



# ARCHITECTURE & LONELINESS

DESIGNING AGAINST LONELINESS AMONG THE ELDERLY

## RESEARCH

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Graduation Studio Explore Lab 22

Education Master Architecture

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Delft, 31.01.2017





## PREFACE

This document is part of my graduation project called 'Architecture and Loneliness: designing against loneliness among the elderly', carried out at the Explore Lab graduation studio 22 of the master track Architecture at Delft University of Technology in the Netherlands. The Explore Lab graduation studio offers a lot of freedom and independence to the students, letting them focus on their own fascination under the supervision of their own chosen and selected tutors.

My fascination for my thesis topic gradually started to exist during the last couple of years. It all unintentionally started during the Autumn of 2012 when I did an exchange at Chalmers University of Technology in Gothenburg, Sweden. During this semester abroad, I participated in a healthcare project which focussed on elderly housing, and especially on how to integrate elderly and other people of the society within one building project. Since then my fascination for healthcare architecture, and especially elderly housing, started to grow. Apart from writing my history thesis about the developments of Dutch elderly housing during the years, I also worked on designing an apartment building for care-need elderly and other care-needed people, in combination with ordinary apartments, during my half year of internship in Delft.

Next to creating a fascination for healthcare architecture, I also started to notice how care and housing for the elderly is taking a prominent position within the Dutch news nowadays. When I heard about a housing type in which students and elderly live together, I realised how big of a topic loneliness is when it comes to elderly people and how new insights within architecture could take a helping roll in reducing this. That motivated me to choose 'Architecture and Loneliness: designing against loneliness among the elderly' as the topic of my graduation: a topic that lies within my field of interest, which is closely connected to current developments within the Dutch society. By looking

at this trend from an architectural point of view, I do not try to find the solution to the problem, but I try to find out how architecture could have a supporting role in how loneliness among the elderly could be reduced and prevented.

This thesis can be interesting for designers and architects, especially for those who have a special interest in the more user-based and social side of architecture, but this thesis might also be useful for people from other professions. It could for example be of interest for psychologists and sociologists, while this thesis also focusses a lot on the social and abstract side of the topic and creates a relation between this and, the more concrete side, architecture. Furthermore, this document can be interesting for all those people who want to gain more knowledge about elderly loneliness and about how the built environment could have a helping hand in reducing this phenomenon.

There are many people who have supported me in some way during the creation of this thesis. Of course I would first of all like to thank my research tutor, Cor Wagenaar, for sharing his knowledge and insights on this topic with me. Furthermore, I would also like to thank my design teacher, Luc Willekens, who not only shared his knowledge but who also gave good advice on how to built up this research booklet. Apart from that, I would like to thank the 131 respondents who were willing to spend their time on filling in my multiple-choice questionnaire, of which the results gave me some better insight on certain parts of my research topic. Last but not least, I would like to thank all the people who helped me, perhaps unwittingly, by sharing their experiences, opinions, interesting papers, news articles and other advice with me. Inspiration from others definitely helped me continuing in the right direction during the whole process of conducting this research booklet.

Delft, January 2017



## ABSTRACT

Financial cuts in elderly care and housing is currently a hot topic in the Dutch news. The chance that elderly do not get the care and help they need is increasing when such cuts are being made, and the risk that the amount of neglected and lonely elderly increases thereby too. A way of reducing the effects of this trend, and mainly focused on the topic of loneliness, is by designing such type of architecture which helps in decreasing the amount of loneliness among the elderly.

The goal of this research is to find out how architecture could help in decreasing this amount of loneliness among the elderly people in the Netherlands. Therefore the following research question has been set up: "How could collective living decrease the amount of loneliness among the elderly in the Netherlands?". Collective living is chosen while this is a form of architecture associated with the social side of it, stimulating social interactions.

In order to answer the main research question, literature studies have been done. Furthermore, a multiple choice questionnaire about communal living has been created and conducted among 131 Dutch people of all ages, ranging from teenagers until people in their eighties. The literature has given more insight on elderly loneliness and living preferences. Furthermore, it showed that architectural instruments can be used in order to increase the chance of creating social contacts, leading to a lower level of loneliness among the inhabitants. The results of the multiple-choice questionnaire have shown to which extend elderly, and people from other age groups, are willing to share certain facilities which belong to their living environment.

The main research outcome of the multiple choice questionnaire is that elderly people are generally solely willing to share the more public facilities with others, such as outdoor spaces or storages. These

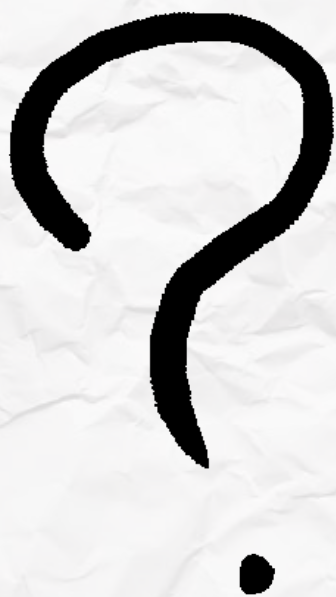
results show that the elderly prefer a high privacy level, which indicates that a high level of collective living, in which facilities such as living rooms and kitchens are being shared, are in general not very suitable. Nevertheless, literature shows that it is important for elderly to be in contact with their neighbours when it comes to reducing the chance of becoming lonely. At this point the architectural elements which support social interaction, found in the literature, can be useful when being applied in the more public areas. This results in a living environment which offers enough privacy to elderly people, but at the same time reduces the chance of these people becoming lonely due to the architectural elements placed in the more public areas of the living environment.

All in all, it can be said that intensive collective living is not the general answer when it comes to housing for elderly in combination with reducing loneliness, because of the high preferred level of privacy among this age group. The answer should be found in the more public areas, where social interaction can be supported by implementing certain architectural elements which create space for social interaction, leading to a lower chance of elderly becoming lonely.

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# 1. INTRODUCTION

## *Problem indication*

A lot of recent news articles in the Netherlands are addressing topics related to elderly people. Most of these articles are about negative developments, for example about the financial cuts in elderly care and the news that elderly people tend to not receive the amount of care they need. Some articles on the other hand, address initiatives that react to these negative developments in order to increase the living quality of elderly again. A development that caught my attention is the fact that elderly people in an elderly home in Deventer are recently being accompanied by a new type of flatmate, namely students. This seems to be an interesting development to me, especially in the light of the theme of loneliness and how collective living could reduce the amount of loneliness among the elderly.

## *Scope*

In this thesis the topic of 'architecture and loneliness' will be dealt with. This is a broad topic and in this thesis the focus will lie on elderly people and more particularly on 'housing for elderly'. The context in which this topic will be explored is the Netherlands in current, the 2010s, time. The type of housing that will be focused on is collective housing, with an extra focus on collective living between elderly people and people from other parts of the Dutch society.

## *Theoretical and practical relevance*

The relevance of this project, the topic of architecture and loneliness among the elderly, can be viewed from different points. The four biggest subjects which are in connection with the relevance are 'politics', 'economic', 'social', and 'demography'. All these topics are related to the existence of loneliness among the elderly and the need for research on the topic of types of elderly housing.

### - Politics

When we look at politics, the current policy in the Netherlands is to let elderly people live at home as long as possible. Before it was more common to let

elderly people move to a care centre but nowadays only people that are in big need can enter there. People are expected to get care and help at home from professionals but also from family and friends (Rijksoverheid, 2015). The housing of elderly that need to stay at home needs to be adjusted to this fact and has to offer them the possibility to age in place.

### - Economic

Something that is closely related to politics is the economical aspect of the story. Many cuts in the Dutch health- and home care are being made, which puts elderly people in a precarious situation. Even though there might be less financial support available for the elderly, these elderly people still need to receive enough care somehow.

### - Social

When we look at the social part of the problem, we can say that between 5 and 20 percent of the Europeans feel lonely (Dykstra, 2009, p. 93). These numbers include people from all age groups, but loneliness is especially a problem for the elderly (Hazer & Boylu, 2010, p. 2083). Feeling lonely is a negative stage in which no person would like to find itself and therefore something should be done in order to decrease this amount of loneliness, particularly among elderly people.

### - Demography

Lastly, the demography of the Netherlands is in a stage that it has an ageing population. Both the amount of elderly people and the percentage of elderly people of the total population in the Netherlands is increasing. The amount of people being 65 years or over will increase from 2,2 million people in 2000, via 3 million people around 2020, towards more than 4 million people around 2040. This means that the percentage of people being 65 years or over within the Dutch population will increase from 14 percent towards about 23 percent (Alders & Tas, 2001, p. 7). This all results in more people needing care and help for deficiencies they experience, which come together with ageing. Furthermore, it means that there will be a bigger

need of dwellings that are adjusted to the wishes and needs of elderly people.

#### *Current state within science*

A lot of research already has been done on the topic of loneliness and also more particularly on the topic of loneliness among the elderly. Furthermore, some news articles address the topic of collective living among the elderly together with students or other parts of the population, though scientific research on this topic has not yet been done very broadly. Scientific research on co-living in general, on the other hand, has been done quite extensively already. Therefore, dealing with the connection between the topic of loneliness and the topic of collective living among the elderly, seems to be an interesting next step within research.

#### *Goal*

The main goal of this research is to find out how collective living for elderly should be designed in order to let it be able to reduce the amount of loneliness among these elderly. Some important subgoals which can help reaching the main goal are to gain more knowledge about loneliness and its relation to elderly people, to do research on what the living preferences of elderly people are, and to investigate which types of dwellings could decrease the amount of loneliness among elderly.

#### *Problem statement*

The problem statement being addressed in this thesis is the fact that loneliness is a big problem among elderly people, and the current developments in the Netherlands related to elderly housing and care will only tend to make this worse.

#### *Research questions*

The main question of the research will be "How could collective living decrease the amount of loneliness among the elderly in the Netherlands?". Furthermore, there will be some important sub questions which will help finding out the answer

for the main question. These sub questions can be divided in different topics, namely 'loneliness' (What is loneliness? What could influence the feeling of being lonely? What are the consequences of feeling lonely?), 'elderly and loneliness' (What are the facts about lonely elderly? Which factors could reduce the degree of feeling lonely among the elderly?), 'living preferences of elderly' (What type of dwelling do elderly people prefer? What neighbourhood types fit to the living preferences of the elderly?), 'designing against loneliness' (How do elderly people like communal living? What kind of architectural instruments support the decrease in the amount of loneliness?).

#### *Hypothesis*

The hypothesis of the research is that collective living between elderly people and people of other parts of the Dutch population, for example students or families, will help in reducing the level of loneliness among these elderly people.

#### *Methodology*

Talking about the methodology of this research, it will mainly be based on literature studies. In order to do so, articles and books will be read, reviewed and used to find the right information. These articles will consist of certain keywords, for example: 'elderly', 'loneliness', 'architecture', 'dwelling/housing', 'built environment', '(health)care', 'communal living', and 'living preferences'. Apart from the literature studies, also a multiple-choice questionnaire will be conducted. This questionnaire will be open to all ages, in order to be able to not only find data from elderly people but to also be able to compare these results with the data other ages provide.

#### *Thesis outline*

The thesis will start by investigating the topic of loneliness in general. The second step is to do research on the relationship between loneliness and elderly people. After that, the living preferences of the elderly people will be investigated. This will

partly be supported by the results of the multiple-choice questionnaire. The last part of the thesis will combine all topics previously addressed in the thesis together, resulting in a chapter about 'designing against loneliness'. For this chapter, results from the questionnaire will be used as input. The thesis will be closed by a conclusion, discussion and bibliography.



## 2. LONELINESS

### 2.1 General

In this subchapter, loneliness in general will be viewed. This in order to create a base of knowledge which can be used as a starting point before going into more specific research about elderly and loneliness.

#### 2.1.1. Definition

Loneliness is a very common phenomenon, which basically all human beings have to deal with at a certain point in their lives. The phenomenon loneliness occurs in all age groups, to both women and men, and in any culture. Weiss(1973, pp. 71-72) mentions in his book about loneliness: "Anyone, regardless of his or her personality, is liable to suffer loneliness in situations that are appropriately defective". Thus, it can be said that any person can relate to loneliness. Nevertheless, explaining what it really is about, might still be hard.

According to Perlman and Peplau(1981, pp. 31-32), loneliness is "the unpleasant experience that occurs when a person's network of social relations is deficient in some important way, either quantitatively or qualitatively". In their article, they name three different points about this definition which should be noticed. These three point are: firstly, that loneliness results from flaws in one's social relations; secondly, that loneliness is a subjective experience; and thirdly, that loneliness is unpleasant and distressing. In a conceptual way, they see loneliness as "a discrepancy between one's desired and achieved levels of social relations". In other words, loneliness occurs when a person is not able to attain the level of social relations he or she aims to have.

Hawkley and Cacioppo(2010, p. 218) see loneliness as "the social equivalent of physical pain, hunger, and thirst". In this view the pain is corresponding to social disconnection and the hunger and thirst are there in order to give motivation for maintaining and forming social connections that are needed

for the survival of our genes. Thus, as they refer to the 'survival of the genes', it can be said that they approach it in a very banal way.

De Jong-Gierveld(2006, p. 582) describes loneliness as "an indicator of social well-being". According to De Jong-Gierveld, it either refers to missing an intimate relationship or missing a wide social network. These are equivalents of emotional loneliness and social loneliness, also mentioned by Weiss(1973) in his book about loneliness.

Lovorka Brajkovic et al.(2011, p. 666) state in their article that loneliness is defined as "subjective dissatisfaction with inter-personal relationships resulting from the changes in current social relationships or as a result of changed desires and needs in social relationships". They furthermore declare that there is a negative correlation between loneliness and life satisfaction.

#### 2.1.2. Classification

The way people experience loneliness, can happen in many different ways and with a varied amount of impact. Some people only face low levels of loneliness while other people might also find themselves in situations where they have to deal with sever loneliness. Several researchers and writers have made certain classifications within the concept of loneliness.

Anne Forbes(1996, p. 353) simplifies loneliness by separating it into two types: external and internal. External loneliness relates to the life circumstances of a person and internal loneliness is more related to someone's personal traits.

Perlman and Peplau(1981, p. 33) mention in their article that loneliness can be classified according to time. The phenomenon of loneliness can for example be seen as a temporary state. A case which shows this type of loneliness is for instance a recent move to another place. The opposite type of

loneliness, when being classified according to time, is the chronic form of it, which is connected to the person itself. In other words, when related to time, we can say a person experiences loneliness on the short-term or a person is a lonely person, referring to loneliness being a continual part of the person.

In their article, Perlman and Peplau(1981, p. 33) also refer to the writer Moustakas in order to give an example of somebody who used a certain type of classification for different types of loneliness. Moustakas(1961) distinguishes a difference between 'loneliness anxiety' and 'existential loneliness'. By 'loneliness anxiety' he means an aversion that is caused by an alienation between human beings. 'Existential loneliness', on the other hand, is part of the human experience, including periods of self-confrontation, but it also creates the opportunity to self-growth. Therefore, 'loneliness anxiety' can be seen as the negative form of loneliness and 'existential loneliness' as the positive, promising form of it.

In his book 'Loneliness: The Experience of Emotional and Social Isolation'(1973), Weiss divides loneliness in two separate parts: emotional loneliness and social loneliness. Emotional loneliness occurs when there is an absence of a personal, intimate relationship. An example of such intimate relationship is with a partner or a best friend. Social loneliness, on the other hand, occurs when there is a shortage of social connections or a shortage of a feeling of community. People who belong to social loneliness are colleagues, neighbours or a group of friends.

Talking about social loneliness, one should not identify it as the exact equivalent of social isolation. Hawkley and Cacioppo(2010, p. 218) talk about two different types of social isolation, of which only one can be seen as loneliness. The two types of social isolation they define are 'perceived social isolation' and 'objective social isolation'. The latter

one refers to the quantity of social connections a person has. It can be that a certain person barely has any social connections or social interactions but is completely fine with that and not feeling lonely at all. Therefore, this type of social isolation does not say anything about how lonely one feels. Contrary, perceived social isolation does relate to the level of loneliness a person experiences. Even people who have many social contacts and encounters, and therefore are not being socially isolated in an objective way, can perceive a high level of social isolation. These people, even though they are often surrounded by and interacting with others, still experience a certain degree of desolation.

## **2.2 Elderly-specific**

As in the previous subchapter a certain basic knowledge about loneliness has been formed, the next step is now to give more insight on the main matters related to elderly specific loneliness.

### **2.2.1. Social ageing process**

In order to be able to better understand how elderly people tend to feel during their ageing process, and especially with a focus on loneliness and social life, several theoretical perspectives on the social ageing process will hereby be discussed, mentioned in an article by Heylen(2010, pp. 1181-1182). What can be noticed when reading all the theories on the social ageing process, being mentioned further on, is that there are different opinions on the relationship between social loneliness and ageing. Some theories suggest that ageing happens in such ways that it does not create social loneliness, while other theories imply that ageing brings people into risk of facing social loneliness.

#### *Disengagement theory*

Heylen(2010, p. 1181) mentions that the disengagement theory was one of the first theoretical perspectives on the process of social ageing. This theory related the shrinking social network that appears during the old age to the

consciousness of approaching death. Because of the consciousness of approaching death, elderly people start to disengage from the society which leads to a decreasing amount of social interactions they are involved with. What the disengagement theory says is that when a person ages, the desired amount of social contacts starts to decrease because of the disengagement they are experiencing. This goes well together with the actual decreasing amount of contacts, resulting in no social loneliness. Heylen(2010, p. 1181) also mentions the critique of Adams(2004) towards this perspective, namely that it assumes that elderly people voluntarily withdraw from social life, which suggests that there is no need for investing in social interaction of elderly people.

#### *Activity theory & continuity theory of ageing*

Two theories that are similar to each other and which can be seen as the opposite type of theory in relation to the disengagement theory are the 'activity theory' and the 'continuity theory of ageing'. What the activity theory assumes, is that the more active people are, the more satisfied they are about their life. The continuity theory on ageing suggests that people stick to the same role and habits that they have developed earlier in life. What both theories imply is that social participation and interaction play an important role when it comes to experiencing wellbeing. When focussing on ageing and the shrinking network which is connected to it, these theories suggest that this decrease in participating will result in a lower level of wellbeing, which can result in a higher risk level of becoming socially lonely(Heylen, 2010, p. 1181).

#### *Theory of socio-emotional selectivity*

Heylen(2010, p. 1181) also mentions the 'theory of socio-emotional selectivity', which assumes that when people are ageing, they become more and more aware of their limited life. What then happens, according to this theory, is that elderly people start to focus more on their close emotional bonds

and less on the more distant contacts they have. When it comes to loneliness, this theory insinuates that ageing, accompanied by a shrinking social network, does not necessarily have to lead to social loneliness, while the ones that are ageing have a different perspective towards what is important when it comes to social contacts.

#### *Theory of selective optimisation with compensation*

Closely related to the 'theory of socio-emotional selectivity' is the 'theory of selective optimisation with compensation'. Heylen(2010, p. 1181) mentions the description of Aartsen et al.(2004) about this theory, which says that the basic assumption of this theory is that "decreasing cognitive and physical capacities force older people to select their contacts and optimise them for the receipt of social support, rather than trying to maintain all their contacts". What this theory actually says is that a decline in health results in a decreasing size of social contacts one has. When it comes to elderly people, which at a certain point are faced with declining health, this means that they also face a shrinking in the size of their social network.

#### *Theory of gerotranscendence*

The 'theory of gerotranscendence' focuses on the positive aspects that could occur due to the cognitive changes a person experiences during the final years of life(Heylen, 2010, p. 1182). The term 'gerotranscendence' is described by Tornstam(1997, p. 143) as "a shift in metaperspective, from a materialistic and pragmatic view of the world to a more cosmic and transcendent one, normally accompanied by an increase in life satisfaction". Heylen(2010, p. 1182) also mentions Hauge(1998) in her article, who says about gerotranscendence that it is something that can be seen as a normal, natural component to maturity and wisdom, and that it also might imply a decrease in the need for social contacts. Thus what this theory says, is that the desired level of social contacts decreases in late life. This means that when the amount of

social contacts of an elderly person shrinks, this does not necessarily have to result in the person experiencing social loneliness.

### 2.2.2. Facts

Loneliness happens among all ages, but often especially elderly people are associated with this phenomenon. It is worth to specifically address how loneliness is related to elderly people, while this does not always fully correspond to the general facts about loneliness. As De Jong Gierveld(1998, p. 73) states in one of her articles, a difference can be seen when it comes to main causes for the existence of loneliness between younger and elderly people. For the younger part of the population, personality traits turned out to be of main importance. For the elderly, on the other hand, circumstances, like the loss of a partner or a decline in health seem to be of more importance for developing loneliness.

It is hard to measure the amount of loneliness or the amount of people suffering from loneliness, while this is a subjective feeling which is hard to concretise. According to Routasalo and Pitkala(2003, p. 303) loneliness is a common feeling among the elderly and the amount of lonely individuals dealing with it ranges among this group from just a few percent up to 40 percent, depending on which research is being looked at. In a Dutch survey, used in a research by Van Tilburg and De Jong Gierveld(1999, p. 158), the outcome is that of the elderly people living in the Netherlands, 68% is not lonely at all, 28% is lonely and 4% of the elderly turns out to be very lonely. They state in their article that previous research used a lower 'pass mark', back then resulting in a higher percentage of lonely elderly. This example only, already shows why and how research results about loneliness can vary quite a lot. Thus, more interesting would it be to look at a research about loneliness in which several age groups are being analysed. This way loneliness among the elderly can be discussed compared to other parts of the society, which gives more insight on how big of a

problem loneliness is specifically for the elderly.

Dykstra(2009, p. 92) shows in her research such comparison between the ages, in which society is divided in the age groups 15-24, 25-44, 45-64, 65-79 and 80+ years old. For the three middle age groups, between 20 and 30 percent of the participants report a moderate or serious feeling of loneliness. What also can be seen is that the feeling of loneliness increases among the very old, which are those 80 years or older. For the group of 80+ years, the percentage of people feeling moderate or serious loneliness lies between 40 and 50 percent. It might now seem that loneliness is indeed something that happens especially to elderly people, or at least the very old, but in the same research something remarkably is being shown too. It turns out that not only those aged 80 years or older experience an above average amount of loneliness, but also the group of 15-24 years old does so. The numbers even show that loneliness among this age group is higher, both the median and the whole scale, than that of the age group of 80+ years. Nevertheless, it seems that, even though elderly are according to these numbers not the most lonely age group, they are still an age group that deals with the experience of feeling loneliness more than the average person within society.

Although Dykstra(2009, p. 92) shows in her results that the very old, in this case those being 80 years or older, are lonelier than the younger elderly, in this case the ones between 65 and 79 years old, Heylen(2010, p. 1184) seems to find contrary results in her research about elderly and social loneliness. The results in her research namely show that the level of social loneliness differs according to age, showing that the older the age group is, the less social loneliness is being experienced. For example, 34,7 percent of the ones being 80 years or older say they are not lonely at all, compared to 27,4 percent of the ones being 65 to 69 years old. These differences in results might imply that the influence

of emotional loneliness is so big on the very old that the results of Dykstra still fit to the results of Heylen, while Heylen only includes social loneliness. This difference in findings might also be a hint that facts on loneliness are very hard to snap and that results might differ because of subtle details within the way the research is being conducted, for example depending on the exact type of sample group being chosen.

### 2.2.3. Perception

Dykstra(2009) talks about the myths and realities when it comes to older adult loneliness. In this article, she for instance describes the perceptions people from different ages have on loneliness among the elderly, and about how much these perceptions differ. In short, she states that people think elderly people are lonelier than elderly people actually experience to feel to be(Dykstra, 2009, p. 92). The numbers that are being used here are as follows: 61% of the people between 18 and 34 years, 47% of the people between 35 and 64 years, and 33% of the people aged 65 or above see loneliness as a serious problem for most of the people above 65 years old. When looking at how big the percentage is of the people above 65 years old, who really state that loneliness is a serious problem for them, this turns out not to be higher than 13 percent of the people(Dykstra, 2009, p. 97). What might be remarkable here, is that even within the age group of 65 years and above, expectations differ a lot from the real experience. Thus, elderly people think people from their same age are more lonely than they actually feel to be. What is furthermore visible with these numbers, is that the younger a person is, the more elderly people they think experience serious loneliness. Somehow this perception changes into a decrease when a person gets older.

In her article, Dykstra(2009, p. 97) refers to Perlman(1988), who gives two explanations for the fact that elderly people are not as lonely

as stereotypes let them seem to be. The first explanation he addresses is that the amount of desired social contact one has, decreases together with the actual amount of social contact. This means that even though an elderly person might have a declining amount of social contacts, the person does not get lonely because of that, because he or she starts to have the need for less contact too. The second possible reason Perlman gives for this situation is that elderly people might give a higher quality rating to the social contacts that they do have. They might see their own social circumstances in a very positive way, compared to what they expected it would be like or compared to how they see the social situation of other people from their age. This latter statement might also be the reason why more elderly people think that elderly people in general are lonely, than the amount of elderly people that really experience to be lonely: they expect the average elderly person to have a less pleasant social life than themselves. Heylen(2010, p. 1180) also mentions that people tend to adjust their expectations of social contacts to their actual situation and by doing that minimise the amount of difference that they feel. This suggests that a strong relation between actual relationships and the relationship standard exists.

### 2.3. Influences

Loneliness can have different causes, or can be a result of a combination of certain influences. Anne Forbes(1996, p. 352) mentions that loneliness is not the simple, direct result of certain social circumstances. According to Forbes, loneliness is rather an individual response towards an external situation. Thus, it can be said that loneliness can be triggered by two main things: firstly by the aspects of the situation we find ourselves in; secondly by our personal traits, which have influence on how we react to these circumstances. Perlman and Peplau(1981, pp. 37-38) also talk about these two different types of influences, or as they call it 'antecedents', for loneliness. They describe these

two antecedents as 'events that precipitate the onset of loneliness' and as 'factors that predispose individuals to become lonely or to persist in being lonely over time'. Precipitating events are for example changes in one's achieved social relations and an example of a predisposing factor are individual characters. As studies mostly show a strong relation between loneliness and the old age (Routasalo & Pitkala, 2003, p. 304), this is also a topic to be discussed in case of loneliness among the elderly. Causes for this strong relation between the old age and loneliness are the fact that many changes and losses in life happen when a person is in his old age. The way the influences on loneliness are categorised in this paragraph is based on the article 'Toward a Social Psychology of Loneliness' by Perlman & Peplau (1981). Some influences more often or only occur among elderly people, but most of the influences can have an effect on people from all ages.

### 2.3.1. Social changes

As a precedent of a triggering event for loneliness, Perlman & Peplau (1981, p. 38) talk about changes. More specifically said, they talk about changes in one's social relationships. Social changes can have different impacts on a person, for instance only on one relationship or on the total social network of someone. The changes can take place within someone's achieved social relations (the topics 'termination', 'physical separation', and 'status change') or is someone's desired social relations (the topics 'developmental changes', 'situational changes', and 'changes in expectations').

#### *Termination*

A common cause of loneliness is the ending of an emotional relationship. There are different types of endings that can result in loneliness. Examples are the loss of someone caused by death, separating from someone via a divorce or another way of ending a relationship, namely a break-up (Perlman & Peplau, 1981, p. 38).

Another form of termination which can lead to a higher level of loneliness is widowhood. Widowhood is something that especially occurs among the older part of the society, thus is it particularly interesting to see how this phenomenon is related to loneliness among the elderly. As Routasalo and Pitkala (2003, p. 305) mention, widowhood may have a very negative impact on a person and its experience of loneliness. The loss of a partner may lead to a collapse of the social network of the person that is left in case the deceased partner was the one who maintained this network. What should not be overlooked is that widowhood also can have a positive impact on the social network of the person being left. Losing a partner, either due to death or a break-up, can be a relief for a person when the relationship was for example very stressful. When it comes to social networks, it might even release a person from social isolation and loneliness. Therefore, widowhood might, perhaps quite surprisingly in most people's eyes, result in a decrease in the experience of loneliness among the person whose spouse died.

#### *Physical separation*

Another cause for loneliness mentioned by Perlman & Peplau (1981, p. 38) is physical separation. They state that physical separation reduces the amount of interaction within the relationship, decreases the amount of satisfaction gained from the relationship, and might increase the fear for the relationship to weaken. Physical separation for example occurs when a person moves to another place and thus moves away from its social contacts which used to live closely by.

A form of physical separation which is closely related to the older people, is moving from your own home to a care home for elderly people. This happens to elderly people who start to face a bad health and therefore need to move to a care residence when their health gets so bad that care at home is no longer possible. Moving to such

care home might create the possibility to help those people in a more accurate way, but such move also has its downsides when it comes to loneliness. Routasalo and Pitkala(2003, p. 305) mention in their article a research by Parkkilo et al.(2001) which is about long-term care residents in relation to loneliness. They state that those people might experience loneliness in three different ways, namely: physical loneliness, social loneliness, and emotional loneliness. Physical loneliness because they had to move out of the surroundings of a normal, independent life, which they are used to. Instead they have to experience an unfamiliar and new environment in the institution they move to. The social loneliness is being experienced by them while close and familiar people, like friends and family, are not present. Furthermore, they are often alone in the institution and generally there is not much activity going on. The emotional loneliness was found among the long-term care residents as an experience of feeling unwell and having the belief that their lives are now totally meaningless.

### *Status change*

When a status of a certain person changes, this can lead to loneliness. This can happen due to the fact that the type of position one has within a group or organisation has a certain influence on how one interacts with others. As an example, Perlman & Peplau(1981, p. 39) take the event of a person getting promotion at work. At this point one's status changes and contact with colleagues that are related to the persons former position will weaken. Until the relation with the new colleagues are formed, the promoted person might experience a certain feeling of being lonely.

Another typical example of status change leading to loneliness, is the empty nest syndrome. This happens to women who have children who, once they are grown up enough, leave their home to built up their own life. Women who have spend a lot of time being a mother are having most trouble

with this situation, during which they often start to develop a certain feeling of loneliness(Perlman & Peplau, 1981, p. 39).

A type of status change which is strongly related to elderly and loneliness is retirement. Retirement is often seen as a life changing moment which can come along with both negative and positive aspects. The general positive aspects that can occur are for example that the person has more time to spend at home and with friends and family, and that there is no set schedule which one has to adjust to. Negative aspects which might occur after retiring are receiving a lower income, developing a lower level of self-esteem due to losing a work role, and losing social contacts which are related to one's work. How people experience retirement can differ a lot. Some people experience it as a reward while others might experience it as a form of punishment. By losing their job due to retirement age, people can develop feelings of depression, sadness and dissatisfaction(Lovorka Brajkovic et al., 2011, p. 665).

There are different research outcomes about how men and women react to retirement. Hatch(1999), for example, states that women are more capable of adjusting to retirement than men. As an explanation for this she declares that generally the role of being a mother is more important to women than the role they have at work. Szinovacz, Ekerdt, & Vinick(1992), on the other hand, say that it is harder for women to adapt to being retired, because they create deeper relationships and social networks at work, making their relations with their colleagues important to them. Brajkovic et al.(2011, p. 670) see no difference between women and men when it comes to how retirement can have an impact on them and state that "retirement was not a critical event but rather a process, which brings positive and negative changes for both men and women equally".

In relation to loneliness, retirement can also have both negative and positive effects. On one hand, as mentioned before, retirement generally leads to losing a part of one's social network due to losing contact with colleagues and other relations that are connected to work. The gap that is being created by that, can lead to an increasing amount of loneliness among the pensioner. On the other hand, the fact that retirement generally means that one can fill his or her time more freely and that one has more free time to meet up with family and friends, may lead to an increasing amount of social contacts and, above all, a deeper relationship with the ones who are being close to the pensioner. These developments can actually decrease the amount of loneliness among a person, but the opportunity to really create those new, and perhaps deeper, contacts need to be present or created in order to succeed at this.

#### *Developmental changes*

Developmental changes is about how one's age is related to one's amount of desired social relations. This can change during one's life. It might for example happen that at a certain point in life a person desires less social relations. Thus, even though the amount of social relations might decrease at such point, this will not lead to loneliness(Perlman & Peplau, 1981, p. 39).

#### *Situational changes*

It is not only change of age that can have influence on desired social relations and therefore loneliness. Also other situational changes can have an influence on this, for example someone's current mood(Perlman & Peplau, 1981, p. 40). It can be expected that one does not desire much social contact when being tired or angry, and desires much social contact when being in a happy and cheerful mood.

#### *Changes in expectations*

Expecting a certain development when it comes to

social relations, can have an impact on the current feeling of loneliness. For example, when one might not have as much social contacts as desired right now but expects this to increase in the future due to certain circumstances, this might result in a lower level of loneliness in the current state, even though there is currently a lack of social contacts. In other situations, expectations might actually lead to feelings of being lonely in a current state already, even though the level of desired social relations is at that moment being met(Perlman & Peplau, 1981, p. 40).

#### **2.3.2. Social contact**

Social contacts can have a significant influence on a person when it comes to experiencing feelings of being lonely. In relation to loneliness, one could look at social contacts in two different types, namely the quantity of contacts and the quality of contacts.

#### *Quantity*

One might easily connect the quantity of one's social contacts to the level of experiencing loneliness. It is generally believed that when a person does not have many social contacts, thus a low quantity level of contacts, the person has a higher risk of becoming lonely.

#### *Quality*

Perhaps an even more important cause of people experiencing loneliness is not the quantity but the quality of one's social relations. A person might have many contacts, but this is not the only thing that counts when it comes to preventing developing feelings of loneliness, especially not when those contacts are of a low qualitative, almost meaningless, level. Having contacts of high quality, even when those are not many, can have a positive impact on preventing someone from feeling lonely, rather than having many social contacts of low quality.

### 2.3.3. Personal factors

In same circumstances, not all people behave alike. Rather the contrary happens, namely that everyone reacts and behaves in a different way, even when being in the exact same situation. This difference in behaviour has everything to do with personal traits of people: Those aspects of a person that are specifically for them. When a person has certain characteristics which make it different to establish and maintain social relations, there is a higher risk for that person to create feelings of loneliness. Several of these personal traits which have a strong relation with loneliness, will be mentioned and described more deeply in the next subparagraphs.

#### *Shyness*

Shyness is a personality trait which makes it harder for people to create and keep up with social contacts. This can result in a quantity of social contacts which is lower than one's desired level and thus results in a higher risk of that person becoming lonely.

#### *Self-esteem*

One's self-esteem can also have an influence on the level of loneliness one is experiencing. There is a strong evidence that having a low level of self-esteem raises the risk of experiencing loneliness(Perlman & Peplau, 1981, p. 42).

#### *Social skills*

Perlman & Peplau(1981, p. 42) state in their article that several studies have shown evidence of social skills having an influence on loneliness. People who have low social skills generally have less satisfying social relations and thus experience a higher level of loneliness.

#### *Similarity*

According to Perlman & Peplau(1988, p. 43) it is a common finding that when things are equal to you, this generally leads to liking it. In connection to this, it means that a person is more comfortable around

a social group that has similarities with him or her. Such similarities can for example be age, religion or ethnic background. Being in such situation, makes it less likely for a person to develop feelings of being lonely.

#### *Demographical characteristics*

Weiss(1973) talks in his book about several demographical characteristics which are associated with loneliness. Research results for example show that more women than men are lonely, though this outcome might be a result of women being more willing to admit they experience feelings of loneliness. Furthermore, Weiss(1973) reveals that married people are on average less lonely than unmarried people.

A demographic characteristic that is especially connected to older people, is having a declining, thus lower, health level. One might face this decline in health in an early stage of later life and another perhaps at the very end, but all elderly people will have to face it at some point, to a certain extend. As Mens & Wagenaar(2010, p. 27) verbalise very nicely in their book about elderly housing: "ageing is not a disease, but it does come along with deficiencies".

Heylen, who did a data analyses on a sample of 1414 Belgian participants aged 55 or more years old on the topic of social loneliness in old age(2010, p. 1177), also got some results about the relationship between health and loneliness among the elderly. A difference can be seen between subjective health and objective health in relation to social loneliness. The lower the subjective health value is among the elderly respondents, the more the person tends to experience feelings of social loneliness. Among those valuing their health with 'very good', 30,4 percent indicates not feeling socially lonely at all, compared to only 22,0 percent of those perceiving a '(very) bad' health. The percentage of people feeling very lonely is 6,2 among those relating themselves to a good health, compared to 21,2

percent of those perceiving their health as '(very) bad'. Thus, perceived, subjective, health has quite a big influence on the amount of social loneliness a person experiences. Furthermore, the results showed that subjective health decreases when a person ages (Heylen, 2010, p. 1190), in other words, that the very old people experience more social loneliness when looking at subjective health than the less older elderly people. Objective health, on the other side, does not show much difference between those suffering from a chronic disease and those not suffering from a chronic disease. Both groups experience, on average, about the same degree of loneliness. Of those having no chronic disease 28,4 percent indicates not feeling loneliness at all compared to 27,5 percent among those that do suffer from a chronic disease. The percentage of those feeling very lonely is the same among both groups, with a percentage of 11,4 (Heylen, 2010, p. 1185). Thus, with these results in mind, it can be said that having a chronic disease in later life will not have influence on the amount of social loneliness being experienced. What the results do show, is that people who suffer from a chronic disease are in general less satisfied with their social relationships (Heylen, 2010, p. 1190).

#### *Childhood antecedents*

Events that happen during one's childhood, can have a significant influence on their level of loneliness. Perlman & Peplau (1981, p. 44) talk about two interesting findings related to this, which occurred during surveys done by Rubenstein et al. in 1979. The first interesting finding is that people whose parents got divorced generally experience a higher level of loneliness. This level of loneliness increases the younger they were during the divorce. Another interesting finding is that people who experience their parents as warm, close and helpful, generally experience a lower level of loneliness than those who remember their parents as being remote, less trustworthy and disagreeable during their childhood.

#### **2.3.4. Cultural and situational factors**

Other factors which can have an influence on loneliness are those that are related to cultural values or to specific social situations.

##### *Cultural values*

Perlman & Peplau (1981, p. 44) state that many sociologists have come to the conclusion that people who have a cultural background in which competition, individualism and personal success are important, generally experience a higher level of loneliness. With these results, we can expect that societies in which the emphasis is more put on the group, exists of people with an average loneliness level which is lower than of those having a cultural background which focusses more on individualism.

##### *Situational constraints*

Situational constraints is about those factors which, in a social setting, have influence on how much interaction can take place. This can have an influence on one's level of loneliness, as more situational constraints may lead to a higher level of loneliness. When there are more options for interaction, the chances of becoming lonely generally reduce. Those situational constraints can be values within a social setting, but also include more structural settings. An example of such structural setting is connected to architecture. When architecture gives one the opportunity to socially interact, this can lead to less loneliness among the inhabitants. On the contrary, when a person lives in a physically isolated place, this increases the risk of the person experiencing loneliness (Perlman & Peplau, 1981, p. 45).

#### **2.4. Consequences**

Generally, having the feeling of being lonely is not just a useless, negative feeling a person experiences. Contrary: Feeling lonely is there for a reason, for a good purpose. As Hawkey and Cacioppo (2010, p. 218) state, having the feeling of being lonely normally motivates the person in case

to connect or reconnect with other people. In case this (re)connection does not take place, loneliness can have serious consequences for the person. It might for example have enormous consequences for one's cognition, emotion, behaviour and health.

#### **2.4.1. Depression**

As Brajkovic et al. state(2011, p. 670), people who are lonely, often show signs of depression. This indicates that a relationship between these two aspects exists. According to Green et al.(1992), loneliness is one of the three most significant factors causing depression. Singh & Misra(2009) mention in their article that many elderly people experience both loneliness and depression. Furthermore, their findings show a significant relationship between these two aspects. The depressive symptoms which often accompany loneliness are withdrawal, anxiety, lack of motivation and sadness. Depression or symptoms related to depression are not unusual to be noticed among elderly people and many studies have shown that the influence of depressive symptoms increases together with age. These depressive-related occurrences can have a significant impact on one's well-being and life quality.

There is a close connection between depression and health too, and a relationship between health, loneliness and depression can therefore easily be made. Physical health is the main cause of depression during late life. This can be related via several different ways, of which one is loneliness. When one faces certain social restrictions due to his or her decreased health level, this can lead to social isolation and loneliness. This loneliness can result in such bad developments that it brings someone in a situation of depression. It is not only bad health that can lead to loneliness and, as a step further, to depression. The opposite can actually also occur, namely that depression can lead to further negative developments in a persons life, such as a decreasing level of health. This development can also increase

the risk of mortality among people(Singh & Misra, 2009).

#### **2.4.2. Suicide**

Loneliness is an important cause of suicide and suicide attempts(Singh & Misra, 2009). As Waern, Rubenowitz, & Wilhelmson state in their article, in most industrialised countries, the highest suicide rates are among the people who are aged 75 years or above. Waern, Rubenowitz, & Wilhelmson did research on the predictors for suicide among this age group. What they found is that, next to family conflict, serious physical illnesses, and both major and minor depressions, also loneliness is one of the main causes associated with suicide among people aged 75 years and over(2003, p. 328).

#### **2.5. Reducing factors**

Feeling lonely is a negative state a person can find itself in, but this state can definitely be changed into a more positive situation in which the person will feel less lonely. The amount of loneliness can be reduced in different ways, with different kind of impacts but all with the goal of reducing the feeling of loneliness.

##### **2.5.1. Activation**

Anne Forbes(1996, p. 353) addresses in her writing the importance of activation in order to reduce the feeling of loneliness among people. Opportunities to get in touch with others should be offered to people to let them stay actively involved with the society around them, rather than leaving them sitting at home, waiting for someone to perhaps come visit them.

The retirement home where a study was done by Brajkovic et al.(2011, p. 670) shows how activating people can possibly lead to less loneliness. At this retirement home, elderly people were encouraged to take part in several social activities. Participating in these social activities gives them the opportunity to create a broader social network. Expanding their

social network by activating in social events, leads to less feelings of social isolation and thus to less feelings of being lonely.

### **2.5.2. Friendships**

In their article, Routasalo and Pitkala(2003, p. 305) talk about the importance of having a close friend in order to decrease the risks of experiencing loneliness. Within this topic, they address the importance of having a friend of the same age. The reason they give for this is that a person with the same historical background and with the same type of values and life experiences, might result in a better understanding of each other. Younger people, on the other hand, will most probably have a different view to life and are therefore less likely to understand an elderly person and to be understood by that person. These sayings, about needing the same historical background and such, also indicate that it is not only important to have a good friend of the same age in order to reduce the amount of loneliness, but also of the same culture and with the same type of view towards the world.

Although Routasalo and Pitkala(2003, p. 305) address the importance of having a close friend of the same age in order to reduce the feeling of loneliness among a person, this does not necessarily mean that creating friendships with people from other age groups will not have any positive impact on reducing this feeling. Friendships with people from other ages can also address to an improvement of the quantity and quality of social contacts, resulting in a lower feeling of loneliness. Furthermore, an elderly person can be a source of wisdom for younger people and thereby feel useful and part of the society thanks to such friendship.

### **2.5.3. Neighbours**

Neighbours can play an important role in the life of elderly people when it comes to reducing the feeling of loneliness among them. When compared to being in contact with family members, a visit

from or contact with a neighbour may be more enjoyable to an elderly person. The reason for this is that being in contact with family members can be seen as an obligation, whereas having a good relation with neighbours is something that seems completely voluntary and thus more sincere. Therefore, the general quality of the relation might be higher and thus have more influence on decreasing the feeling of being lonely among the elderly person(Singh & Misra, 2009).

### **2.5.4. Living environment**

Apart from the social aspects, those topics previously being mentioned, which could reduce loneliness, it can also be found within one's living environment. By the presence of certain architectural aspects, a living environment can be created in which social contacts are supported and thereby loneliness might be reduced. This subject will be discussed more into detail later on in this thesis.

## **2.6. Future developments**

Routasalo and Pitkala mention in their article that having the feeling of loneliness may in the future increase among the elderly(2003, p. 308). They give three reasons for this, namely: 'loosening of social ties', 'frequent divorces', and 'migration'. Furthermore, they mention that social and healthcare systems should take this seriously and react to these problems. Seemingly contrary to these statements are the research findings of Dykstra(2009, pp. 95-98), which say that loneliness actually has been decreased, though slightly, or has stayed on the same level, depending on the research being looked at, over the years. The results she looks at are generally dating back from the period between 1980 and 2005 and it must be said that the researches she based her conclusions on were not only focussing on elderly people.

It is hard to predict how loneliness among the elderly will develop in the future. Even though

Dykstra shows an overview of how loneliness is decreasing during the past years, it might be wiser to look at what the future will most probably bring us and how this can effect the elderly and their experience of being lonely, rather than saying that the current trend will continue.



### 3. LIVING PREFERENCES

*About 90% of the elderly people in the Netherlands turn out to be satisfied with their dwelling(Kullberg, 2005, p. 25). In this research by Kullberg, elderly people are defined as people who are 55 years or older. This outcome by Kullberg sounds very positive, and it is, but the 10 percent of the elderly people which are not satisfied with their dwelling should definitely not be underestimated. This, together with the fact that having knowledge about living preferences of the elderly is of great importance in order to be able to create suitable housing designs for them in the future too, fosters the need of looking deeper into the living and housing preferences of the elderly in the Netherlands.*

#### 3.1. Moving behaviour

Kullberg(2005, p. 25) states in her article that 19 percent of the elderly people in the Netherlands is open for moving. Of these 19 percent, 14 percent is thinking about moving and 5 percent definitely wants to move to another dwelling. There are several reasons why people, and in this case more specifically elderly people, would like to move or why they would like to stay at their current place, also known as 'ageing in place'.

##### 3.1.1. Moving

Physical limitations in combination with inadequate dwellings for these limitations play an important role in why elderly people would like to move. Of the 135.000 people being 55 years or older, about 46.000 people are those who have moderate or severe physical limitations in combination with a dwelling that is not specifically designed for the elderly. Even though this is a big amount of people, almost 75 percent of the people being in such situation definitely do not want to move(Kullberg, 2005, p. 25).

Another factor which makes elderly people want to move out of their current dwelling situation, is the social climate in their neighbourhood.

When this climate is negative, people are more encouraged to move. Examples of such factors that can have an influence on one's desire to move are: the way neighbours are acting to each other, nuisance, and the composition of the population in the neighbourhood. Of the elderly people that certainly want to move, about 33000 are very dissatisfied with the social qualities of their neighbourhood. The majority of these 33000 elderly people would therefore like to move to another neighbourhood(Kullberg, 2005, pp. 25-26).

##### 3.1.2. Ageing in place

Most elderly people in the Netherlands prefer to stay at their current house. Many elderly people and people with physical limitations, among whom are many elderly, want to keep on living independently(Kullberg & Ras, 2004, p. 6). De Jong et al.(2012, p. 25) state that "the preference of the current dwelling becomes stronger by age". Furthermore, they also refer to earlier research by Stimson(2002, p. 16) who brings forward that people's homes represent "a combination of personal and financial security, family memories and a sense of place and well-being". Because a home has such an important place in someone's life, older people might rather stay in their comfort zone, meaning their current home, rather than moving to a new place. The will to stay home seems to be stronger, even if it does not meet their needs, than to move to a dwelling that does suite their needs. In an article by Medical Delta(2013, p. 40) the negative consequences of moving are also mentioned in relation to social contacts. When moving, people are more likely to lose contact with their former friends and neighbours, and creating new friendships is not very easy for them.

#### 3.2. Dwelling

The type of dwelling elderly people live in, can vary a lot. An article by De Klerk(2004, pp. 114-115) shows that most elderly people in the Netherlands are living independently, that means not in an

institution. It turns out that 96% of those aged 55 years or older are living independently and 4% are permanently living in an institution. What is left out in these numbers is the amount of people that do inhabit institutions, but on a temporary basis. Even of the people belonging to the age group 90-94 years, more than half live independently. Only after the age of 95 years or higher, more than half of the people live in institutions.

As the group of elderly people is so heterogeneous, the housing preferences among these people can vary a lot. Some of them are, for different reasons, not open for elderly-specific housing, while others tend to have no problem with living in a dwelling building with such 'elderly' label on it. It can be said that it is important for elderly to have the choice about what type of dwelling they would like to inhabit, especially when they reach a certain level of dependency.

### 3.2.1. General

What can be said about the dwelling size, according to the research by De Jong et al.(2012, p. 25), is that older adults do not necessarily want to live in a smaller dwelling when they get older. Kullberg & Ras(2004, p. 7) state that elderly people are mainly unsatisfied with their dwelling when it is small and includes only one or two rooms. When it comes to the dwelling type, the research by De Jong et al. indicates that elderly people generally have a preference to live in an apartment. Non-detached dwellings, either with or without a garden, seem to be less appealing to older adults. De Jong et al.(2012, p. 16) give as a possible reason for this that elderly people prefer to inhabit a dwelling which does not need much maintenance. Regarding the entrance of the dwelling, older adults prefer housing that is accessible by an elevator. This is much more preferred than having the entrance on the street level. Even less preferred than having an entrance on street level is having a dwelling that is only accessible by stairs. In connection with the

preferred types of entrances is the finding that older adults would like to have at least the living room, kitchen, bathroom, and one bedroom on the same level. When it comes to accessibility within the dwelling, research done by Kullberg & Ras(2004, p. 86) shows that about 70% of the people aged 55 years or older would like to live in a so-called 'zero steps dwelling', a dwelling without any thresholds.

### 3.2.2. Elderly-specific

Several types of elderly-specific dwellings exist in the Netherlands. Those dwelling types can offer housing to elderly people with different kind of needs. When it comes to the amount of care needed an elderly house or senior house, in Dutch 'ouderenwoning' or 'seniorenwoning', can be seen as the lightest form and a nursing home, in Dutch 'bejaardenoord', as the heaviest one. The older a person gets, the more the person is interested in living in an elderly-specific living form. According to research done by Kullberg & Ras(2004, p. 86), more than half of the elderly people who want to move, would like to move to a dwelling with a living form specially designed for elderly. This interest is not influenced by the health state of the person. People who have a partner are less likely to be interested in living in elderly-specific housing, apart from the lightest forms, like a senior house. Interesting to see in the article of Kullberg(2005, p. 28) is that elderly people who are higher educated are in general less willing to live in an elderly-specific living form. Moving to a dwelling type that is adjusted to the needs of elderly, means in the eyes of many elderly people that they lose some of their space and freedom of movement. Especially a nursing home is seen as some sort of prison to most older adults, which makes them unwilling to move to such type of residence(Delta, 2013, p. 40).

### 3.3. Neighbourhood

The living environment is very important for older adults. As Medical Delta(2013, p. 38) states, this

environment is important for the elderly in order to keep their independence, their social contacts and to keep their life quality. What mainly has an influence on how satisfied elderly people are with their neighbourhood are the social features. Physical characteristics of the neighbourhood have less influence on the satisfaction level of elderly people. Nevertheless, these features also have a certain impact on their satisfaction level(Kullberg & Ras, 2004, p. 7).

### 3.3.1. Location

When it comes to the location of the dwelling, older adults generally have a preference to not live at the edge of a city(de Jong et al., 2012, p. 25). According to Kullberg & Ras(2004, p. 86), about 70% of the people aged 75 years or older who are still very vivid would like to live close to the center. What is very interesting about this, is that owning a car does not have any influence on having a preference for living central. This is different for younger households, who generally care less about living central when owning a car. When it comes to certain characteristics of the neighbourhood, many elderly people prefer to live in an area that exists of different types of dwellings and surroundings. What their preferred living environment exactly looks like, can differ a lot between the elderly. Some elderly rather live in a high urbanised area, while others prefer more greenery. Furthermore, some people prefer living in a crowded place and other prefer living in a quiet area(Delta, 2013, p. 41). The characteristics of the neighbourhood plays a more important role for the younger elderly, while the elderly of 75 years and above tend to find the characteristics of the dwelling more important(de Jong et al., 2012, p. 16).

### 3.3.2. Neighbours

Older adults would like to live in a neighbourhood which is inhabited by different types of people. They generally prefer to live in an area together with single households, families and other older adults.

Living in a neighbourhood in which mainly families live, is least preferred by the older adults(de Jong et al., 2012, p. 16). These results show that elderly people are open for sharing their neighbourhood with other age groups and people that have a different household composition than themselves. Apart from that, they also enjoy sharing their neighbourhood with people from the same age and with the same household composition. What they see as an advantage of this, is that they can organise care facilities together and that they can exchange help with each other(Delta, 2013, p. 41). The desire to live among people of the same age increases together with age(de Jong et al., 2012, p. 16). All together, it seems that variation in the neighbourhood, in the case of inhabitants, has the main preference among older adults.

### 3.3.3. Facilities

Having facilities nearby the dwelling, is of importance to many elderly people(de Klerk, 2004, p. 116). The level of satisfaction among elderly people when it comes to their neighbourhood generally increases when there is easy access to shops and public transport within the neighbourhood(Kullberg & Ras, 2004, p. 7). Older adults generally desire to have amenities close to their dwelling, for example supermarkets, care facilities and public transport(de Jong et al., 2012, p. 25). This preference can most probably be explained by the physical state of elderly people, which is in general lower than average. In case a person is not able anymore to, for example, walk long distances or drive a bike, it is logic that such person would like to have amenities nearby home which are relatively easy to reach. Furthermore, elderly people find it important to live in a dwelling which has the possibility to sit outside(Kullberg, 2005, p. 116).

The results of the multiple-choice questionnaire. conducted for this thesis, show how desired certain amenities are among elderly people. Only 8 percent of the people aged 55 years and over do not

desire any facilities nearby their house. The most wanted facility nearby home for this age group is a neighbourhood supermarket, namely among 76 percent of the people. When we look at the people under 30 years, this amount is even higher, namely 90% of the people from this age group desire such facility nearby their home. The second most wanted amenity nearby home for the older age group is a care facility. Among the 51 people aged 55 years and over, 37 people wish this facility to be close to their home, meaning 73 percent. When we look at the age group of under 30 years old, this percentage is only 21, thus a lot less desired. This shows that the desire for such amenity is typically for elderly people, unlike a neighbourhood supermarket.

The questionnaire result furthermore show that other desired amenities nearby home among people from the age group 55 years and over are: a library (37%), lunchroom (31%), pub (27%), restaurant(45%), and a fitness center(20%). One of the respondents, a 63 year old woman, gave as an extra advice to add a swimming pool to elderly housing, cause "it keeps them fit".

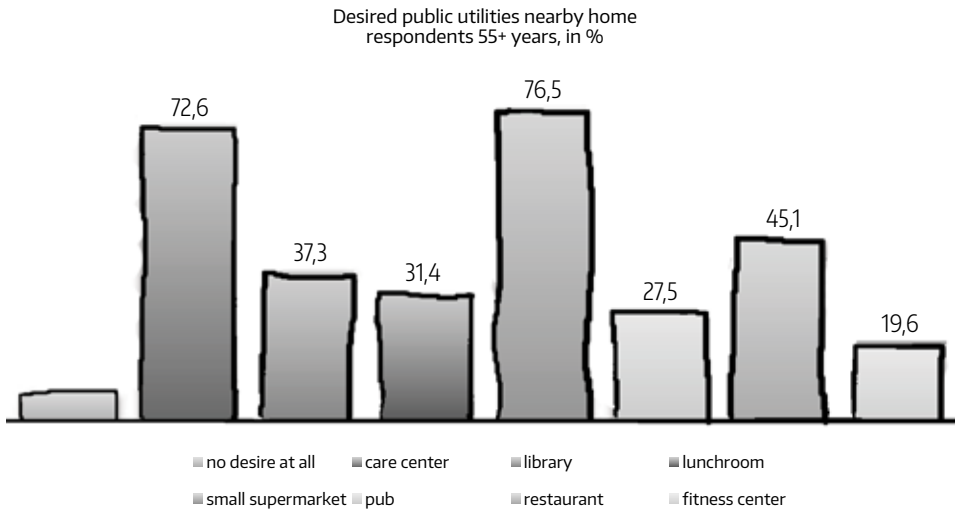


fig. 01: Results 'Desired public utilities nearby home - 55+ years'

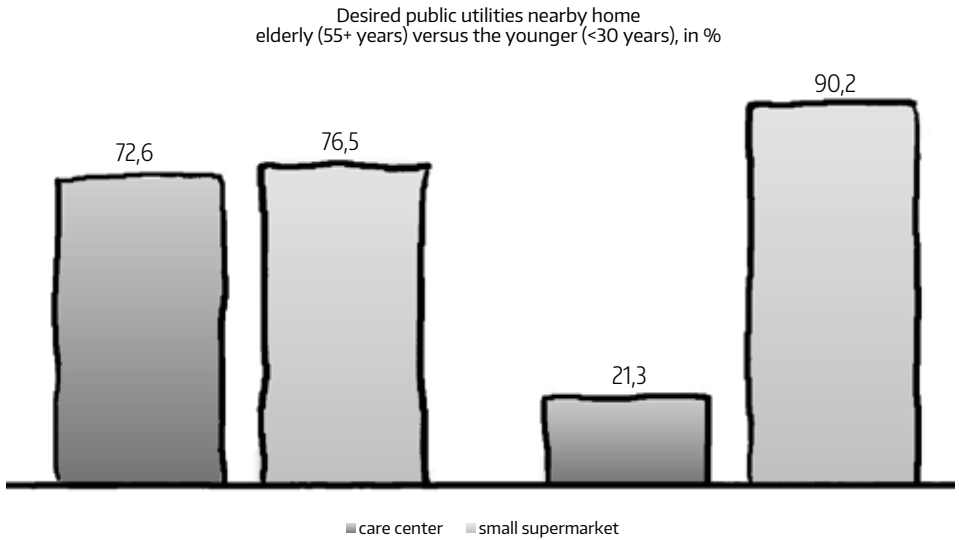


fig. 02: Results 'Desired public utilities nearby home - 55+ years versus <30 years'



## 4. DESIGNING AGAINST LONELINESS

### 4.1. Communal living

As loneliness can be decreased by increasing the quantity and the quality of ones social network, communal living seems to be an answer in this process when it comes to dwelling, while it increases the likeliness that a person increases its social contact with its neighbours. Communal living has many forms of which not all will fit to everyone. Some of these forms might only be appealing to just certain type of people, for example when it demands much time to participate in it or when only people with certain characteristics, such as being a woman, are allowed to join. Types of communal living which demand less time but nevertheless increase social bonding, might be appealing to a bigger and more diverse group of people. The same perhaps applies to forms of communal living which are not created for only certain type of people.

The results of my multiple-choice questionnaire show how open elderly people are at all towards

collective living. Out of the 51 respondents aged 55 years and over, about 21 (41 percent) of the people were not willing to live in a collective dwelling, no matter who they would be co-living with and to what extend. About 47 percent of the respondents in this age category were actually willing to co-live with other elderly people. Students and families with children were less popular to co-live with, respectively 16 and 26 percent of the people aged 55 years and over were positive towards co-living with these user groups.

#### 4.1.1. Intensity

Communal living can be divided according to the level of intensity when it comes to sharing certain aspects of the living environment. Some types of communal living might for example only be restricted to sharing the garden, while other types may be intended for letting the inhabitant share everything except from the bedroom. When it comes to the intensity level of communal living, the



fig. 03: Results 'Willingness to collective living - 55+ years'

ratio private versus shared areas is very important. This has to be in balance according to the wishes of the inhabitants. As Jane Jacobs puts it clearly: "A certain degree of contacts is useful or enjoyable; but you do not want them in your hair. And they do not want you in theirs either."(1961, p. 56). This shows that enough privacy should be available in order to let everything co-live in harmony.

The difference in willingness to share certain facilities within a collective dwelling, can clearly be seen in the results of my multiple-choice questionnaire. When, for example, the willingness to share a living room or outdoor space is being compared, it can be seen that people are way more willing to share the outdoor space. The reason for this is most likely that an outdoor space clearly has a more open and public atmosphere than a living room, which might make people feel it is less invading in their private lives when they share such places with others. The results show the difference

in the willingness of people aged 55 years or over to share these spaces with other elderly, students or families with children. Elderly are clearly more willing to share these spaces with other elderly, namely 12 percent are willing to share the living room and 59 percent are willing to share outdoor spaces with them. When it comes to co-living with students, only 6 percent of those ages 55 years and over are willing to share a living room and 39 percent to share outdoor spaces. Sharing the living room with families with children is even less desirable, namely 4 percent, and the willingness to share outdoor spaces with this user group is, just like with students, 39 percent.

**4.1.2. Inhabitants**

Communal living comes in many forms, not only building-wise but also when it comes to the type of inhabitants. Some types of communal living do not specify what types of inhabitants are welcome, while others are very specific about this. It can also

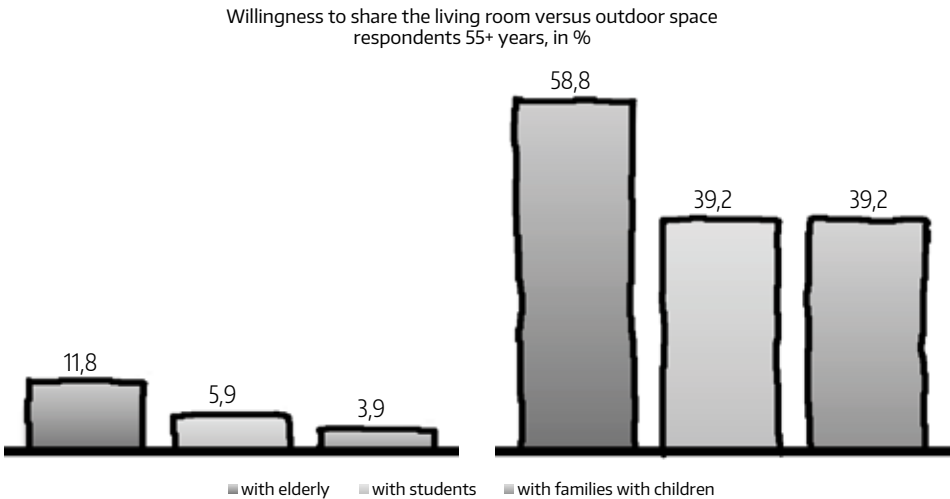


fig. 04: Results 'Willingness to share the living room versus outdoor space - 55+ years'

be that certain groups are being mixed together, and sometimes these are groups that you would not think about to let co-live in the first place. As the results of the multiple-choice questionnaire conducted for this thesis show, the willingness to share certain facilities with others, depends quite a lot on who those other people are. With a focus on elderly people, certain examples of mixing, or not mixing, them with others are hereby being given. These given examples exist of both projects that might be attractive to many elderly people, but also of some that might be attractive to just a select group of elderly.

### *Family*

One type of co-living between elderly and others is to let them live with their family. Within this type of co-residence Pleau(2012) distinguishes two subtypes, namely 'intergenerational coresidence' and 'multigenerational coresidence'. The first type is about a parent and child, and possibly a third generation child, living together; the second type is about three or more generations living together, of which the middle generation might even be absent. In the Netherlands, this type of co-living is not very common. In 2007 only about five percent of the Dutch people aged 65 and over were living together with their adult children. Nevertheless, about 15 to 20% of the Dutch people aged 50 and over were getting administrative, personal or household help from their children on a regular basis. These children were mostly not living together with their parents(Vrooman, de Boer, Wildeboer Schut, Woittiez, & de Klerk, 2015, pp. 11-12). One of the reasons for this low percentage in adult children living together with their parents is that this form of living is least popular among the elderly. According to research by Medical Delta(2013, p. 41), this form of living is not popular among elderly while they want to take into account the preferences of their children. Some elderly think that by starting to co-live with their children, they take away their freedom. Even though the elderly

would find it cosy to live together with their adult children, they would not want to bother them with their presence.

### *Other elderly*

There are several forms of elderly living together with other elderly. Possibly positive aspects of elderly people co-living is that they are in more or less the same position and therefore can understand each other well more easily and relate to each others wishes and needs. Chances increase that there is enough base to create care facilities around them and they can also help each other when it is needed: The more vivid elderly helping the older elderly with some tasks. Of course there is the well-known, perhaps standard, form of co-living between the elderly in the form of an elderly care home. This living type is nowadays in the Netherlands basically only meant for elderly people who are not able to live independent anymore, and therefore have to move to a living place where they can receive the care they need. Apart from this living type, which does not activate the elderly very much in interacting with or helping each other, there are also some more remarkable living types when it comes to communal living between the elderly.

One noteworthy elderly co-living type is called 'thuishuis', Dutch for 'homehouse', which is also being named a 'student house for elderly people'. This co-living project is being inhabited by five to seven single people, aged 60 years or over. All inhabitants only own a small financial budget and most of them are lonely or are being in risk of becoming lonely. Every inhabitant has its own dwelling unit and together they share a living room, the garden and a guest bedroom. If needed, the inhabitants get a helping hand from volunteers. The 'thuishuis' initiative has won the 'Nationale Eenzaamheid Prijs 2015', Dutch for 'National Loneliness Prize 2015', and has currently realised projects in Deurne and Amstelveen, both

in the Netherlands (Coalitie Erbij, 2015). Letting elderly people co-live in such student-like dwelling, enhances the amount and quality of interaction between the inhabitants, leading to a decrease of the possibility of becoming lonely.

### *Students*

A co-living type for elderly which might not be expected as a success in the first place, is that of elderly sharing communal living with students. When comparing the general student flat with the average elderly care home, some interesting spatial similarities can be found. Both dwelling types often exist of private units of relatively small size, with communal living spaces such as a shared living room or kitchen. Therefore, more or less the same building types meet the living preferences of both user groups. Enhancing interaction between these two age groups can have many positive effects socially seen, such as exchanging age-dependent knowledge and help but it can also offer support in keeping each other socially active.

A remarkable example of co-living between elderly people and students can be found in a Dutch co-living residence owned by Humanitas in Deventer. In this elderly care home, there are six students living next to 160 elderly people. The students can live there without paying rent, as long as they spend about 30 hours a month on being socially involved with the elderly of the complex. One of the social activities they have to accomplish is organising a bread meal, which is done every day at five by another student. Apart from this activity it is the intention that the students help the elderly people with small things, such as doing groceries for them or instructing them how to use the computer. Those things all sound very practical but most important is the social contact and social security they create with the elderly inhabitants. Every student shares a hallway with a certain group of elderly people and it is the intention that the student now and then visits them in their rooms to have a little talk with

them and to see everything is going fine. This is a great informal way of increasing the quantity and quality of the social contacts these elderly have, and of making sure that these people will not live in an atmosphere of loneliness (Pilon, 2014).

### *Asylum seekers*

Other people who could co-live with elderly people are asylum seekers. These people often come from a country with a totally different culture, and living together with native elderly can help them integrate within the society on a faster speed. Furthermore, the elderly can teach them and let them use the native language more easily. This makes elderly people feel useful and at the same time the contact with the asylum seekers increases the size and quality of their social life.

A co-living project between asylum seekers and elderly people can be found in Katwijk, the Netherlands. Over there, ten asylum seekers which are allowed to stay in the Netherlands, got a dwelling unit in a care home. As the Dutch policy currently is to let elderly people live at home as long as possible, enough dwelling units became available in this elderly care home to shelter the asylum seekers. It is the purpose that at the same time as they live there, they are being educated in becoming a caregiver for elderly people. They can immediately bring these skills into practice (olde Hanhof, 2016).

### *Multigenerational*

Mixing generations can also be seen as a form of co-living with elderly people. It is a type of living environment where people are not divided according to age, resulting in only living with their peers, but where people of all ages find their own place within the living society. Mixing ages in a living environment is important when it comes to elderly people, as they can receive help from the more vivid inhabitants. Furthermore, the elderly inhabitants can feel like still being part of the

society, not feeling lonely and separated from the rest, even though they do not take an active role within the labour market anymore.

An example of such multigenerational co-living project is done by the initiative WohnreWIR Tremonia, which created a newly built multigenerational dwelling environment in Dortmund, Germany. Since September 2004, a group of 41 people between the age of 7 and 75 is living in this dwelling project. One-third of the group is 55 years or older, another one-third exists of families with children, and the last one-third of the group exists of singles, couples without children or other people aged 55 years or younger. This mix of inhabitants, in combination with certain architectural instruments being applied within the design which enhance the chance of getting in touch with neighbours, such as a central courtyard and a communal building, create the opportunity for the inhabitants to mingle and to create social connections with each other. WohnreWIR Tremonia has realised a living environment in which it is made easier to not let an inhabitant feel alone and lonely(WohnreWIR Tremonia, 2005).

#### 4.2 Spatial instruments

There are several ways which can help in the approach of designing against loneliness. Hoogland(2000, pp. 19-20) mentions several spatial instruments that help in achieving social cohesion in a residential area. This can be seen as the opposite expression of designing against loneliness, as activating a person to be part of the social world again is a way to reduce the feeling of loneliness(Forbes, 1996, p. 535). Hoogland emphasises on the fact that it is not totally clear to her which of the instruments she shows are based on research findings and which are just based on experience. Furthermore, she clearly states that these spatial instruments should not randomly be implemented but that those are options which should be applied thoughtfully.

#### 4.2.1. Number of dwellings

The amount of dwellings in an area has a big influence on the social interaction happening within this area. Hoogland(2000, p. 19) refers to Fisher et al.(1977) who state that the population size and density influence social interaction. Furthermore, Hoogland names Gehl(1987), who mentions that the neighbourhood size should be manageable since larger groups lead to anonymity. When the amount of dwellings exceeds a certain number, people tend to lose the overview of who is an inhabitant and who is not. A way of realising more clarity is to let dwellings share the same entrance. This leads to a subdivision of the groups within an area, resulting into more clarity about the occupants.



#### 4.2.2. Constellation of dwellings

Hoogland(2000, p. 20) mentions that the constellation of buildings can have an impact on the social cohesion within a neighbourhood too. She says that "It is assumed that dwellings that are oriented toward each other, further social cohesion more strongly than terraced housing, for example." This might be seen as a logic outcome, as this type of constellation fosters in neighbours seeing each other, resulting in more contact.



#### 4.2.3. Materialisation

When it comes to materialisation, Hoogland(2000,

p. 20) states that homogeneity in building material between the different dwellings, will result into more social cohesion. She declares that when buildings have the same type of materialisation, they will form a visual unity. This makes clear which buildings belong to each other, meaning that a 'settlement' can clearly be recognised as well as the buildings that do not belong to this settlement.



#### 4.2.4. Paths

The paths within a neighbourhood can also have an impact on the social cohesion within this neighbourhood. Abu-Ghazzeah states about this: "The greater the chance of meeting one another, the greater the chance of the formation of friendship and social interactions"(1999, p. 42). Thus, when paths within a neighbourhood are designed in such way that inhabitants cross each others paths, it might result in more social cohesion between these neighbours.



#### 4.2.5. Number of floors

The amount of floors in a building has an influence on the social cohesion too. When a person lives high up in the building, the contact with the ground floor is easily being lost. This results in an increasing possibility of the ground floor only being a transfer zone for the inhabitant and not a zone to interact with other inhabitant of the building(Hoogland,

2000, p. 19). As Gehl(2010, p. 40) puts it, contact between the street and the building is only possibly from the lowest five floors. All floors above the fifth floor quickly lose contact with the city and instead focus more on views, the sky and passing airplanes. Thus, living far from the ground floor can lead to less social interaction with the neighbours, which can lead to a higher experience of loneliness.



#### 4.2.6. Activating elements

As was already being mentioned earlier on in this thesis, it is important to activate elderly people in order to reduce their feelings of loneliness. This activation can for example be done by organising social events, but also actions can be done from within the field of the building environment. The public space, for example, needs to be designed in such way that activities actually have the possibility to take place. This can for example be done by placing a playground, but also elements like benches offer space for activity.



Gehl(1987) talks about two types of activities, namely the 'come and go' and the stationary ones. He states that even though more than 50 percent of the activities are 'come and go', the stationary ones

are the activities that really bring life to the streets. This means that, in order to create lively outdoor spaces where people interact, it is important to create spaces that offer possibilities for stationary activities. This way, the outdoor space is not only used as a space to move yourself through, but also as a space to stay, interact and create social contacts.

#### 4.2.7. Greenery

Kemperman & Timmermans(2014, p. 44) state in their article that research has shown that when people live in an environment with more green spaces, they feel less lonely and experience less lack of social support. Green spaces, such as parks, could function as a meeting place where people can commence and develop social contacts. Parks also support the ageing population to be physical active.



As part of their research paper, called "Green spaces in the direct living environment and social contacts of the ageing population", Kemperman & Timmermans conducted a survey about living surroundings among 1501 people aged 60 years or over, living in the Netherlands. The main results of this survey are, first of all, that social contacts between neighbours are for a big part influenced by the presence of trees and grass in the living environment and by the perceived level of green. Furthermore, it shows that green spaces in the neighbourhood support social contacts within this neighbourhood. What should be mentioned is that the level of safety and maintenance of these green spaces is also of importance. When these green spaces are of high quality, meaning safe and well-maintained, they will support social contact

between neighbours and especially strengthen the communities of the ageing population.

According to the research results of Kemperman & Timmermans(2014, p. 50), a higher level of perceived green generally results in higher levels of social contacts among the neighbours within the area. What is remarkable about the received percentages of 'very high level of social contact among neighbours' is that this was relatively high, namely 22%, for neighbourhoods that were perceived as having 'no green'. The other levels had an outcome of, for example, 16% when the neighbourhood green was perceived as 'little green', 12% when it was being perceived as 'average green' and 17% when it was perceived as 'green'. The reason for this relatively high percentage in 'no green' circumstances, might be able to be explained by the type of neighbourhoods which are related to it. The neighbourhoods that do not include any greenery are generally central, in 15% of the cases, or sub urban areas, namely in 66% of the cases. These are neighbourhood types which consist of high density living, meaning that the chance of meeting others is higher, increasing the possibilities of creating social contacts with neighbours.

#### 4.2.8. Ground floors

As might be noticed already, the ground floor is of great importance when it comes to implementing spatial elements in order to increase social interaction within the neighbourhood, thus in lowering the chance of inhabitants feeling lonely. In his book 'City for People', Jan Gehl emphasises the importance of the ground floor by saying "This is the zone you walk along when you're in town, and these are the frontages you see and experience close up and therefore intensely. This is where you enter and leave buildings, where indoor and outdoor life can interact. This is where city meets building."(2010, p. 75).

Gehl(2010, pp. 75-79) talks about the ground floor

facade as edges. He distinguishes two different types of edges, namely hard and soft ones. Hard edges are for example closed facades including just a few doors. These edges do not invite you to slow down or to stop, but have such expression that you want to pass it as quick as possible. Soft edges, on the other hand, are facades that make you want to stop, slow down and interact. Some examples of soft edges are transparent facades and shops lined up. Another thing that shows the importance of the ground floor for the social interaction in the neighbourhood is a study on new residential areas in Copenhagen, done in 2003 (Jan Gehl, 2010, p. 84). This study shows that activities taken place in front of the ground-floor units take up half of the total activities, even though only a quarter of the residents live here. This same study also shows the difference between soft and hard edges, also known as active and passive facades. It turns out that in shopping streets, the level of social activity is about seven times higher in front of soft-edged, thus active, facades than in front of hard-edged, thus passive, facades. These examples and results show how much influence can be made with spatial elements on the social life within the neighbourhood. This is something that needs to be taken into account when wanting to design in such way that neighbours will interact more with each other.



#### 4.2.9. Zoning

In the living environment, the two major areas are the public and the private zone. The public, which is accessible to everybody, and the private, which is only meant for the owner(s) or for people who got

their permission to enter it. These two areas, with opposite attitude, meet each other on their edges. Sundstrom(1985) mentions that in residential life, these two zones are immediately connected to each other in the exterior area on the edge of the home, by elements like porches, steps, front yards, and corridors. These are the places where the individual and the society come together.

The exact form of how these two main areas are connected, can happen in many different ways. One way of explaining this, is by using the hard and soft edges theory of Gehl(2010, p. 79). The big difference between soft and hard edges is that when it comes to hard edges, the private and public areas are directly connected to each other, while in case of soft edges, public and private areas gradually flow into each other. What happens in the latter case, is that a third type of zone is being created between the private and public domain. This space offers possibilities to interact, thus to create social contacts and relations with others that use the space. This is something important when it comes to reducing feelings of loneliness within the neighbourhood.

Hoogland(2000, p. 65) investigated the soft edge and its influence on the social situation within neighbourhoods. She concluded that the respondents who live in a dwelling that can be rated as being soft-edged, seem to be better integrated within their neighbourhood. They turn out to interact more with their neighbours and they rely more on them in times of need than those who live in a hard-edged dwelling.

The spaces that are being created by soft edges, are generally known as the semi-public space. This space is public but includes a private feeling. This results in it being used by a selective group of people, rather than being used by everyone who happens to pass by. Taylor & Brower(1985, p. 185) state the following about semi-public space:

“...occupants or proprietors expect to have some degree of control over who has access to these territories, and what activities go on in them.” Hoogland(2000, p. 24) talks in her article about yet another area, namely the semi-private area. This zone lies between the private and the semi-public area, resulting in four different zones in total. For every zone she gives a spatial example: the dwelling for the private, the entrance area for the semi-private, staircases for the semi-public and the street for the public zone.

#### 4.2.10. Informal encounters

As said earlier in this thesis, the semi-public space is of importance when it comes to creating interaction among individuals and the society. This is the area where for example neighbours can meet in an informal way, not feeling the pressure of having to meet. It is important to take away this pressure of needing to make social contacts, as respondents of a research done by Medical Delta(2013, p. 47) address that forcing to make social contacts will generally not lead to long-lasting friendships. According to the respondents, friendship has to develop on its own, and not by pushing it.

In order to not let blend the semi-public space into either the private or the public space, it is important to design certain aspects that make clear what the zone can offer. For this, certain spatial interventions are needed which can create the possibility of forming informal encounters within these zones. Two of such spatial interventions which can create informal encounters, can be seen in the designs ‘De Drie Hoven’ and ‘De Overloop’, both designed by Dutch architect Herman Hertzberger. In both designs, which are about elderly housing, he implements the ‘half front door’ and the ‘front house bench’. Both are very subtle interventions but can give a boost to the amount and quality of social interactions among the inhabitants and its passangers.

#### *Half front door*

The half front door creates a third spatial meaning to the door as we know it. It makes it possible to not only completely open or close a door, but to also have the opportunity to only open the upper part of the door. This position of the door is exactly when space for informal encounters can be made. Having a closed door creates a bigger barrier in getting into contact with the person living there. When someone leaves his or her front door totally open, this might feel like being too open to the public. The half door is a great middle way in showing that social contact is appreciated, without the inhabitant losing too much privacy.



#### *Front house bench*

By putting a bench next to the front door of the dwelling, a semi-public area is being created in front of the house. This is a place where the inhabitant of the dwelling can sit and watch the surroundings. When neighbours pass they can have a talk with them in an informal, non-pressing way. Apart from the fact that informal encounters can be created thanks to this element, it can also be a place to show your personality. Inhabitants can create a little space in front of their house with elements that express who they are or what they like, facing the public. With the bench, and the space around it being created, a person will feel seen and feels part of the bigger group, generally reducing the chance of feeling lonely.

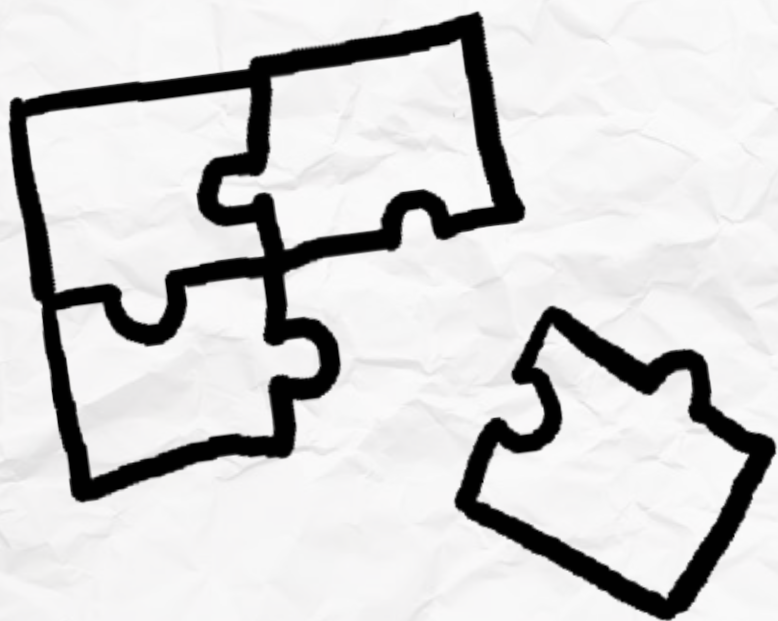
#### 4.2.11. Seeing and hearing

Social contacts all start with seeing and hearing. The possibilities to see and to hear, and thus to possibly create social interaction, can be supported by certain architectural instruments. The ‘half front

door', being mentioned earlier on in this thesis, is such instrument which very much focusses on seeing each other in order to start social interaction. Other instruments which one could think of are for example creating short distances, in order to better see and hear each other or designing in such way that a face-to-face orientation is being created and not a back-to-back orientation (Jan Gehl, 2010, pp. 236-237). The instruments of enhancing the amount of seeing and hearing can be present in very subtle architectural details, such as using vertical balcony railing instead of horizontal ones, avoiding blocking one's sight towards the ground floor and from the ground floor towards the people on the balcony.







## CONCLUSION

The main research question of this thesis about designing against loneliness among the elderly is "How could collective living decrease the amount of loneliness among the elderly in the Netherlands?". In order to answer this, certain subjects first have to be investigated.

Loneliness can be formulated in many different ways, in which the focus can lie on different parts of the phenomenon. A common thing is that loneliness is a subjective feeling, related to social relations, and with a negative atmosphere around it. There are many different possible causes for developing loneliness. The main thing is that influences for loneliness exist of external and internal parts, namely the situation we find ourself in, and our personal traits which determine how we react to that situation. Loneliness has the purpose to motivate one to regain social contacts. Nevertheless, loneliness can often have many negative consequences.

Loneliness can happen to all ages, but many research papers show that elderly people have to deal with it more than average. The causes for loneliness among elderly are moreover circumstances rather than personality traits. Activating elderly can reduce loneliness among them. Furthermore, friendships, neighbours and the living environment can also have reducing effects on this phenomenon.

Living preferences of elderly people can vary a lot. Generally, they prefer ageing in place rather than moving away from their current home. When it comes to the house, elderly prefer to live in a house without thresholds which is not place on the ground floor. The neighbourhood preferably lies in or close to the city center, and the neighbours are by preference both elderly and other ages. Having facilities closeby is another important preference, and the most desired facilities nearby home are a neighbourhood supermarket and a care facility.

When it comes to communal living, elderly people generally prefer to only share the more public facilities, rather than the private ones, with others. In case elderly have to share certain facilities with others, they prefer to do so with other elderly rather than with students or families with children. Still, about 40 percent of the elderly is willing to share the more public facilities with those latter two groups too. The architectural instruments which could be used in order to decrease the amount of loneliness among elderly are the ones that support social interaction in a non-pushed way. Important in this is the ratio private and public areas being created.

**"How could collective living decrease the amount of loneliness among the elderly in the Netherlands?"** Firstly, it can be said that communal living supports social interaction as it lets its inhabitants share certain facilities within the living environment. By increasing the amount of social interactions, the quantity and quality of ones social network has the possibility to grow, leading to a decrease in loneliness among this person. Nevertheless, it has to be taken into account that the desired level of communal living among the elderly, turns out to basically only focus on sharing the more public facilities. Elderly people prefer to have quite a high level of privacy too.

In conclusion, it can be said that communal living can decrease the amount of loneliness among the elderly, but should not take over the more private elements of living. The level of sharing should be kept to the more public areas, in which certain architectural elements can be used to give extra support in increasing the amount of social interactions. This will lead towards a lower level of loneliness among the elderly, without taking away their desired level of privacy.



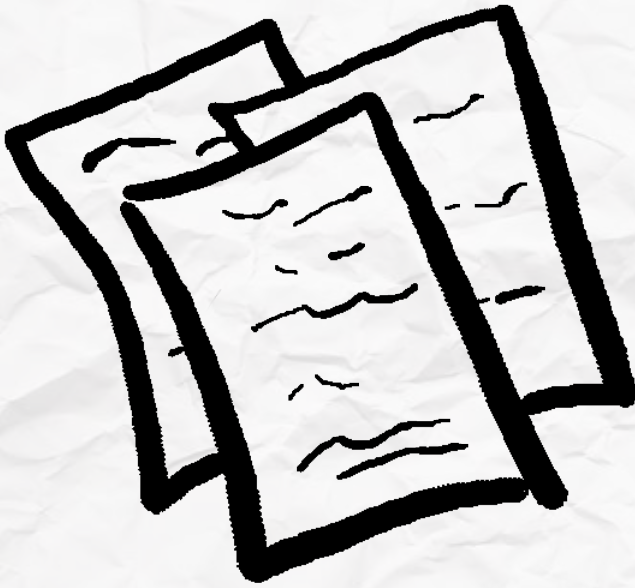
## DISCUSSION

In order to get more insight on how loneliness among elderly people could be reduced by means of architectural interventions, it would perhaps be a good idea to get more data about this via personal interviews. Interviews could show a more personal view towards the whole situation and give it an extra human touch. This type of research is being left out in this thesis, while it would be too broad next to the other research methods being used, concerning the size of this master thesis.

What must be mentioned about the data being received via the multiple-choice questionnaire conducted for this research, is that there were no intense care- and help-dependent elderly among the respondents. This might have led to results that only count for independent elderly. It would be a good idea to also let dependent people fill in such multiple-choice questionnaire in any further research. The reason why it has not been done for this thesis, is that it turned out to be very complex to get in touch with those dependent people and the questionnaire was built up quite elaborate, which would most probably have caused many of those people trouble to fill it in correctly.

What has been noticed when doing investigation on communal living principles for elderly, is that it turns out that the architecture itself is not often being described. The focus is more on the social side of it all, for example what kind of activities can take place, but not often on how the surroundings are being designed in order to let this happen in the right way. This may indicate that architecture actually does not play a very big role in creating a decent communal living environment. Nevertheless, it does have the ability to contribute to it, as is being described by showing certain architectural instruments which support creating social contacts. It is very much recommendable to do more research on the more architectural side of communal living and living environments regarding increasing the creation of social contacts. Those architectural

aspects are things that can help in the total process of decreasing loneliness among elderly inhabitants and others, and it currently does not receive the amount of attention it should get.



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## ATTACHMENTS - A. Multiple-choice questionnaire template

### **Afstudeeronderzoek naar woonwensen in Nederland**

*Hallo!*

*Mijn naam is Amber de Vrede en ik studeer architectuur aan de Technische Universiteit in Delft. Voor mijn afstudeerproject doe ik onder andere onderzoek naar de woonwensen van mensen in Nederland. Het invullen kost slechts enkele minuten en is erg waardevol voor mijn onderzoek. Ik stel het dan ook erg op prijs als u deze vragenlijst wilt invullen.*

*Het invullen van de vragenlijst zal ongeveer 5 minuten van uw tijd in beslag nemen.*

*N.B. Deze vragenlijst is ook online in te vullen op <http://goo.gl/forms/VRkfySIMY>*

## Woonsituatie

Ten eerste een aantal vragen over uw huidige woonsituatie.

1. Met hoeveel mensen, uzelf niet meegerekend, woont u samen?
  - nul
  - één
  - twee
  - drie
  - vier of meer
  
2. Huidige woonsituatie:
  - alleenwonend
  - samenwonend met partner
  - samenwonend met partner en kind(eren)
  - samenwonend met kind(eren)
  - samenwonend met ouder(s)
  - collectief wonen met mensen uit dezelfde levensfase
  - collectief wonen met (onder andere) mensen uit een andere levensfase
  - anders, namelijk: ...
  
3. Huidige woontype:
  - vrijstaand huis
  - twee-onder-één kap woning
  - rijtjeshuis
  - appartement
  - studio
  - studentenhuus
  - aanleunwoning
  - verzorgingstehuis
  - verpleegtehuis
  - anders, namelijk: .....
  
4. Ontvangt u thuis bepaalde hulp? (meerdere antwoorden mogelijk)
  - nee
  - ja, hulp met kleine klusjes (bijvoorbeeld lamp verwisselen)
  - ja, professioneel huishoudelijk hulp
  - ja, professionele verzorging
  - ja, professionele verpleging
  - ja, mantelzorg van familie
  - ja, mantelzorg van vrienden/kennissen
  - ja, mantelzorg van omwonenden
  - anders, namelijk: .....
  
5. Heeft u behoefte aan (meer) hulp thuis? (meerdere antwoorden mogelijk)
  - nee
  - ja, hulp met kleine klusjes (bijvoorbeeld lamp verwisselen)
  - ja, professioneel huishoudelijk hulp
  - ja, professionele verzorging
  - ja, professionele verpleging
  - ja, mantelzorg van familie
  - ja, mantelzorg van vrienden/kennissen
  - ja, mantelzorg van omwonenden
  - anders, namelijk: .....

## Woonwensen

In dit gedeelte van de vragenlijst zullen een aantal vragen over uw woonwensen gesteld worden, waarbij ten eerste de definitie 'collectief wonen' wordt uitgelegd.

*Definitie collectief wonen:*

*Collectief wonen is een vorm van wonen waarbij mensen een eigen woningeenheid hebben, maar tevens bepaalde faciliteiten delen met andere bewoners binnen hetzelfde woongebouw. Denk hierbij bijvoorbeeld aan een gezamenlijke keuken of werkplaats.*

6. Stel u woont in een collectief woongebouw: met welke mensen zou u bepaalde faciliteiten binnen uw woongebouw willen delen? (meerdere antwoorden mogelijk)

- ouderen
- studenten
- families met kinderen
- ik sta niet open voor collectief wonen
- anders, namelijk: .....

7. Stel u woont in een collectief woongebouw: welke faciliteiten zou u binnen uw woongebouw willen delen met **ouderen** als medebewoners? (meerdere antwoorden mogelijk)

- toilet
- badkamer
- wasruimte
- eetkamer
- keuken
- woonkamer
- slaapkamer
- berging
- werkplek
- hobby/werkplaats
- sportruimte
- buitenruimte
- tuin
- ontvangstruimte gasten
- fietsenstalling
- parkeerplaats
- ik sta niet open voor collectief wonen met ouderen
- anders, namelijk: .....

8. Stel u woont in een collectief woongebouw: welke faciliteiten zou u binnen uw woongebouw willen delen met **studenten** als medebewoners? (meerdere antwoorden mogelijk)

- toilet
- badkamer
- wasruimte
- eetkamer
- keuken
- woonkamer
- slaapkamer
- berging
- werkplek
- hobby/werkplaats
- sportruimte
- buitenruimte
- tuin
- ontvangstruimte gasten
- fietsenstalling
- parkeerplaats
- ik sta niet open voor collectief wonen met studenten
- anders, namelijk: .....

9. Stel u woont in een collectief woongebouw: welke faciliteiten zou u binnen uw woongebouw willen delen met **families met kinderen** als medebewoners? (meerdere antwoorden mogelijk)

- toilet
- badkamer
- wasruimte
- eetkamer
- keuken
- woonkamer
- slaapkamer
- berging
- werkplek
- hobby/werkplaats
- sportruimte
- buitenruimte
- tuin
- ontvangstruimte gasten
- fietsenstalling
- parkeerplaats
- ik sta niet open voor collectief wonen met families met kinderen
- anders, namelijk: .....

10. Welke publieke faciliteiten zou u graag op steenworp afstand van uw woning willen hebben? (meerdere antwoorden mogelijk)

- restaurant
- bibliotheek
- zorgcentrum/huisartsenpraktijk
- buurtsupermarkt
- fitnesscentrum
- café
- lunchroom
- ik heb geen behoefte aan publieke faciliteiten op steenworp afstand
- anders, namelijk: .....

**Sociale leven**

*In dit gedeelte van de vragenlijst zullen enkele vragen over uw sociale leven worden gesteld.*

11. Hoe vaak ontvangt u gemiddeld bezoek van familie of vrienden?

- nooit
- zelden
- 1 keer per maand
- 2 keer per maand
- 1 keer per week
- 2 keer per week
- 3 keer per week
- 4 of meer keer per week
- anders, namelijk: .....

12. Bent u momenteel tevreden met uw sociale leven? (contact met vrienden/familie/kennissen)

- ja
- nee

13. Wat zou u willen veranderen aan uw sociale leven?

.....  
.....  
.....  
.....

**Algemeen**

Tot slot wil ik u graag nog enkele algemene vragen stellen.

14. Geslacht:  
o man o vrouw

15. Leeftijd in jaren:  
.....

16. Woonplaats:  
.....

17. Burgerlijke staat  
o alleenstaand  
o in een relatie  
o wettig gehuwd  
o geregistreerd partnerschap  
o gescheiden  
o verweduwd

18. Op dit moment ben ik vooral:  
o scholier  
o student  
o werkende  
o werkzoekende  
o niet-werkende  
o met pensioen

19. Hoogst afgeronde opleiding:  
o basisschool  
o middelbare school  
o middelbaar beroepsonderwijs (tegenwoordig MBO)  
o hoger beroepsonderwijs (tegenwoordig HBO)  
o wetenschappelijk onderwijs (tegenwoordig WO)  
o anders, namelijk: .....

20. Hoeveel kinderen heeft u?  
o nul  
o één  
o twee  
o drie  
o vier of meer

21. Heeft u nog vragen en/of suggesties naar aanleiding van deze vragenlijst?  
.....  
.....  
.....

22a. Mag ik u benaderen voor mogelijk vervolgvragen?  
o ja  
o nee  
b. Indien u bij vraag a 'ja' heeft geantwoord, vul dan hieronder uw mailadres en/of telefoonnummer in:  
- mailadres: .....  
- telefoonnummer: .....

**Hartelijk bedankt voor het invullen van de vragenlijst!**

- Amber de Vrede

# ATTACHMENTS - B. Multiple-choice questionnaire results

131 respondents in total					
	age	amount	age group	amount	
	50+	56	50-54	5	
	55+	51	55-59	8	
	60+	43	60-64	13	
	65+	30	65-69	12	
	70+	18	70-74	9	
	75+	9	75-79	5	
	80+	4	80-84	2	
	85+	2	85-89	2	

I am not open for collective living at all						
	age	amount	age group	amount	percentage	
	50+	23	41,07	50-54	2	40,00
	55+	21	41,18	55-59	2	23,00
	60+	19	44,19	60-64	4	30,77
	65+	15	50,00	65-69	7	58,33
	70+	8	44,44	70-74	3	33,33
	75+	5	55,56	75-79	2	40,00
	80+	3	75,00	80-84	2	100,00
	85+	1	50,00	85-89	1	50,00

I am open for collective living with elderly people						
	age	amount	age group	amount	percentage	
	50+	26	46,43	50-54	2	40,00
	55+	24	47,92	55-59	6	73,00
	60+	18	41,86	60-64	8	61,54
	65+	10	33,33	65-69	2	16,67
	70+	8	44,44	70-74	5	55,56
	75+	3	33,33	75-79	2	40,00
	80+	1	25,00	80-84	0	0,00
	85+	1	50,00	85-89	1	50,00

I am open for collective living with students						
	age	amount	age group	amount	percentage	
	50+	8	14,29	50-54	0	0,00
	55+	8	15,69	55-59	3	37,50
	60+	5	11,63	60-64	3	23,08
	65+	2	6,67	65-69	1	8,33
	70+	1	5,56	70-74	1	11,11
	75+	0	0,00	75-79	0	0,00
	80+	0	0,00	80-84	0	0,00
	85+	0	0,00	85-89	0	0,00

I am open for collective living with families with children						
	age	amount	age group	amount	percentage	
	50+	13	23,21	50-54	0	0,00
	55+	13	25,49	55-59	5	62,50
	60+	8	18,60	60-64	5	38,46
	65+	3	10,00	65-69	2	16,67
	70+	1	5,56	70-74	1	11,11
	75+	0	0,00	75-79	0	0,00
	80+	0	0,00	80-84	0	0,00
	85+	0	0,00	85-89	0	0,00

sharing living room with elderly people	age	amount	age group	amount	percentage
	50+	7	12.50 50-54	1	20.00
	55+	6	11.76 55-59	2	25.00
	60+	4	9.30 60-64	0	0.00
	65+	4	13.33 65-69	1	8.33
	70+	3	16.67 70-74	2	22.22
	75+	1	11.11 75-79	1	20.00
	80+	0	0.00 80-84	0	0.00
	85+	0	0.00 85-89	0	0.00

sharing living room with students	age	amount	age group	amount	percentage
	50+	4	7.14 50-54	1	20.00
	55+	3	5.88 55-59	1	12.50
	60+	2	4.65 60-64	1	7.69
	65+	1	3.33 65-69	0	0.00
	70+	1	5.56 70-74	1	11.11
	75+	0	0.00 75-79	0	0.00
	80+	0	0.00 80-84	0	0.00
	85+	0	0.00 85-89	0	0.00

sharing living room with families with children	age	amount	age group	amount	percentage
	50+	3	5.36 50-54	1	20.00
	55+	2	3.33 55-59	1	12.50
	60+	1	2.33 60-64	0	0.00
	65+	1	3.33 65-69	0	0.00
	70+	1	5.56 70-74	1	11.11
	75+	0	0.00 75-79	0	0.00
	80+	0	0.00 80-84	0	0.00
	85+	0	0.00 85-89	0	0.00

sharing outdoor space with elderly	age	amount	age group	amount	percentage
	50+	31	55.36 50-54	1	20.00
	55+	30	58.82 55-59	5	62.50
	60+	25	58.14 60-64	10	76.92
	65+	15	50.00 65-69	8	66.67
	70+	7	38.89 70-74	3	33.33
	75+	4	44.44 75-79	3	60.00
	80+	1	25.00 80-84	0	0.00
	85+	1	50.00 85-89	1	50.00

sharing outdoor space with students	age	amount	age group	amount	percentage
	50+	21	37.50 50-54	1	20.00
	55+	20	39.22 55-59	4	50.00
	60+	16	37.21 60-64	9	69.23
	65+	7	23.33 65-69	2	16.67
	70+	5	27.78 70-74	4	44.44
	75+	1	11.11 75-79	1	20.00
	80+	0	0.00 80-84	0	0.00
	85+	0	0.00 85-89	0	0.00

sharing outdoor space with families with children	age	amount	age group	amount	percentage
	50+	21	37.50 50-54	1	20.00
	55+	20	39.22 55-59	4	50.00
	60+	16	37.21 60-64	9	69.23
	65+	7	23.33 65-69	3	25.00
	70+	4	22.22 70-74	4	44.44
	75+	0	0.00 75-79	0	0.00
	80+	0	0.00 80-84	0	0.00
	85+	0	0.00 85-89	0	0.00

desire for care center nearby home	age	amount	percentage	age group	amount	percentage
				0-29	13	21.31
	50+	41	73.21	50-54	4	60.00
	55+	37	72.55	55-59	6	75.00
	60+	31	72.09	60-64	13	100.00
	65+	18	60.00	65-69	6	50.00
	70+	12	66.67	70-74	8	88.89
	75+	4	44.44	75-79	2	40.00
	80+	2	50.00	80-84	1	50.00
	85+	1	50.00	85-89	1	50.00
<b>no desire for public facilities nearby home</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
	50+	5	8.33	50-54	1	20.00
	55+	4	7.54	55-59	1	12.50
	60+	3	6.98	60-64	0	0.00
	65+	3	10.00	65-69	1	8.33
	70+	2	11.11	70-74	1	11.11
	75+	1	11.11	75-79	1	20.00
	80+	0	0.00	80-84	0	0.00
	85+	0	0.00	85-89	0	0.00
<b>desire for library nearby home</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
	50+	20	35.71	50-54	1	20.00
	55+	19	37.25	55-59	1	12.50
	60+	18	41.86	60-64	8	61.54
	65+	10	33.33	65-69	4	33.33
	70+	6	33.33	70-74	4	44.44
	75+	2	22.22	75-79	1	20.00
	80+	1	25.00	80-84	1	50.00
	85+	0	0.00	85-89	0	0.00
<b>desire for lunchroom nearby home</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
	50+	17	30.36	50-54	1	20.00
	55+	16	31.37	55-59	4	50.00
	60+	12	27.91	60-64	6	46.15
	65+	6	20.00	65-69	2	16.67
	70+	4	22.22	70-74	2	22.22
	75+	2	22.22	75-79	1	20.00
	80+	1	25.00	80-84	0	0.00
	85+	1	50.00	85-89	1	50.00
<b>desire for neighbour supermarket nearby</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
				0-29	55	90.18
	50+	43	76.79	50-54	4	80.00
	55+	39	76.47	55-59	7	87.50
	60+	32	74.42	60-64	13	100.00
	65+	19	63.33	65-69	8	68.67
	70+	11	61.11	70-74	8	88.89
	75+	3	33.33	75-79	2	40.00
	80+	1	25.00	80-84	0	0.00
	85+	1	50.00	85-89	1	50.00
<b>desire for pub nearby home</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
	50+	14	25.00	50-54	0	0.00
	55+	14	27.45	55-59	1	12.50
	60+	13	30.23	60-64	5	38.46
	65+	8	26.67	65-69	4	33.33
	70+	4	22.22	70-74	3	33.33
	75+	1	11.11	75-79	1	20.00
	80+	0	0.00	80-84	0	0.00
	85+	0	0.00	85-89	0	0.00
<b>desire for restaurant nearby home</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
	50+	23	41.07	50-54	0	0.00
	55+	23	45.10	55-59	3	37.50
	60+	20	48.51	60-64	8	61.54
	65+	12	40.00	65-69	5	41.67
	70+	7	38.89	70-74	5	55.56
	75+	2	22.22	75-79	2	40.00
	80+	0	0.00	80-84	0	0.00
	85+	0	0.00	85-89	0	0.00
<b>desire for fitness center nearby home</b>	<b>age</b>	<b>amount</b>	<b>percentage</b>	<b>age group</b>	<b>amount</b>	<b>percentage</b>
	50+	13	23.21	50-54	3	60.00
	55+	10	19.61	55-59	2	25.00
	60+	8	18.60	60-64	3	23.08
	65+	5	16.67	65-69	2	16.67
	70+	3	16.67	70-74	2	22.22
	75+	1	11.11	75-79	1	20.00
	80+	0	0.00	80-84	0	0.00
	85+	0	0.00	85-89	0	0.00

