age-friendliness of the environment, as shaped by competences and press?*

The results showed that a combination of elements in and outside the home and how the participants moved between the two, together influenced the age-friendliness of Vledder. The subjective wellbeing is shaped by the age-friendliness in either a positive or negative way. The home was perceived as age-friendly by the participants because of the adaptations that they made or planned to make and the informal care that they received. This had a positive influence on the subjective wellbeing of the participants. However, the garden was perceived by some participants as age-friendly and by others as not. It depended on the personal competences whether the garden had a positive or negative influence on the subjective wellbeing of the participant. Furthermore, some footpaths and cycle paths were also not perceived as age-friendly by the participants. It is important that the infrastructure meets the needs of older adults, also when their mobility becomes impaired, as otherwise it has a negative influence on the subjective wellbeing. The participants did not perceive the public transport offered in Vledder as age-friendly. The car or taxi was seen as more convenient. An age-friendly environment has facilities and organizes activities that are close by. For the participants this means having them in the village. Having facilities and activities close by has a positive influence on the subjective wellbeing of the participants. Furthermore, not having the option to stay in the village when the health of the participants would deteriorate made the environment less age-friendly for the participants and had a negative influence on the subjective wellbeing.

The participants dealt with barriers in their environment by adapting in various ways. Firstly, by adapting the house so that they were able to deal with their environmental press when their health would deteriorate. Secondly, by receiving informal care and giving informal care to others; especially neighbours. Lastly, by taking different routes either with the bicycle or whilst walking so that they did not pass the areas whereby they had difficulties with the paving.

### **5.2 Discussion of the results**

The two theories used in this research were that of age-friendly cities WHO (2007) and the theory of Person and Environment fit (Lawton & Nahemow, 1973). In this thesis, I focussed on four elements: transportation, housing, outdoor spaces and buildings and community support and health services.

The possibility of adapting the home was most important for the participants when they talked about their home. They mentioned that because of these adaptations they hoped to be able to stay in their home for longer. This is in line with research from Gitlin (2003). He found that modifications in the home were needed to enable older adults with functional

limitations to remain in their homes. The WHO (2007) also mentioned adaptations and maintenance as important points in making the home age-friendly. Besides making adaptations, the garden was for most participants an important element in their home. It was for some a hobby and also a place where they could meet other people. Older adults become more focused on their homes and the immediate living environment as they spend more time in the home than when they were younger (Oswald & Wahl, 2005). Therefore, as older adults will go to fewer places, it is more likely that their own garden becomes more important. The finding that the garden was so important for the participants was new. Other studies found that green spaces are important for the subjective wellbeing of older adults. However, they did not specifically mention that gardens played such an important role in the environment of older adults (Korpela et al., 2010; Maas et al., 2006; Bell et al., 2017). As the Person and Environment fit theory states, the personal competence of the older adults should be in balance with their daily environment to have a positive influence on their subjective wellbeing. The results confirm that indeed for those participants whereby their home or garden asked too much, this had a negative influence on their subjective wellbeing and in some cases forced them to move. Furthermore, finances did not seem to play an important role for the participants in the adaptations they already made and adaptations that could be made in the future. However, there was a participant that mentioned that having a gardener cost money and that it was therefore something she worried about. She might not be the only one, as those participants who did not adapt yet, might have been ashamed to mention that this was due to financial constraints. That income can play an important role in who adapts and who does not, is in line with the research of Gilderbloom and Markham (1996); Hwang et al. (2011).

Besides adapting the home, receiving informal care was also a way of dealing with environmental press in their homes. Especially the neighbours played a role in giving and receiving informal care. This was seen as something normal and what everyone would do for each other in return. This falls in line with the literature about the social cohesion and subjective wellbeing (Elliott et al., 2014; Cramm et al., 2012). Belonging to a community has a positive influence to the subjective wellbeing of older adults in rural areas, according to Brereton et al. (2011). This was also the case with the participants. They mentioned how pleasant good contact and support from the community was. The help and support functioned as resource for the participants, as it for instance helped them to deal with more demanding household chores. This had a positive influence for the subjective wellbeing of the participants. Research of Vermeij (2008) confirms that in rural villages neighbours are more likely to help each other. However, not all participants mentioned their neighbours as an important social contact. It appeared that the two participants living in apartment buildings felt less connected to their neighbours. One participant mentioned that gossiping occurred between the inhabitants in the apartment building. This is in line with research of Vermeij (2008). She found that if the geographical distance between neighbours was bigger, they would seek more social contact. Thus, neighbours need a good balance between involvement and freedom. Furthermore, participants with younger neighbours mentioned that different day schedules also led to less contact with neighbours. This is in line with the research of Lager et al. (2016) who found that there are differences between the rhythms in daily life of older adults and the rhythms of younger and working people in neighbourhoods. This can lead to less support from younger neighbours. This confirms the conclusion of this study.

Mobility was also important for the participants, as it influenced whether facilities were reachable and whether participants were able to participate in activities. The mobility of the participants was dependent on which modalities they could use. The participants mentioned that the most important modality for them was the (electrical) bicycle. This is a new finding as these results differ from other Western European countries. In general walking is the most popular mode under older adults with 45% of all trips. Followed by using the car with 39%. Only 10% of the older adults used the bicycle. In the Netherlands this is said to be higher for older adults aged 65 years and older with 15% of the movements (Mollenkopf et al., 2004). All participants that could cycle also owned an electric bicycle, which was often used as it enabled the participants to go to places they could otherwise only reach by car. This is in line with research from Dill and Rose (2012) who found that the main motivation to ride an electrical bicycle was because it made cycling easier than the regular bicycle. Another motivation was that it was an alternative for a car. Furthermore, public transportation was not found important in this study. The participants mentioned that as using public transport was less convenient than using the bicycle, car or taxi, they did not use it. The reason why the participants did not find public transport convenient was because the bus took too long, only had two different destinations and did not operate in the weekends. Broome et al. (2010) also indicates that low frequency and difficult accessibility can be a barrier to use public transportation for older adults. Especially in more rural areas the frequency and variety of destinations is usually limited (Fortuijn, 1999). Furthermore, the infrastructure also played a role in whether participants were able to reach facilities or move around easily. Some participants had difficulties with the accessibility of some areas in Vledder. This on the one hand had to do with the lack of footpaths and on the other hand with the cobbled paving used in some parts of Vledder. According to Brookfield et al. (2017) pavements and roads can either complicate or support walking for older adults. For some participants the paving complicated walking in some areas and influenced the routes they could take. The WHO (2007) mentioned that footpaths should have smooth surfaces to be easy accessible for older adults. This confirms the conclusion of this study.

Due to the rural location of Vledder many older adults were afraid what would happen if they would not be able to use the car anymore. Therefore, it was very important for the participants to have facilities nearby that could be reached by walking or by bicycle. This is in line with the findings of Dwyer and Hardill (2011), who found that the negative consequences of needing to travel further to facilities are mainly present for older adults that are less mobile and do not have a car. Therefore, most participants purposely did their grocery shopping in Vledder, to keep the supermarket in the village. Kolodinsky et al. (2013) found that when older adults are not able to reach a supermarket by themselves, it has a negative influence on their quality of life. Besides having facilities nearby, it was also important for the participants to have activities in close proximity. The participants were positive about the variety of activities offered. They did not only participate in multiple clubs and activities but also made new contacts there. The participants mentioned social contacts as a reason to go to activities, as they felt that it combated loneliness at older age. This is in line with the WHO (2007) who found that it was important for older adults to participate in society by engaging in different activities.

Lastly, the participants mentioned that they worried about the lack of care in combination with housing in Vledder. The environment would become more age-friendly for them if there would be a possibility of moving to a home where care would be provided in Vledder. The WHO (2007) mentions that having well-located accessible health services is important to older adults. They have found that a common concern for older adults in the city

is the lack of adequate and affordable options for care for those who are not able to live at home anymore. What the WHO (2007) does not mention is the importance of having residential facilities in the same area as where the older adults live. This research has found that there were options outside of Vledder to get care, however the participants wished that there would also be an option in Vledder.

### **5.3 Conclusion**

Concluding, both in and outside the home, there are elements that either positively or negatively influence the subjective wellbeing of older adults. For the participants adapting their home and using informal care was a way to cope with barriers in and outside the home. The importance of the garden, the (electrical) bicycle and the need for homes in the village where care could be provided, turned out to be more significant than previous literature suggested.

When focussing on the context of this research the participants all lived in the same village. Vledder is a village with a relatively high socio-economic status (Volksgezondheidszorg, 2014). This may be a reason that many participants were able to adapt their houses preventive. Furthermore, in Vledder there are multiple old farms surrounded by parcels of land, therefore in places such as Vledder it is more likely that the gardens play an important role. This can become a problem when health deteriorates in later life. Vledder is located close to green spaces and has a lot of walking and cycling opportunities. In the Netherlands nearly everyone learns cycling at a young age and continues to cycle their whole life. The combination of the cycling culture and the surroundings can be a reason that cycling is such a popular modality for the participants. In the case of Vledder many participants felt connected to their neighbours and the community. They helped each other to stay in the homes for as long as possible. In Eastern European countries older adults might be more depending on informal care by members of the family. In those countries, it is an obligation for children to care for their older parents (Suanet et al., 2012). So the neighbours and community will play less of a role.

There are some limitations in this study. The first limitation is that six of the participants were recruited through the coffee morning organized at Naobuur, meaning that they were active older adults that had contact with other people in the village. Also those participants recruited through snowballing were mostly active inhabitants of the village. The outcome might have been different when also older adults were interviewed who were less active in the community. However, in this research it was not possible to find those older adults who were not linked to any organisation or participated in activities. Another point that should be taken into consideration is the fact that more women were included in the study than men. This could have influenced the outcome because men might have different experiences with their daily environment, as other research shows that men are more likely to drive a car (Fortuijn, 1999) and have less physical problems in older age than women (Alsnih & Hensher, 2003). Lastly, most of the participants seemed to have a higher socio-economic status. Income can influence whether for instance an older adult will adapt his or her home (Gilderbloom & Markham, 1996; Hwang et al., 2011). Thus, it might also have had an influence on the choices the participants could make and the experiences they had.

Also implications for further research can be considered. It would be good if further research would include more participants from different villages, with for example different socio-economic status, range of facilities or size. In this way the different villages can give more information about what an age-friendly environment looks like in a different context. This might provide municipalities or villages with more information about how to deal with

their ageing population. It would also be good to study all the elements of age-friendly cities. In this research the focus lay on four elements. However, the other four elements, respect and social inclusion, civic participation and employment, communication and information and social participation might be also interesting to focus on. Lastly, it might also be interesting to compare cities with villages. This again has to do with getting more insight in what an age-friendly daily environment looks like in a different context.

Recommendations for further policy implications when wanting to make the daily environment age-friendly for older adults are to firstly talk to the older adults themselves. This is important because even though this research shows that there are specific elements that are important in the daily environment of older adults in villages, every community works differently and has different barriers. In this thesis participants were interviewed. However, it might be interesting to involve the participants in research. What can be done is training older adults and teach them how they can contribute to changing their environment (Buffel, 2015). Meetings can be organized whereby scientists, policy makers and older adults can meet and develop an understanding of each other. This can help in designing new policy regarding age-friendly environments.

Secondly, it is important in villages to build housing that is appropriate for older adults. It is important to focus on creating enough privacy so that the older adults can build good relations with their neighbours. Also there is a demand for housing that is adapted, meaning having the bedroom and bathroom downstairs, and that has the opportunity to receive more intensive care. As many participants really enjoyed having a garden, it is important to build housing where there is also a small garden included. As maintenance becomes harder when their health deteriorates the gardens should be small and a communal gardener can be hired to do the main maintenance. It is important for older adults to have the opportunity to stay in their own community by being able to move to a place where they can stay for their entire lifespan.

Lastly, it was found that cycling was very important for the participants and enabled them to be mobile. Making sure that there are broad and flat cycle paths can encourage cycling. This can empower the older adults to cycle safely, as the fear of falling was often mentioned. So special attention should be given to accessible infrastructure so that facilities and activities stay reachable for the older adults.

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# Appendix

## 1.1 Interview guide

### Introductie

Hartelijk dank dat u mee wilt doen aan dit onderzoek. Mijn naam is Marike Fowler en ik ben bezig met een master thesis over age-friendly environments. Dit houdt in dat ik geïnteresseerd ben in welke elementen van de omgeving voor ouderen belangrijk zijn. Dit wil ik doen aan de hand van interviews. In dit interview zal uw ervaring met uw fysieke omgeving centraal staan. Hiertoe zal ik u een aantal vragen stellen. U heeft ingestemd met het afnemen van dit interview en met het feit dat dit opgenomen wordt. Niemand zal kunnen achterhalen wat u gezegd heeft aangezien uw naam onbekend zal blijven. Heeft u nog vragen voordat we beginnen met het interview?

### Persoonlijke kenmerken

- Zou u wat over uzelf willen vertellen?  
Probes: leeftijd, burgerlijke staat, woonsituatie.
- Heeft u kinderen of kleinkinderen?
- Hoe lang woont u al in Vledder?
- Wat is de reden dat u naar Vledder bent gekomen?

### Subjective wellbeing

- Wat is voor u belangrijk in uw leven?  
Probes: Sociaal leven, Activiteiten, Gezondheid, Omgeving en plek
- Kan u een voorbeeld geven waarom dit belangrijk voor u is?
- Zijn er nog andere dingen belangrijk in uw leven naast de eerdere genoemde punten?
- Sommige ouderen hebben wel eens moeite met ouder worden, andere ouderen hebben dat niet. Hoe is dit voor u?  
Probes: Problemen met gezondheid, mobiliteit, geheugen.

### Housing

- Zou u wat kunnen vertellen over het huis waarin u woont?
- Wanneer en met wie bent u in uw huidige huis komen wonen?
- Wat is uw favoriete plek in uw huis of tuin?
- Zijn er ook elementen van uw huis die u minder plezierig vindt?  
Probes: Grootte van de woningen, Trappen, tuin
- Zijn er aanpassingen gedaan aan uw huis door de jaren heen?  
Probes: Traplift, wc boven, drempels weghalen
- Wat vindt u van de locatie van uw huis ten opzichte van de faciliteiten in Vledder?
- Zou u in de toekomst willen verhuizen? Waarom wel of niet?
- Wat vindt u van de plannen om nieuwe huizen te bouwen rond het Lesturgeonplein?
- Wat zorgt dat u zich veilig voelt in uw omgeving?  
Probes: Toezicht, inbraakbeveiliging, aanpassingen?

### Transportation

- Bent u in het bezit van een auto en rijbewijs?  
Of bent u dit geweest?  
Zo ja, rijdt u zelf in de auto?  
Waarvoor gebruikt u de auto?  
Zo nee, heeft u vroeger wel een auto gebruikt?
- Neemt u ook wel eens het openbaar vervoer? Wat vindt u van de mogelijkheden hier in Vledder?  
Probes: Frequentie, betrouwbaarheid, toegankelijkheid, mogelijkheden (bestemmingen)
- Maakt u gebruik van de fiets? Waarom wel of niet?
- Maakt u wel eens gebruik van Duo fiets? Waarom wel of niet?
- Gaat u wel eens te voet naar faciliteiten toe of wandelen in de omgeving?

### Outdoor spaces and buildings

- Heeft u werk of doet u aan vrijwilligerswerk?  
Hoe vaak gaat u hier naartoe per week?  
Hoe gaat u hier naar toe?
- Gaat u wel eens op bezoek bij anderen?  
Probes: familie, vrienden, burens, kennissen, dorpsgenoten  
Hoe vaak gaat u hier naartoe?  
Hoe gaat u hier naar toe?
- Doet u zelf boodschappen?  
Naar welke winkels gaat u zoal?  
Hoe vaak gaat u hier naartoe?  
Hoe gaat u hier naar toe?
- Maakt u gebruik van zorgfaciliteiten in Vledder?  
Hoe vaak maakt u hier gebruik van?  
In het geval van Naebuurs van welke faciliteiten maakt u gebruik?  
Probes: computerles, koffieochtend, breicafe, wandelmaatje  
hulp bij klusjes in om het huis, informatie voorziening, hulp bij het invullen van formulieren.
- Zijn er nog overige plekken waar u regelmatig heen gaat?  
Probe: winkels, sportclubs, vereniging, het lestageonplein.  
Hoe vaak gaat u hier naartoe?  
Hoe gaat u hier naar toe?  
Waarom gaat u wel of niet naar het Lesturgeonplein toe?  
Hoe zou het voor u nog een meer aantrekkelijke plek kunnen worden?
- Zijn er nog faciliteiten die u mist hier in Vledder, zo ja welke?

Indien niet mobiel:

- Hoe mobiel vindt u uzelf?
- Hoe gaat u om met beperkingen in uw mobiliteit?
- Zijn er hier in Vledder andere mogelijkheden om deze locaties alsnog te bezoeken?

Indien wel mobiel:

- Vindt u het belangrijk om zelfstandig voorzieningen, activiteiten en mensen te kunnen bereiken? Waarom?

- Wat zou het voor u betekenen als u niet meer zelfstandig voorzieningen, activiteiten en mensen kunt bereiken?

### Afsluiting

- Wilt u misschien nog iets kwijt wat we niet hebben besproken?
- Wat vond u van het interview?

### Walking interview

- Zou u meer kunnen vertellen over wat u prettig of minder prettig vindt aan de omgeving waar we nu lopen?
- Naar welke plekken gaat u het liefst? Waarom?
- Naar welke plekken gaat u het minst graag? Waarom?
- Wat vindt u in het algemeen van de wegen en paden, kan u zich goed voortbewegen?  
Probes: Begaanbaarheid, objecten die in de weg staan, klinkertjes, stoepjes, voetpaden, verkeer
- Zijn er plekken waar u naartoe zou willen maar waar u niet naartoe gaat? Waarom?

## 1.2 Code tree

<b>Subjective wellbeing</b>	Activities	Coffee morning Knitting Playing bridge Sjoelen Puzzles Organised trips Musicals Seminars Market Wandelmaatje Duofiets
	Health	Hereditary disease Loss of hearing Loss of sight Memory loss Chronic diseases Reduced mobility
	Social life	Children Partner Other relatives Friends Neighbours Proximity to contacts
<b>Age-friendly environment</b>	Outdoor spaces and buildings	Green spaces Atmosphere Shopping Clean environment Missing facilities Other places Places they like to come Places they don't like to come Places to rest Lesturgeonplein Opinion about roads Opinion about sidewalks Accessibility Secure environment Cycle paths and walkways
	Transportation	Driving car Public transport

	Taxi
	Duo bike
	Biking
	Walking
	How they deal with being not mobile
	Use of devices
Housing	Feeling satisfied
	Feeling unsatisfied
	Favourite place
	Obstacles
	Adaptations
	Maintenance of the house
	Available housing options
	Location of home to facilities
	Opinion about moving
	Feeling safe in the home
Community support and Health services	Opinion about available care
	Offer of services
	Voluntary work
	Information provided
	Home care

### 1.3 Informed Consent Letter

#### Toestemmingsverklaring

Ondergetekende verklaart hierbij dat hij/zij deelneemt aan de studie: Ervaringen van ouderen met Vledder als een age-friendly environment.

Ondergetekende is voldoende geïnformeerd over de voorwaarden en consequenties van de studie en geeft toestemming aan de onderzoekers om contact op te mogen nemen voor het afnemen van een vraaggesprek.

*Datum:* .....

*Naam deelnemer:* .....

*Handtekening:*

*Geboortedatum:* .....

*Naam coördinator onderzoek: Marike Fowler*

*Handtekening:*

*Plaats:* \_\_\_\_\_



## 1.4 Information letter

### Informatie over de studie age-friendly environments

#### Wat is het doel van deze studie?

Mijn naam is Marike Fowler en ik werk op dit moment aan mijn master scriptie. Het doel van deze scriptie is om de ervaringen van ouderen in Vledder met hun fysieke omgeving in kaart te brengen.



#### Wat betekent deelname aan het onderzoek voor u?

Ik nodig u uit om in gesprek te gaan over uw ervaring door middel van een diepte-interview en eventueel een wandeling waarin u meer kunt vertellen over uw omgeving. Hierbij kunt u denken aan vragen over uw huis, mobiliteit en de faciliteiten in uw omgeving. Het interview zal ongeveer een uur duren en als u mee wilt doen aan de wandeling zal het afhankelijk van uw voorkeur ook maximaal een uur duren. Als u het goed vindt, zal het gesprek bij u thuis plaatsvinden.

#### Wilt u deelnemen?

Als u besluit mee te doen aan het interview, vraag ik u uw naam en telefoonnummer onder aan deze brief te zetten. Vervolgens zal ik contact met u opnemen. U kunt op elk moment besluiten uw deelname te stoppen.

#### Wat gebeurt er met uw gegevens?

De verzamelde informatie zal geheel vertrouwelijk worden behandeld. Dat betekent dat er naast mij en mijn begeleider vanuit de Rijksuniversiteit Groningen, geen anderen toegang hebben tot de gegevens. De informatie zal zoveel mogelijk anoniem worden uitgeschreven, bewaard en verwerkt. Uiteindelijk zal ik met de opgedane informatie mijn master scriptie schrijven en kan het gebruik worden voor andere verslaglegging.

#### Heeft u nog vragen?

Als u meer vragen heeft over het onderzoek, dan u kunt u altijd contact opnemen met mij.

Contactgegevens: Marike Fowler [m.j.fowler@student.rug.nl](mailto:m.j.fowler@student.rug.nl) tel. 0612680749.

Met vriendelijke groet,

Marike Fowler

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Naam:

Geboortedatum:

M / V

Telefoonnummer:

Alvast erg bedankt voor het aanmelden. Ik neem zo snel mogelijk contact met u op.