

A potted geranium with red flowers sits on a wooden table. To its right, a smartphone lies flat, displaying the time 11:55. In the background, a decorative blue and white sign hangs on a wall with floral wallpaper. The sign features the title 'The Need to be Needed' in a cursive font, followed by the subtitle 'An exploration of older people's social needs, social technology and interventions' in a sans-serif font.

The Need to be Needed

An exploration of older people's
social needs, social technology
and interventions

Tina ten Bruggencate

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The Need to be Needed

An exploration of older people's social needs, social technology and interventions

Proefschrift ter verkrijging van de graad van doctor aan Tilburg University, op gezag van de rector magnificus, prof. dr. K. Sijtsma, in het openbaar te verdedigen ten overstaan van een door het college voor promoties aangewezen commissie in de Aula van Tilburg University op donderdag 2 juli 2020 om 13.30 uur

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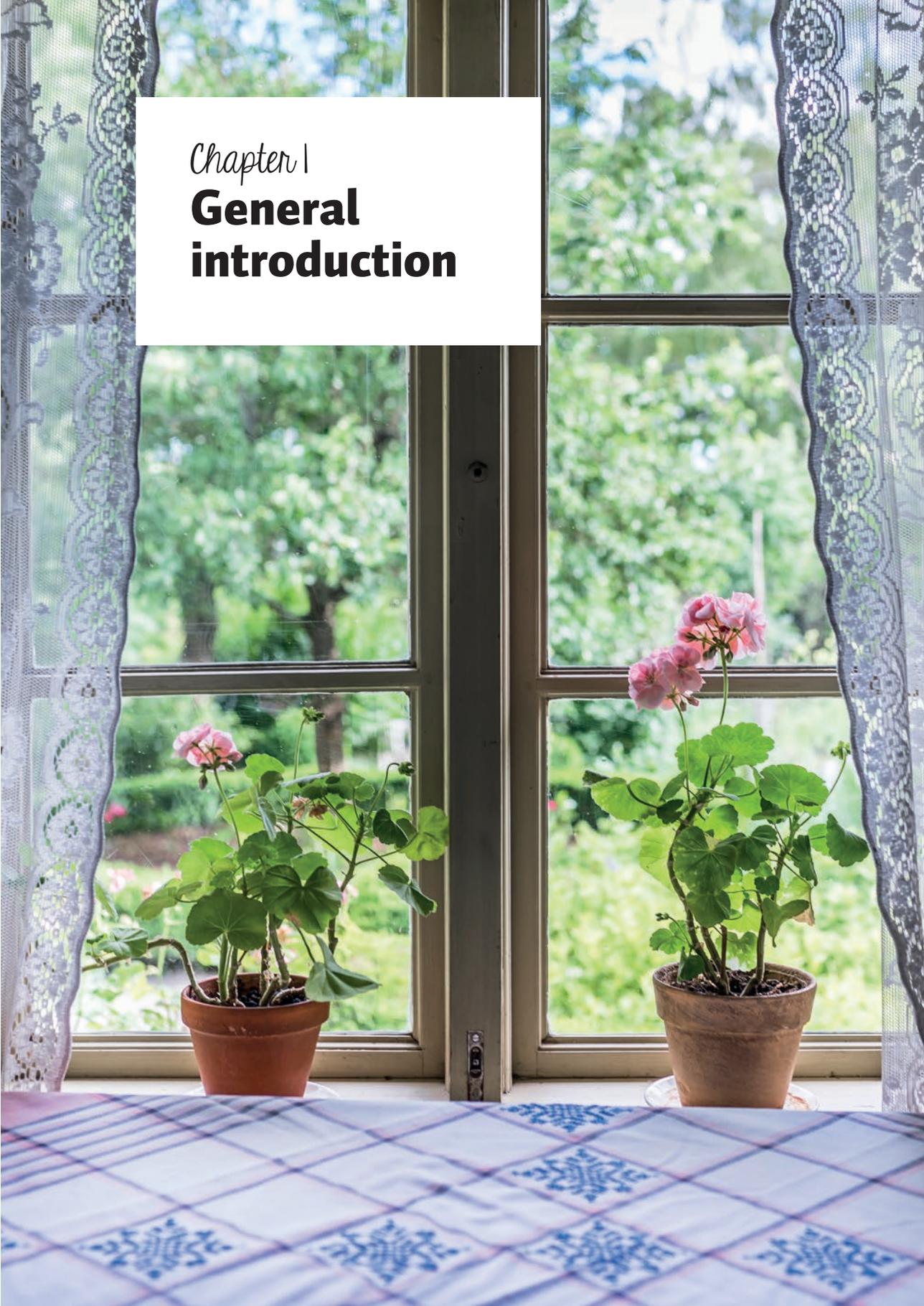
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*“When you are old, you have
all the answers, but nobody asks
you the questions.”*

(Dr. Laurence J. Peter, educator & writer, 1919 – 1990)

Chapter 1
**General
introduction**



1.1 *The relevance of social needs*

Ineke, one of the participants of the studies presented in this thesis, an active and socially engaged 83-year-old woman, had always worked as a high school teacher. As a mother she was the centre of her family. She always had a lot of friends and was engaged in different social activities. When Ineke's husband died a couple of years ago, she found it important to stay active and not sit in her house all day. Some of her friends died, but she made new friends. She still is engaged in social activities like going hiking with a group of friends. Ineke also does a lot of volunteer work. She pointed out the need to stay active and to help other people. When her children grew up and had lives of their own, she still had a strong need to be needed, to be meaningful. Ineke is illustrative of most of the participants of our studies and shows the need of older people for social relationships; they want to be of help to others, they want to be needed.

This thesis focusses on the social needs of older people. People are social creatures, they live in families and groups, in villages and societies. For most individuals, social needs are among the most important human needs. They come right after physical needs and the need for safety as defined in Maslow's hierarchy of human needs (Maslow & Lewis, 1987). Maslow and Lewis (1987) define social needs as the basic human need for love, acceptance and belonging. Older people themselves see their social life and their social relationships as important prerequisites for successful ageing and for their quality of life (Farquhar, 1995; Steverink & Lindenberg, 2006; Von Faber, et al., 2001). Older people often value their social functioning more than their physical and psycho-cognitive functioning (Von Faber et al., 2001). Older people with strong social relationships and strong social ties are also able to maintain their independence longer (Michael et al., 2001). So when older people fulfil their social needs, this contributes in many ways to their well-being.

If social needs are not satisfied, this may lead to loneliness or social isolation. Social needs and loneliness or social isolation are in that way related and in fact two sides of the same coin. Loneliness according to De Jong-Gierveld, van Tilburg, and Dykstra (2006), is a subjective emotional state where people experience a lack of (quality of) relationships, because the number of existing relationships with other people is smaller than is desirable, and/or the intimacy one wishes for is not realized. Social isolation is a more objective state. People with no or just a very small number of meaningful ties are socially isolated, but they do not automatically or necessarily feel lonely. They do not actively experience their social needs or sometimes purposely choose to let (some) social needs go unfulfilled; they choose not to participate (Jong-Gierveld et al., 2006; Machielse, 2011). Both loneliness and social isolation have negative consequences

for the individual and can even lead to diseases and death (Cacioppo, Hawkley, & Berntson, 2003; Hawkley, Thisted, Masi, & Cacioppo, 2010; Shankar, McMunn, Banks, & Steptoe, 2011). The fulfilment of social needs has a protective influence on the health and well-being of older people, that is why interventions to fulfil social needs are important (Machielse & Hortulanus, 2011; van Beuningen & de Witt, 2016).

The population of the world is ageing. This is a significant global transformation of the twenty-first century which has implications for nearly all aspects of society. By 2050, one in six people will be over the age of 65 (16%), up from one in 11 in 2019 (9%). By 2050, one in four persons living in Europe and Northern America could be aged 65 or over (World Health Organization, 2016). Older people value the fulfilment of social needs highly, but sometimes find it difficult to fulfil them because of the loss of health, mobility or network members. For older people themselves and for their surroundings it is beneficial to develop and implement successful interventions to help them fulfil their social needs. It protects them from the negative consequences of loneliness and social isolation and is therefore interesting for both humanistic and economic reasons (Cacioppo & Patrick, 2008).

1.2 *The fulfilment of social needs*

The focus of this thesis is the social needs of older people and how older people fulfil these. Social needs are fulfilled by the social relationships people have. These social relationships may change when a person grows older. There are three theories that explain changes in social relationships. These are the Social Convoy Model (SCM) of Antonucci, Ajrouch, and Birditt (2014), the Socioemotional Selectivity Theory (SST) of Carstensen, Fung, and Charles (2003) and the Social Production Function, Successful Ageing, theory (SPF-SA theory) of Steverink and Lindenberg (2006). The SCM argues that individuals go through life embedded in personal networks of individuals to whom they give and from whom they receive social support; these are called the convoys. With age, the number of convoy members declines, especially the peripheral network members (Antonucci, Ajrouch, & Birditt, 2013). The SST states that the social networks of older people are formed through network movements that are characterized by a process of selectivity and motivated by the emotional goals of older people (Carstensen, Fung, & Charles, 2003). The SCM and SST are similar in the sense that they both indicate that social network sizes decrease when people age – and in particular, the number of more peripheral members diminishes – but that older people maintain or increase their interactions with family and intimate friends. The difference in the two theories lies in the motivation for the changing social relationships. In the SCM,

the primary factor lies in the changes of social roles. For example, the loss of work makes older adults focus more on close friends and relationships. In the SST, the motivation is more developmental: with an increased sense of time limitations, people try to maintain emotionally meaningful relationships and discard the less important and potentially unpleasant ones (Carstensen, Fung, & Charles, 2003; Antonucci, Ajrouch, & Birditt, 2013). The third theory, the SPF-SA theory, also explains the social life of people and their social relationships (Steverink & Lindenberg, 2006). This theory is a combination of a theory of needs, goals and resources and a theory of behaviour. The SPF-SA theory identifies three social needs: affection, behavioural confirmation and status. To fulfil the three social needs, older people have different resources; when a person gets older these resources diminish. For example, a person will fulfil the need for status in a paid job, but when retired this need is more difficult to fulfil. Steverink and Lindenberg argue that for older people affection is the easiest social need to fulfil, then behavioural confirmation and then status (Steverink & Lindenberg, 2006). These three theories, SCM, SST and SPF-SA, all explain how and why an important resource to fulfil social needs, namely social relationships, develops and changes when people grow older. The theories will serve for interpreting the results found in our studies.

A mean to fulfil social needs is social technology. The second part of this thesis focusses on social technology and the role it plays, or can play, in relation to the social needs of older people. Technology can play a supporting role in the lives of older people and can facilitate and improve different areas of living and in that way contribute to the quality of social life. Technology can be social in the sense that it facilitates social contact between people. Email, Facebook or Skype can, for example, provide ways for older people to communicate with family and friends (Peek et al., 2016; Yusif, Soar, & Hafeez-Baig, 2016). This type of technology is called 'social technology'. In this thesis we use the definition of Gartner (2017) of social technology.

"Any technology that facilitates social interactions and is enabled by a communications capability, such as the Internet or a mobile device."

Social technology facilitates social processes through social software and social hardware. Examples of social software are Facebook, email, wikis, blogs and social networks. Examples of social hardware are devices such as smartphones, tablets and computers, but also the landline telephone. In a society where technology plays a role in almost every part of a human's life and may have the potential to fulfil social needs and connect generations, it is interesting to discover the role technology plays in the social lives of older people. It is interesting and relevant to find out how it can contribute to fulfilling the social needs of older people.

1.3 *Interventions for social needs*

Many interventions for older people to stimulate social well-being have been developed and implemented worldwide (Cattan, White, Bond, & Learmouth, 2005; Findlay, 2003). The interventions all differ in terms of their specific focus, their target group, their overall organization and whether or not technology is involved. Though many interventions have been developed for older people, evaluations of these interventions are scarce. Moreover, interventions that have been evaluated often fail to be proven successful (Cattan et al., 2005; Findlay, 2003), for several reasons. Due to the diversity of the population of older people and the diversity of their social needs, interventions do not always match these needs (Cattan et al., 2005; Cohen-Mansfield & Perach, 2015; Machielse, 2011). Also sometimes interventions do not reach the older people that mostly need or would benefit from them (Machielse, 2011). Sometimes even taking part in a social intervention may increase the feeling of loneliness that older people experience, because when they are back home they feel more alone (Barelds, Lissenberg, & Luijkx, 2010). A single intervention that will work for every older individual seems to be impossible. There are, however, some interventions that seem promising, especially those with educational aspects. These interventions focus on social network maintenance and enhancement; examples of such interventions are providing health promotion lessons and facilitating the development of social support networks (Cohen-Mansfield & Perach, 2015).

Social technology can be a mean to fulfil social needs, so technological interventions could be promising. Studies about the relationship between social technology and its effects on the fulfilment of social needs of older people come to diverse, sometimes even contradictory, conclusions. In some studies, no relations are found between the use of social technology and social well-being (Aarts, Peek, & Wouters, 2015). On the other hand Sum, Mathews, Hughes, and Campbell (2008) found positive relations among people aged over 55 between using the Internet and social well-being (reduced social loneliness) when it was used with friends and family. However, they also showed that using the Internet for creating new network members resulted in more (emotional) loneliness. Systematic reviews that evaluate technological interventions and their effectiveness show that some technological interventions are effective and some are not (Cohen-Mansfield & Perach, 2015; Khosravi, Rezvani, & Wiewiora, 2016). For instance, technological educational programmes that provide computer training and facilitate the use of a videoconference program to enable interaction with a family member were proven effective (Cohen-Mansfield & Perach, 2015). The findings of these studies suggest that although using social technology to support the social needs of older people seems promising, the relationship between

technology and the quality of social life is complex and multifaceted. Some technological interventions are successful and some are not; it is not clear why and what role social technology plays in these interventions.

1.4 *Research objective, study design and thesis outline*

In this thesis, we investigate how older people fulfil their social needs and on the basis of these insights come up with implications for interventions. We include people aged over 70 because from that age resources such as health and mobility often diminish, making the fulfilment of social needs more difficult. So resources are in fact the instruments by which social needs can be fulfilled (Steverink & Lindenberg, 2006). We look into the barriers and facilitators older people face in fulfilling their social needs. We also want to know what the role of social technology is in fulfilling the social needs of older people, because of the potential of social technology in fulfilling social needs. We choose to focus on social needs instead of on loneliness or social isolation and on lonely and isolated older people. In chapter 3 we interview older people with a risk of being lonely or socially isolated, but overall focus on the positive aspects of their social lives, on their social needs. In focussing more on the positive aspects and on non- or less vulnerable older people, and therefore on social needs instead of loneliness or social isolation, we expect to come up with new insights and have a broader scope for the development of successful interventions. The main research question for this thesis is:

“How can older people be supported in the fulfilment of their social needs?”

With the following subquestions:

RQ 1) What are the social needs of older people?

RQ 2) How do older people fulfil their social needs?

RQ 3) What is the role of social technology in fulfilling the social needs of older people?

RQ 4) What are the implications for interventions?

This thesis has two main parts:

Part 1) social needs

Part 2) social needs and social technology

In Part 1 we focus on the social needs of older people. To answer our main research question, “How can older people be supported in the fulfilment of their social

needs?”, we first need to know what the social needs of older people are, how they fulfil their social needs and what barriers and facilitators older people face. On the basis of this information, concrete implications for interventions are generated. In part 1 we also discuss the development, implementation and evaluation of an intervention that was developed on the basis of the results of our studies.

In Chapter 2 of this thesis, ‘Social needs of older people: a systematic literature review’ (ten Bruggencate, Luijkx, & Sturm, 2017), we carry out a systematic literature review to learn more about what is already known about the social needs of older people in scientific literature. The research question is:

“What are the social needs of older people and what are the implications for interventions aimed at satisfying these needs?”

This second chapter offers the synthesis of a body of existing scientific knowledge about the social needs of older people and is the basis on which further information is gathered through empirical research in the following chapters. Through insights into the social needs of older people, implications for interventions are generated. We carry out a systematic literature search with a result of 14 articles which are analysed, regarding the social needs of older people.

In Chapter 3, ‘When your world gets smaller: How older people try to meet their social needs, including the role of social technology’ (ten Bruggencate, Luijkx, & Sturm, 2018), we look deeper into the social needs of older people at risk of being lonely or socially isolated. We suspect that this specific population of older people benefit most from interventions aimed at fulfilling social needs. The results of the systematic literature review serve as the starting point for this qualitative study. We investigate which social needs are important, what older people do to fulfil them and what barriers they face. Although this group is at risk of being lonely or socially isolated we still focus on the fulfilment of their social needs and not on their potential loneliness or social isolation. We also briefly address the role of social technology in fulfilling social needs. The following research question is central:

“How do older adults at risk of being lonely or socially isolated meet their social needs?”

In this study we conduct 19 interviews with older people about their social needs, the barriers to fulfilling them and the role of social technology.

In Chapter 4 ‘To Meet, to Matter, and to Have Fun: The Development, Implementation, and Evaluation of an Intervention to Fulfil the Social Needs of Older People’ we discuss the evaluation of an intervention that is developed and implemented based on the results of the studies described in Chapters 2, 3 and 6 (ten Bruggencate, Luijkx, & Sturm, 2019). The intervention is called ‘Samsam’ and is a language café in which older people as volunteers teach the Dutch language to foreigners,. The research question is:

“What are the experiences of the older volunteers participating in Samsam, and how does participation affect their social needs?”

We interview seven participants in Samsam and describe the implementation, development and evaluation of this intervention.

In part 2 of this thesis we zoom in on social technology and the role it plays in fulfilling the social needs of older people. To support our main research question, “How can older people be supported in the fulfilment of their social needs?”, we need to know the role social technology can play in fulfilling social needs. On the basis of context mapping sessions and existing literature on social technology and social needs we generate design opportunities and implications for technological interventions.

In Chapter 5, ‘Friends or Frenemies, the role of social technology in the lives of older people’ we describe the role of social technology in fulfilling the social needs of older people (ten Bruggencate, Luijkx, & Sturm, 2019). This fifth chapter offers more insights into the possibilities but also the limitations of this mean for fulfilling social needs. The research question is:

“What is the role of social technology in the social lives of older people who use social technology and in fulfilling their social needs?”

We interview 15 older people who use some form of social technology and we find out in what way it helps them to fulfil their social needs.

In order to develop successful interventions, products and services that really meet the needs of older people, it is essential to involve older people, as well as other stakeholders such as carers, in the design process. In Chapter 6 ‘How to fulfil social needs of older people; exploring design opportunities for technological interventions’ we present design opportunities for technological interventions to fulfil social needs on the basis of context mapping sessions with the important and essential involvement of older people themselves and carers (ten Bruggencate, Luijkx, & Sturm, 2019). The research question is:

“What are the design opportunities for technological interventions aimed at fulfilling the social needs of older people according to older people themselves and social workers?”

Based on context mapping sessions with 20 older people and carers, this sixth chapter offers concrete implications for technological interventions.

The thesis concludes with Chapter 7 in which we present the general discussion of this thesis, including the conclusion drawn and strengths and limitations.

Part I

Social needs

Chapter 2

Social needs of older people: a systematic literature review

Ten Bruggencate, T., Luijkx, K. G., & Sturm, J. (2018).
Social needs of older people: a systematic literature review.
Ageing & Society, 38(9), 1745-1770.

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Abstract

Social needs are important basic human needs. When social needs are not satisfied, this can lead to mental and physical health problems. With a growing population of older adults and the need for them to stay healthy and community-dwelling, satisfying social needs is important. The aim of this review is to give more insight into the social needs of older people and subsequently into the characteristics of effective interventions for satisfying older people's social needs. A systematic review of the existing literature on quantitative, qualitative and mixed empirical studies on the social needs of older people was conducted. The themes that emerged were diversity, proximity, meaning of the relationship and reciprocity. These themes offered several intervention implications. Participation in hobbies and in volunteer work and being connected were among the main findings. The social needs of older people are diverse. They focus on both the intimate and the peripheral members of their networks. When satisfying social needs, reciprocity is important. The feeling of connectedness to others and to a community or neighbourhood contributes to well-being as well as a feeling of independence. Staying active by doing volunteer work or participating in (leisure) social activities satisfies social needs. Therefore, interventions should focus especially on the connectedness, participation and independence of the older adult.

Key words – social needs, interventions, older adults, Social Production Function Theory of Successful Aging, social convoy model, socio-emotional selectivity theory.

2.1 Introduction

2.1.1 The protective influence of satisfied social needs on health and wellbeing

For every individual social needs are one of the most important human needs. They come right after physical needs and the need for safety as defined in the often-applied Maslow hierarchy of human needs (Maslow et al. 1970). Maslow et al. (1970) define social needs as the basic human need for love, acceptance and belonging. When social needs are not satisfied, this can lead to loneliness and social isolation. Loneliness and social isolation are directly linked to sickness and mortality (Cacioppo, Hawkey and Berntson 2003, Steptoe et al. 2013). The body of literature that illustrates the protective role of satisfied social needs on physical and mental health

is quite substantial (Al-Kandari and Crews 2014; Avlund et al. 2004; Berkman and Syme 1979; Golden et al. 2009; Iecovich, Jacobs and Stessman 2011; Portero and Oliva 2007; Seeman 1996). Fulfilled social needs protect against diseases and depression and were also found to have a positive influence on self-esteem and life fulfilment (Miura and Agari 2006). Feelings of loneliness and social isolation are unwelcome and unhealthy for everyone and can be present regardless of age, sex and background. The fulfilment of social needs is therefore relevant for every individual. In this systematic literature review, we chose to focus specifically on community-dwelling older adults. In Western countries, the percentage of older people is growing rapidly (Gavrilov and Heuveline 2003). Moreover, in the last decade older people prefer to, and are expected to, remain community-dwelling as long as possible. Older people also tend to have fewer naturally social roles and consequently fewer social contacts caused, for example, by retirement and the absence of children living in their home. These demographic and societal developments underline the importance of studies focusing on the health and wellbeing of this specific group. For older people, the satisfaction of social needs is especially important for their general wellbeing (Antonucci 2001). Older adults with strong social relationships are able to maintain independence and live longer in community settings than are socially isolated older adults (Michael et al. 2001). Older people see their social lives and their social relationships as the most important determinants of successful ageing. They even value wellbeing and social functioning to a higher extent than physical and psycho-cognitive functioning (Von Faber et al. 2001).

2.1.2 Theories about changes in social needs with advancing age

Social relations and social needs change with age. Theories explaining the changes in social relationships when people age are the social convoy model (SCM) of Antonucci (2001) and the socio-emotional selectivity theory (SST) of Carstensen (Carstensen 1993; Carstensen, Fung and Charles 2003). The SCM states that individuals go through life embedded in personal networks of individuals whom they give and from whom they receive social support (i.e. the convoys). In this theory, the concept of circles is used to separate people in terms of the closeness of their relationships with individuals. When ageing, the number of convoy members declines, especially in outer circles (Antonucci 2001). The SST of Carstensen (1993) claims that the social networks of older people are formed through network movements that are characterised by a process of selectivity and motivated by the emotional goals of older individuals (Carstensen 1993; Carstensen, Fung and Charles 2003). These two theories are similar in

the sense that they both indicate that social network size decreases with age – the number of more peripheral members especially reduces – but that older adults maintain or increase their interactions with family and intimate friends. The difference in the two theories lies in the motivation for change. For Antonucci (2001), the primary factor lies in the changes of social roles. For example, the loss of work makes older adults focus more on close friends and relationships. For Carstensen (1993), the motivation is more developmental: with an increased sense of time limitations, people try to maintain emotionally meaningful relationships and discard the less important and potentially unpleasant ones. Besides the SST and the SCM, there is a third theory that explains social network changes when ageing: the Social Production Function Theory of Successful Aging (SPF-SA; Steverink, Lindenberg and Ormel 1998). This theory is a combination of a theory of needs, goals and resources and a theory of behaviour. The SPF-SA identifies three social needs: status, behavioural confirmation and affection. This theory explains the changes in social relations when ageing, by changes in goals and resources. Because the latter two diminish when one gets older, the needs of status and behavioural confirmation become more difficult to satisfy. With fewer resources, the need for affection is easiest to satisfy when one gets older (Steverink, Lindenberg and Ormel 1998). Factors associated with ageing, such as physical loss, lend more understanding to the changes in social network than age itself.

The SPF-SA (2006) also identify contradictions in current research about the social needs of older persons. On the one hand, the focus on emotionally and intimate relationships is being demonstrated by the SCM and the SST (Antonucci 2001; Carstensen, Fung and Charles 2003). On the other hand, evidence shows the positive effects on health and wellbeing of older people who stay socially active in community service and voluntary and productive social activities (Harlow and Cantor 1996). Also, there is a positive association between psychological and physical wellbeing and having diverse and multiple social roles (Adelmann 1994). By focusing on the functions (affection, behavioural confirmation and status) rather than on the structure or density of the social relations, the SPF-SA (2006) give insights into the apparent contradiction of the changing relations of older adults and their association to wellbeing. They found that all three social needs remain important with increasing age (Steverink and Lindenberg 2006).

2.1.3 Objective(s) and relevance

When social needs of older people are met, this is often associated with higher levels of wellbeing and higher quality of life. However, a better insight into the characteristics of the social needs of this diverse population is much needed. With these

insights we will be able to create more successful interventions. Although many interventions have already been created and implemented to help older people meet their social needs or to prevent loneliness or social isolation, they are rarely being evaluated or proven successful (Cattan et al. 2005; Fokkema and van Tilburg 2003). The objective of this systematic literature review is to provide an overview of the available body of knowledge about the social needs of older people. Based on our findings, implications will be formulated for interventions that help older adults meet their social needs and therefore contribute to their wellbeing. The current study focuses on community-dwelling older adults. The main research question of this review is the following:
“What are the social needs of older people and what are the implications for interventions aimed at satisfying these needs?”

2.2 Method

2.2.1 Search strategy

A systematic search of papers published between 2005 and 2016 was conducted. Papers of interest were expected to be published mainly in psychological and sociological journals. For this reason, the databases of PsycInfo and Sociological Abstracts were searched. The search was conducted on 29 November 2016. Studies of adults aged over 65 were included because this is often the age researchers use in empirical studies and the age at which people retire from work and focus more on their social environment. The key words and search terms are presented in Table 1.

Table 1. Keywords and search terms

Population/target group	Topic
Older people	Social needs
Elderly	Social relationships
Seniors	Social values
Older adults	Social wellbeing
	Social support
	Connectedness
	Social network

2.2.2 Inclusion and exclusion criteria

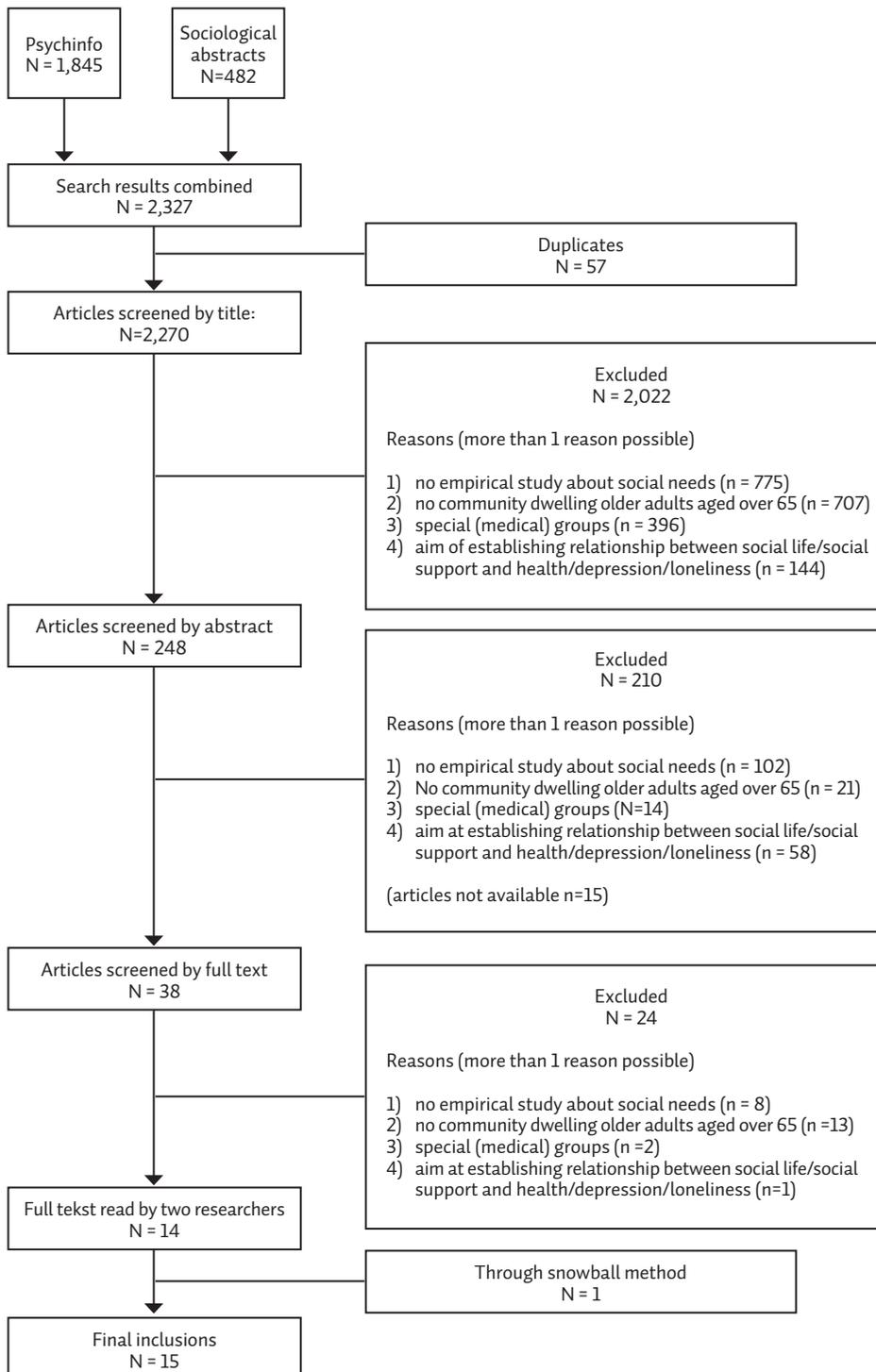
Articles published between 2005 and 2016 were included in this literature review. The inclusion and exclusion criteria that are consistent with the aim of this literature research are as follows:

1. Inclusion criteria:
 - a. Empirical studies about social needs.
 - b. Community-dwelling adults aged over 65.
2. Exclusion criteria:
 - a. Study concerns special (medical) groups (e.g. patients, people with chronic illnesses, homeless people or earthquake survivors).
 - b. Study aims to establish the relationship between social life/social support and health/depression/loneliness.

2.2.3 Study selection and data extraction

The number of articles drawn from the two databases was 2,327. The selection process is shown by the flowchart in Figure 1. In the first selection phase, the duplicates (N = 57) were removed and all the remaining 2,270 titles were screened by one reviewer (TB). In this phase, the articles that met the inclusion criteria and the uncertain ones were brought forward into the second phase. In the second phase, two reviewers (TB/JS and TB/KL) independently screened the remaining 248 articles in abstract form. The two reviewers discussed the abstracts until they reached consensus on the articles that would go into the third phase. The two reviewers (TB/KL and TB/JS) then independently screened the 38 articles that remained after the second phase in a full-text form. Fourteen articles remained after this phase. One reviewer (TB) assessed all the remaining articles (N = 14) to find more relevant studies (snowball method). This resulted in one relevant publication, which, again, was positively screened according to title, abstract and full-text version by the three reviewers. In total, 15 articles were included in the systematic literature review. The three researchers independently analysed the selected articles and reached consensus about the most important outcomes and themes.

Figure 1. Selection process flowchart.



2.2.4 Assessment of methodological quality

The Mixed Method Appraisal Tool (MMAT) checklist (Pace et al. 2012) is an instrument that can be used to assess the selected studies in terms of their quality. This instrument can assess both mixed-method studies and pure qualitative and quantitative studies. The checklist has 21 criteria, divided over six categories: (a) screening questions (for all types); (b) qualitative; (c) quantitative randomised controlled trials; (d) quantitative non-randomised; (e) quantitative descriptive; and (f) mixed methods. There are three levels for the MMAT criteria: fulfilled, unfulfilled and unmentioned. Two reviewers (TB/KL or TB/JS) assessed independently all the included articles using the MMAT. Disagreements between the assessors were resolved by discussion. Articles that met more than half of the criteria were considered to have sufficient quality for participation in the study. The first two screening questions of the MMAT should, however, always be answered positively.

2.3 Results

2.3.1 General findings and quality assessment

Following the selection process, 15 unique papers were included (Figure 1). The 15 selected articles used a quantitative descriptive approach ($N = 8$), a qualitative approach ($N = 5$) or a mixed method ($N = 2$). The outcome of the quality assessment and the focus and outcomes of the selected articles are presented in Table 2. Percentages of MMAT outcomes were calculated to compare the methodological quality of the included articles: these ranged from 50 to 100 per cent (Table 2). Almost half the selected articles – six in total – had an MMAT percentage of 100 per cent. The article of Buys et al. (2015) scored 50 per cent of the MMAT checklist and was therefore not included. This means that 14 articles are included in this systematic literature review.

The MMAT criteria that were least frequently fulfilled by the included quantitative or mixed-method studies were the acceptable response rate (over 60%) and the influence (bias) of the researchers by the included qualitative and mixed-method articles. In three cases, the response rate was less than 60 per cent, and in two articles, the data were collected from a larger dataset, so the response rate was unknown. In five articles, the three researchers decided that insufficient consideration was given to the influence of the researcher. The data from the included articles were collected from respondents living in different parts of the world, six in the United States of America (USA), four in Europe (two in the Netherlands, one in Ireland, one in Spain) and one each, respectively, in Canada, Australia, New Zealand and Taiwan.

Table 2. Research questions, findings and Mixed Method Appraisal Tool (MMAT)

Authors and year	Research question(s)	Findings	Study design	Study quality (%)
Ashida and Heaney (2008)	<p>What are associations of structural characteristics of social networks of community-dwelling older adults with their perceptions of the availability of social support and the level of social connectedness?</p> <p>What are associations of social support and social connectedness with older adults' self-reported health status? What are associations of social support and social connectedness with older adults' self-reported health status?</p>	Having frequent contact with network members was positively related with social support. Network density and having network members in close proximity were positively associated with perceived social connectedness. Social connectedness had a positive relation with health status whereas social support did not.	MM	55 (6/11)
Buys et al. (2015)	How do older Australians establish and maintain social connectedness?	The breadth and depth of social connectivity varies among older adults in rural Australia. Participating in voluntary organisations can provide connectivity.	QL	50 (2/4) ¹
Buz et al. (2014)	Do the SCM and SST apply in a collectivist culture (Spain)? What are the relations between health, family, pubs and church and the maintenance of social networks?	Age shows highly complex relationships with network size and frequency of interaction, depending on the network circle and mediation of cultural factors. Family structure was important for social relations in the inner circle, while pubs and churches were important for peripheral relations. Pub attendance was the most important variable for maintenance of social support of peripheral network members. The results support applicability of SCM and SST.	QN	100 (4/4)

¹ Notes: SCM: social convoy model. SST: socio-emotional selectivity theory. MM: mixed method. QL: qualitative. QN: quantitative research. ¹Study not included because MMAT quality is 50 per cent or less.

Authors and year	Research question(s)	Findings	Study design	Study quality (%)
Chen and Chen (2012)	<p>What is the influence of individual needs and family resources on living arrangements of the elderly?</p> <p>How is social participation associated with living arrangement preferences of the elderly?</p>	Elderly people with higher socio-economic status prefer either independent living arrangements or co-residence with their children, elderly with more family resources prefer to co-reside with their children, and elderly people with adequate social support and/or contact networks prefer independent living.	QN	100 (4/4)
Cloutier-Fisher, Kobayashi and Smith (2011)	What are the subjective dimensions of social isolation?	Life experiences, family dynamics and long-term patterns of socialisation are subjective dimensions of social isolation.	QN	100 (4/4)
Conway et al. (2013)	What are the patterns of social network changes and network composition of different cultural groups (African-Americans, Caribbeans and US-born Caucasians)?	The network of the older adult is dynamic. The network is getting smaller, but also network members are being added. The older adults work actively in sustaining their social network. Caucasians are losing more network members from the peripheral network.	QN	75 (3/4)
Fiori, Consedine and Merz (2011)	How do patterns of social exchange (giving, receiving and reciprocity) vary as a function of attachment characteristics? And is this equally in kin versus non-kin networks?	Security was related to larger network size, greater reciprocity and less giving to kin, whereas dismissiveness was associated with smaller non-kin networks, greater reciprocity, less giving to kin and non-kin, and more relationships involving receiving from kin. Levels of fearful avoidance were associated with fewer reciprocal relationships and more receiving from kin.	QN	75 (3/4)

Authors and year	Research question(s)	Findings	Study design	Study quality (%)
Gallagher (2012)	What are experiences of older adults with connectedness? What are the types of relationships and commitments that characterise connectedness among older people in Irish society? What is the significance of socio-spatial relationships for meaning in later life?	The older adults have a rich landscape of relatedness consisting of multidimensional relationships based on kinship and friendship. Older adults sustain communal ties, creating meaningfulness in their own lives and enhancing the lives of others. Engagement with others outside immediate family was a significant source of satisfaction and meaning of life.	MM	64 (7/11)
Krause (2007)	What are the relations between three forms of social support (enacted, negative and anticipated) and meaning of life?	Anticipated social support and emotional support from family members and close friends contributes to the meaning of life of older adults. Negative interaction lowers the sense of meaning of life.	QN	100 (4/4)
Neville et al. (2016)	How do persons aged over 95 years who live in their own homes remain socially connected?	Being socially connected meant keeping company: staying connected with family and friends, doing things together; engaging with paid and unpaid helpers; and having pride and enjoyment: continuing with hobbies and interests.	QL	75 (3/4)
Register and Scharer (2010)	Which processes are involved with connectedness in community-dwelling older adults?	Four processes involved with connectedness in older adults were identified (having something to do, having relationships, having a stake in the future and having a sense of continuity).	QL	100 (4/4)

Authors and year	Research question(s)	Findings	Study design	Study quality (%)
Steवरink and Lindenberg (2006)	How do satisfaction levels of affection, behavioural confirmation and status, as three human social needs, relate to age, physical loss and subjective wellbeing?	Affection was relatively high and status was relatively low in all age and loss groups. The three needs relate differently to indicators of subjective wellbeing: affection and behavioural confirmation relate positively to life satisfaction; status and behavioural confirmation relate positively to positive affect and negatively to negative affect. The need for behavioural confirmation is more difficult to satisfy with high physical loss, but none of the three social needs becomes less important with advancing age.	QN	75 (3/4)
Toepoel (2013)	What are the relations between leisure activities and social isolation?	Leisure activities explain a significant part of older people's social connectedness. Voluntary work, cultural activities, sports, reading books, hobbies and shopping are found to be successful predictors for social connectedness of older people.	QN	100 (4/4)
Walker and Hiller (2007)	How do older women living alone perceive the physical and social dimensions of their neighbourhood?	A reciprocal and trusting relationship with neighbours relates to a sense of satisfaction with and feeling of security within the neighbourhood. The women draw on existing social networks and neighbours to sustain their independence and social connection within the community.	QL	75 (3/4)

<i>Authors and year</i>	<i>Research question(s)</i>	<i>Findings</i>	<i>Study design</i>	<i>Study quality (%)</i>
Xie (2007)	How does the internet affect relationship formation and development online and offline?	There is little online interaction, internet is used for information, weak tie relations developed in computer course facilitate information exchange and social interactions during computer course provide opportunity to form friendships.	QL	75 (3/4)

2.3.2 Themes

With the three theories (SST, SCM and SPF-SA) in mind, four themes emerged from the selected articles. The four themes that were most prominent were diversity, proximity, meaning of the relationship and reciprocity. The first theme was the most obvious one. In studying the social needs of older adults, researchers confirm the heterogeneity of the older population. Furthermore, it is interesting to look at cultural differences in the 14 studies from different parts of the world. The themes were also inspired by the three theories, SST, SCM and SPF-SA. Because SST and SCM focus on the difference in peripheral and intimate relations, proximity is an important theme to consider. Steverink and Lindenberg (2006) and Antonucci (2001), in their theories, have also looked at the functional characteristics of social relationships. Social support and connectedness are often discussed as functional characteristics of social networks; they have also been identified by Ashida and Heaney (2008) and by the authors of this literature review as relevant topics in this literature review. These are all about the meaning of the relationship for the older person. When analysing the second (proximity) and third (meaning of the relationship) theme, a related theme emerged, namely reciprocity. In a relationship, whether it is peripheral or intimate, reciprocity is a reoccurring concept. It also plays a role in the third theme, namely the functional characteristics of the social relationship.

On the basis of the knowledge of social needs, this literature review intends to provide indications for successful interventions. Therefore, the paragraph ‘Interventions’ will present relevant findings about concrete interventions in relation to the four themes discussed in the 13 articles. Table 3 shows the four themes, including the information about interventions and the corresponding articles, and summarises the most important outcomes for each theme.

2.3.3 Diversity

Diversity refers to the individual and cultural differences between older individuals in terms of their social needs. The population of older adults is very heterogeneous; therefore, individual differences or diversity occur. Not everyone needs a big and dense network;

Table 3. Themes, author, country and outcomes

Author	Country	Results
Theme: diversity:		
Cloutier-Fisher, Kobayashi and Smith (2011)	Canada	Life experiences, family dynamics and long-term patterns of socialisation are important factors to consider when assessing social isolation.
Conway et al. (2013)	USA ²	Cultural differences between African-Americans and Caucasians in network change when ageing, faster rate of loss of peripheral members by Caucasians.
Fiori, Consedine and Merz (2011)	USA	The kind of attachment style has influence on the way older adults perceive and interpret messages from others. Probably perceptual biases in differences in perceived social support.
Krause (2007)	USA	Anticipated (so an expectation) social support is associated with deeper sense of meaning over time.
Register and Scharer (2010)	USA	The concept connectedness was viewed as somehow different by participants, one of four processes involved is 'sense of continuity', which is about feelings and individual perspectives.
Theme: proximity:		
Buz et al. (2014)	Spain	More frequent contact with inner circle members when ageing. Third places, like pubs and churches, are important for interaction with peripheral members.
Conway et al. (2013)	USA	More loss from peripheral network members when ageing, peripheral members get promoted to close network.
Gallagher (2012)	Ireland	Engagement with peripheral network members is source of satisfaction and meaning of life.

² Note: USA: United States of America

Author	Country	Results
Register and Scharer (2010)	USA	Both close and peripheral relationships provide connectedness.
Toepoel (2013)	Netherlands	Peripheral network members from leisure activities provide social connectedness. Close friends relate to participation in leisure activities.
Walker and Hiller (2007)	Australia	Trusting and reciprocal relations with neighbours (peripheral) form an important part of the broader social support network.
Xie (2007)	USA	Peripheral relations formed in senior computer club contribute to enjoying the course.
Theme: meaning of the relationship:		
Ashide and Heaney (2008)	USA	Perceived social connectedness may be more important to health and wellbeing than perceived social support.
Buz et al. (2014)	Spain	Pub attendance is important for maintenance of social support from peripheral members.
Chen and Chen (2012)	Taiwan	People with adequate social support and/or contacts networks prefer independent living arrangements.
Gallagher (2012)	Ireland	Connectedness, as in engagements with others outside one's immediate family, is important for satisfaction and meaning of life.
Krause (2007)	USA	Anticipated social support and emotional support from family and close friends is important for deeper sense of meaning.
Neville et al. (2016)	New Zealand	Remaining in own home was contingent on having strong social connections.
Register and Scharer (2010)	USA	Connectedness provides older adults with a mechanism to engage in meaningful, positive and purposeful ways.
Toepoel (2013)	Netherlands	Leisure activities explain a significant part of older people's social connectedness.
Theme: reciprocity:		
Fiori, Consedine and Merz (2011)	USA	Security of attachment was related to greater reciprocity.
Gallagher (2012)	Ireland	Older people contributing to the lives of others, as in voluntary work, is important for connectedness.
Register and Scharer (2010)	USA	Involvement in meaningful and reciprocal relationships was a central focus for all participants. Having something to do, contributing by doing volunteer work.
Walker and Hiller (2007)	Australia	Trusting and reciprocal relationships with neighbours contribute to satisfaction with neighbourhood and to the social support network.

Author	Country	Results
Interventions:		
Ashida and Heaney (2008)	USA	Favour for instrumental support provided by formal agencies not members of own networks. Effort to help community-dwelling older adults develop and enhance availability of social relationships that allow them to feel socially connected. Increasing the number of network members living in close proximity and increasing network density, Concretely this means: facilitate participation at public places such as community or senior centres.
Buys et al. (2015)	Australia	Participating in voluntary organisations can provide connectivity.
Buz et al. (2014)	Spain	Pubs, churches and other third places provide social connectedness. Rather than age related facilities intergenerational access is preferred.
Chen and Chen (2012)	Taiwan	Increasing economic security for older people, a stable pension system for financial independence and encouraging social participation.
Gallagher (2012)	Ireland	Draw on resources of older people themselves.
Toepoel (2013)	Netherlands	Stimulating participation in leisure activities. Facilitate their connection with others via leisure activities. Develop special programmes to select, train, and stimulate close contacts, that contribute to leisure participation and social integration. Favour for intergenerational programmes.
Walker and Hiller (2007)	Australia	Involve older women in planning and developing activities that might encourage the relationship between neighbours. Strategies for safety in a neighbourhood should be in balance with desire for privacy and independence. Services should support vulnerable women, in facilitating practical help. So promote independence, social connection and security in home and neighbourhood.

this depends on the individual's life experiences and personality. Cloutier-Fisher, Kobayashi and Smith (2011) have clearly demonstrated that some people are perfectly happy with a small and mostly peripheral network: so-called loners. This is also the case in studies by Gallagher (2012) and Walker and Hiller (2007), where some of the participants state that they do not feel the need to be socially active or join a club and prefer to be on their own. The less-connected respondents were not automatically lonely or dissatisfied with their lives. Therefore, assessing a person's social needs is about the subjective perception and expectations he or she has. Objective assess-

ment of the quality of someone's social network is difficult. For example, Krause (2007) demonstrates that the kind of social support most relevant to meaning of life is anticipated support. This means that expectations matter, perhaps even more than the objective and measurable aspects of social networks. Social connectedness, the presence of social ties, is also a difficult concept to measure objectively. For this reason, Ashida and Heaney (2008) discuss perceived connectedness as a partly subjective concept.

Besides individual differences, cultural differences play a role. Whereas in Asian countries adult children play an important role in providing social support and housing for their parents, in Western countries parents depend less on their adult children (Chen and Chen 2012). Recently, in Asian countries, older adults with sufficient social resources other than their direct family also prefer more and more to live independently. The researchers' interpretation is that older adults do not want to be a burden on their children and family and choose to stay independent as long as possible (Fiori, Consedine and Merz 2011; Krause 2007). Conway et al. (2013) found ethnical differences in changes in social networks. Caucasians are losing more network members from their peripheral networks than African-Americans. The authors suggest that this might be due to the fact that African-American older adults sometimes have 'extended kinship', which means they include non-biologically related individuals in the family (Conway et al. 2013). Therefore, peripheral members of their network become close network members.

2.3.4 Proximity

When examining the structure of the relationships of (older) people, researchers must take into consideration the proximity of the relationships. Networks of people in general tend to shrink as people age due to loss of work, loss of social roles or loss of health, and sometimes, through the purposeful choice of older adults (Buz et al. 2014; Steverink and Lindenberg 2006). In social networks of older adults, the loss of peripheral members is larger than the loss of intimate members (Buz et al. 2014; Conway et al. 2013; Steverink and Lindenberg 2006). Conway et al. (2013) suggest that older people may compensate for the loss of intimate network members by promoting members from a peripheral position to a closer network position. Therefore, when ageing, the size of the social network often diminishes, as does the number of frequent contacts with both peripheral and intimate network members (Conway et al. 2013; Toepoel 2013). On the other hand, older adults are more satisfied with the contacts they have and feel more connected to other people (Toepoel 2013). Both intimate and peripheral relationships contribute to the wellbeing of older

adults (Steверink and Lindenberg 2006). Register and Scharer (2010) explain that both close and peripheral relationships provide a sense of connectedness. Therefore, it is not only relationships with kin and intimate friends that satisfy social needs but also relationships with neighbours and non-intimate friends from clubs, pubs and churches. For people with small social networks, both peripheral members and close members can help in terms of coping with loss and grief. For example, people find comfort in playing golf or going to church when dealing with the loss of a loved one (Cloutier-Fisher, Kobayashi and Smith 2011). The peripheral relations with neighbours are important in more than one way. Besides contributing to a feeling of connectedness, they also provide safety and security. Safety is one of the most important concepts for older people (Walker and Hiller 2007). Ashida and Heaney (2008) found that, for older people, the geographical proximity of a social network is important to their feeling of social connectedness. Besides being connected to their neighbours, older adults can feel connected to the physical area or neighbourhood in which they live (Gallagher 2012; Walker and Hiller 2007). Our results show that peripheral relationships are also of great importance to older people, and losing members of this peripheral network does not always seem to be a deliberate choice.

2.3.5 Meaning of the relationship

Meaning of the relationship refers to the functions or meaning the relationship has for older individuals. In this context, two important concepts are social support and social connectedness (Ashida and Heaney 2008). Social connectedness is the presence of social ties. Social support is the support network members give to each other, which can be emotional, instrumental, informational or appraisal. Seven of the included articles discuss the concepts of social connectedness and/or social support. Both social support and social connectedness contribute to the meaning of life of older adults (Ashida and Heaney 2008; Krause 2007; Neville et al. 2016). Studies focusing on connectedness all indicate that it is important for older people in terms of giving them a sense of meaning in life (Gallagher 2012; Neville et al. 2016; Register and Scharer 2010; Toepoel 2013). As Register and Scharer (2010) explain in their article (page 463), 'connectedness provides older adults with a mechanism to engage life in meaningful, positive and purposeful ways'. According to Register and Scharer (2010), connectedness can be seen as the ultimate expression of human existence that determines how people engage with the world. Ashida and Heaney (2008) identify social support as a more functional construct whereas social connectedness has a more emotional dimension. While social connectedness and social support do overlap and are positively associated with each other, they differ

in terms of their associations with social network characteristics and health status (Ashida and Heaney 2008): social connectedness has a positive association with health status whereas social support does not. Gallagher (2012) also found that less-connected groups rate their own health as bad. As Gallagher (2012) shows, bad health can influence engagement with others (Gallagher 2012), but being unconnected can also cause physical problems (Ashida and Heaney 2008). It probably works both ways. Toepoel (2013) argues that people connect with each other by participating in leisure activities. There is a fun and light dimension to the construct of connectedness as identified by Gallagher (2012) and Buz et al. (2014). Just visiting a pub contributes to a feeling of connectedness and wellbeing. Going to a pub also contributes to giving and receiving social support, as Buz et al. (2014) found in their study. Informal conversations about sports, politics and gossip are important for older adults (Gallagher 2012). An overlap can be found between connectedness and being socially active in more peripheral relations involving leisure activities, going to pubs and going to church (Buz et al. 2014; Gallagher 2012; Toepoel 2013). Therefore, both intimate and peripheral relations provide older adults with connectedness and social support, both of which contribute to wellbeing (Ashida and Heaney 2008; Buz et al. 2014; Gallagher 2012; Neville et al. 2016; Register and Scharer 2010). Social support seems to have an ambiguous relationship with independence. According to Gallagher (2012), older adults have a great longing for independence and do not want to be a burden, especially not on their children and family. On the one hand, receiving social support can contribute to independence (Chen and Chen 2012). Receiving (social) support can enable older people to live longer independently and not go into a residential home. However, receiving instrumental social support can also diminish the sense of independence on older people (Krause 2007). In this study, older adults who receive more tangible forms of social support have a lower sense of the meaning of life, which Krause explains as a perceived lack of independence.

Steverink and Lindenberg (2006) confirm the importance of both looking at the structure of the relationships and the functions (or meaning) of the relationships in the network. They identify three functions of social relationships that relate to social need fulfilment and wellbeing, which are affection, behavioural confirmation and status. Affection includes love, trust, acceptance, empathy and understanding, which are mostly found in intimate social networks. Behavioural confirmation and status are related to the peripheral social networks. Behavioural confirmation includes doing the right thing and being useful, which, for example, can be accomplished by doing volunteer work and building more peripheral networks. Studies by Gallagher (2012), Toepoel (2013) and Register and Scharer (2010) have confirmed this. Status consists of getting respect, being independent and autonomous, and having skills, which are

also found in more peripheral networks. Krause (2007) and Chen and Chen (2012) have also identified independence as an important social aspect of older people. Assuming that needs such as behavioural confirmation and status remain as important to older adults as affection, these authors have shed light on the apparent contradiction that older adults, on the one hand, tend to focus on intimate friends and family and, on the other hand, need to stay active and participate in peripheral networks. When goals and resources diminish with age, it becomes more difficult to satisfy these needs. This results in a loss of more peripheral members of their networks.

2.3.6 Reciprocity

Reciprocity means not just receiving but also giving support and friendship, helping others and contributing to a community or society. The older person is not just a frail and vulnerable individual but is capable of giving back to others and to society (Gallagher 2012; Toepoel 2013). The older adult wants to give back to society, e.g. by doing volunteer work (Gallagher 2012; Register and Scharer 2010; Toepoel 2013). Reciprocity in friendships contributes to the feeling of independence and being meaningful. For example, receiving instrumental support diminishes older people's sense of meaning and independence. When older people return a favour, for instance, by giving back support, they feel less dependent (Krause 2007). Reciprocity relates to wellbeing (Krause 2007). In Register and Scharer's (2010) study, all the participants experienced involvement in meaningful and reciprocal relationships as the central focus of their life. In Walker and Hiller's (2007) study, women who lived alone found that trust and reciprocal contact with neighbours contributed to their social network and to the satisfaction they felt in the neighbourhood. Gallagher (2012) finds the same in his study in two communal settings in Ireland: when older people both give and receive practical help, it contributes to their satisfaction with life. To do volunteer work or help neighbours can also sometimes satisfy the need of older people to have something to do (Register and Scharer 2010). Fiori, Consedine and Merz (2011) examine the relationship between attachment style and social support. People with a secure style of attachment (as opposed to a dismissive or fearfully avoidant style) reported a larger network size and greater reciprocity in their relations.

Altruism, i.e. doing someone a favour without expecting something in return, can be considered a higher level of reciprocity. Gallagher (2012) discusses altruism in his study of the connectedness of the lives of older adults in Ireland. The most connected participants showed altruism and practical social concern in the voluntary work they do. They had a strong feeling of awareness of the need of others, and derived a lot of satisfaction from the voluntary work they do. Register and

Scharer (2010) also discuss this form of altruism, which contributes to the feeling of connectedness of older people. Participants found purpose and meaning by helping others in the community. The older people perfectly understood the importance of contributing to a neighbourhood for their own and others' wellbeing (Gallagher 2012; Register and Scharer 2010).

Reciprocity overlaps with proximity (the second theme) and the meaning of relationships (the third theme). As discussed above, reciprocity is important in both close and peripheral relationships. It is also related to the meaning of relationships. The meaning of a relationship seems stronger when reciprocity occurs. It is similar to glue, binding together the social networks of older people and creating connections to the community and to society.

2.3.7 Interventions

This systematic literature review intends to identify implications for successful interventions based on the information about social needs captured in the four themes. The researchers found that the authors in the 14 articles often discussed valuable information about interventions. In this paragraph, this information is summarised. First and foremost, corresponding to the first theme of diversity, one should respect individual differences (Cloutier-Fisher, Kobayashi and Smith 2011). One type of intervention will probably not be successful for all older people who are facing problems with loneliness or social isolation, which means that individual requirements should be considered (Cloutier-Fisher, Kobayashi and Smith, 2011). In creating and implementing interventions, diversity in life circumstances and health status must be taken into consideration.

In relation to proximity (the second theme), Ashida and Heaney (2008) and Gallagher (2012) discuss the importance of having social relationships and being involved with others, especially with people living in close proximity. Seniors should be stimulated by having pleasurable contact with neighbours and with peripheral members of their networks, such as social clubs and organisations (Buz et al. 2014; Gallagher 2012; Neville et al. 2016; Toepoel 2013; Xie 2007). Gallagher (2012) states that such forms of social intercourse contribute to solidarity and belonging. Joining a senior computer club contributes to forming valuable (offline) companionships (Xie 2007). Ashida and Heaney (2008) advise policy makers to help people form relationships. Both Buz et al. (2014) and Gallagher (2012) discuss the importance of pubs and churches where older people can become connected. In Spain and Ireland, the pub is the place where older people meet each other. Churches have a similar role in satisfying social needs. Buz et al. (2014), Gallagher (2012) and Register and Scharer

(2010) all identify the important role of churches as social meeting places. Besides this, a relationship with God contributes to the feeling of connectedness of older adults (Register and Scharer 2010).

Besides focusing on the meaning of relationships (the third theme), almost half the discussed articles offer recommendations regarding the need of older people to be (socially) connected (Ashida and Heaney 2008; Buz et al. 2014; Gallagher 2012; Register and Scharer 2010; Toepoel 2013). For instance, Toepoel (2013) recommends promoting participation in leisure activities to help older adults connect with others. She advises policy makers to develop special programmes to select, train and stimulate close contacts, which contribute to leisure participation and social integration. Going to a pub is different from going to a senior centre because members of all generations come to socialise and have a good time in pubs, whereas senior centres focus only on seniors. Toepoel (2013), Gallagher (2012) and Buz et al. (2014) discuss the need of older adults to connect with people outside their own age group. In their view, policy makers should focus on the need of older adults to access intergenerational places and contacts. Finally, Walker and Hiller (2007) and Gallagher (2012) identify the importance of the neighbourhood in the lives of older people. Policy makers can improve neighbourhoods by making them safe and clean and by promoting social cohesion (Walker and Hiller 2007). Register and Scharer (2010) recommend that health-care professionals should be more aware of the beneficial effects of connectedness on the wellbeing of older people.

Corresponding to reciprocity (the fourth theme), Gallagher (2012) mentions the need of older people to engage in meaningful activities by drawing on their own resources. Older people want to use their talents and skills to find solutions to the problems they and others face. In doing volunteer work and helping others, older people find meaning and joy (Gallagher 2012). Furthermore, Chen and Chen (2012) and Walker and Hiller (2007) identify independence as important for older adults. They advise policy makers to promote older adults' independence by means of practical solutions such as a good pension and the possibility for independent living (Chen and Chen 2012) and by creating safe neighbourhoods (Walker and Hiller 2007).

2.4 Discussion

In this systematic literature review, 14 articles about the social needs of older community-dwelling adults have been analysed, resulting in four themes, namely diversity, proximity, meaning of relationships and reciprocity. The paragraph 'Interventions' emphasises relevant information for interventions aimed at improving the social well-

being of older adults, for instance respect for individual differences, creating relationships and connectedness, and the need of older people to contribute to society. Together, this provides concrete information about social needs and the ability to satisfy these needs, which, in return, generates the elements of a successful intervention.

This systematic review offers insight into the social needs of older adults. Social needs include the need to give and receive friendship, companionship and love with intimate and peripheral contacts. This study reveals the social needs of older adults in a concrete sense (i.e. relationships, social networks social support) and a more abstract sense (i.e. feelings of connectedness and reciprocity). In terms of satisfying the social needs of older adults, subjectivity and cultural differences also play a role. Satisfaction is a feeling, and feelings are not objective but are different for every individual. Due to the long lifespan and, therefore, the many different experiences that older people have today, the population is more heterogeneous.

Both intimate and peripheral relationships satisfy older adults' social needs and continue to be important as people age (Cloutier-Fisher, Kobayashi and Smith 2011; Gallagher 2012; Neville et al. 2016; Register and Herman 2010; Steverink and Lindenberg 2006; Toepoel 2013). More peripheral relationships, such as contacts at clubs, churches and pubs, will help adults participate in and contribute to society and will make them feel a part of life and of society; in other words, they will make them feel connected. Whereas more intimate relationships bring love and belonging into the lives of older people, peripheral relationships offer fun, friendship and equality. When it comes to satisfying social needs, loneliness can be prevented. De Jong Gierveld and Van Tilburg (2008) identify two types of loneliness: social and emotional loneliness. Social loneliness is the lack of an adequate social network, whereas emotional loneliness is the lack of a partner or close friend. Social loneliness can be considered the lack of a more peripheral network. Emotional loneliness, on the other hand, is the lack of a more intimate and close network. Both types of loneliness influence well-being. This is congruent with our finding that intimate and peripheral relationships must be considered when it comes to satisfying people's social needs. Proximity, the name of the corresponding theme, is important in both an emotional and a practical sense; sometimes, the proximity of a neighbour can satisfy a social need as well as a close relative can. Older people's connection to others and to their neighbourhood or their society is of great value and an important concept when it comes to satisfying social needs (Gallagher 2012; Register and Scharer 2010; Walker and Hiller 2007). Connectedness can solve the basic social problem of alienation, isolation and loneliness, which older adults sometimes have (Rowe and Kahn 1997). It appears that older adults want to be connected with other people (in both a close and a peripheral sense) and to their neighbourhood, community and society.

Reciprocity is highly valued by older adults. They want to receive and give friendship, companionship and love to intimate and peripheral relationships. They also want to participate in society by doing volunteer work (Gallagher 2012; Toepoel 2013; Walker and Hiller 2007). Furthermore, reciprocity contributes to a feeling of independence, which is highly valued by older individuals (Chen and Chen 2012; Krause 2007; Walker and Hiller 2007).

Older adults also want to be socially active and participate in their community and society. Older adults want to contribute to society in a valuable way, and this contributes to their health and life expectations. As Diamond (2012) states, the way we treat older people in Western societies can be improved in comparison with other cultural settings. We can use the talents of older adults more effectively, as societies in the Blue Zones are doing. Blue Zones are areas in the world where people live significantly longer and healthier lives. Buettner (2012) has identified five of these areas: Sardinia (Italy), Okinawa (Japan), Loma Linda (California), Nicoya Peninsula (Costa Rica) and Icaria (Greece). Besides a healthy diet and exercise, one of the reasons for older people's expanded lifespan is the perception and role of the older adult in the community. They are highly valued and respected and considered to be wise and erudite (Buettner 2012).

Three theories about the social networks of older people, the SST, the SCM and the SPF-SA, offer us abstract information about changes that occur during ageing. Although the population of older adults is rather diverse, these theories are modelled on the whole population of older adults. When examining the structures of (older) people's relationships, researchers have to take into account the proximity of the relationships. This is especially pronounced in the SST and SCM theories. A distinction is made between close or intimate relationships, such as family and close friends, and peripheral relations, such as acquaintances, neighbours or people at (sports) clubs. Studies by Buz et al. (2014) and Conway et al. (2013), which show a greater loss of peripheral members compared to intimate members in older people's social networks, have confirmed the claims of SCM and SST. Furthermore, these theories state that older people focus more on close relationships due to selectivity or their changing social roles. However, in this systematic literature review, it became evident that peripheral relationships cannot be ignored. The SPF-SA theory of Steverink and Lindenberg (2006) offers an explanation of this by stating that status and behavioural confirmation, which are mostly satisfied by having peripheral relationships, remain important. However, due to loss of resources and goals, they become difficult to satisfy. While reciprocity has been identified as an important concept in relation to the social needs of older people, this concept is not explicitly part of the three theories discussed here.

One can argue that when social needs are not satisfied, it can lead to social isolation and/or loneliness. Both social isolation and loneliness are relevant concepts when it comes to studying the social lives of older people, but they are not captured in this review. The reason behind this choice of focus is the assumption that identifying social needs and satisfying these needs can prevent loneliness and social isolation.

The selected articles in this review were published between 2005 and 2015. One could argue that the social needs of older people have not changed much over the years and that articles from before 2005 would contain relevant information about this topic. Although this literature review provides implications for interventions, this was not a search term or key term. This choice was made because the main focus is on social needs. By extracting concrete information about these needs, implications were identified about possible successful interventions.

Although this systematic review has a specific focus on the group of community-dwelling older people who have no special medical condition, it should be taken into consideration that even this specific group is still very heterogeneous in terms of life circumstances such as living situation and health status. Community-dwelling, for example, can mean living independently in rented accommodation, in a large villa or living in sheltered housing. Differences in health status may also affect the social needs of the older adults. Although these differences were not addressed explicitly in the articles that were included in this review, they may have influenced the findings. An important consideration for interventions is, therefore, that there is not one intervention that will work for everyone, but that individual solutions must be sought that meet individual needs.

This literature review shows that older adults play an active role in their own (social) lives. They do not passively respond to the ageing process. Older adults want to have an active role in their whole environment, including their own social network, their neighbourhood and their community. Service providers and policy makers must consider that a lack of meaning in life becomes one of the most pressing problems when people age. Based on the results of this literature review, the most important considerations for creating and implementing interventions that may help older people satisfy their social needs are:

- Promote active involvement
 - Involve older people in creating and implementing interventions.
 - Focus on leisure activities and volunteer work: older people want to stay active and contribute.
 - Enable reciprocity: older people do not want to consume only.

- Show respect
 - Respect individual differences by assessing individual social needs.
 - Address the talents and skills of older people.
 - Create intergenerational initiatives: older people prefer not to be treated as a separate group.
 - Focus on independence: older people want to stay active and independent as long as possible.

- Stimulate social contacts
 - Focus on creating both close and peripheral relationships.
 - Stimulate neighbourhood initiatives: proximity and peripheral contacts with neighbours are highly appreciated and beneficial for wellbeing.
 - Facilitate (intergenerational) social meeting places such as pubs and churches.

- Sharing knowledge
 - Organisations providing care for older people and policy makers should be (made) aware of the importance of satisfying social needs.
 - Organisations providing care for older people and policy makers should be (made) aware of important characteristics of interventions aimed at satisfying the social needs of older adults, as mentioned before.

The future work of the authors of this literature review will focus on these implications. We will create and implement an intervention that will aim to satisfy the social needs of older people and hopefully contribute to their quality of life.

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Chapter 3

When your world gets smaller: how older people try to meet their social needs, including the role of social technology

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Abstract

Social needs are important basic human needs. When social needs are not fulfilled, it can lead to mental and physical health problems. In an ageing society, meeting the social needs of older adults is important to sustain their wellbeing and quality of life. Social technology is used by younger people attempting to fulfil social needs. The aim of this study is to understand the social needs of older people and the role of social technology in fulfilling these needs. Using this information we will uncover opportunities for (technological) interventions. We conducted a qualitative explorative field study by interviewing 19 community-dwelling older adults. The participants were selected by professional caregivers with the help of a list of criteria for people at risk of social isolation or loneliness. Semi-structured interviews were held, using a topic list covering the following topics: social networks, social support, connectedness, neighbourhood, activities and hobbies, as well as use of and experiences with social technology. After thematic analysis, inductive codes were attached to quotations relevant to the research question. The results were described in four sections: (a) social needs and relationships; (b) the influence of life history and personality; (c) possibilities and barriers to meet social needs; and (d) use of and attitude towards social technology. The results indicate that the group of participants is heterogeneous and that their social needs and the way they try to meet these are diverse. The Social Production Functions Theory of Successful Aging (SPF-SA) was found to be a useful basis for interpreting and presenting the data. Social needs such as connectedness, autonomy, affection, behavioural confirmation and status are important for the wellbeing of older people. Although the need for affection is most easy to fulfil for older people, it looks like satisfaction of the need for behavioural confirmation and status are in some cases preferred, especially by the male participants. Resources such as relationships, activities, personal circumstances and social technology can help meet social needs. Where there is a lack of (physical) resources such as health problems, reduced mobility, death of network members, fear of rejection and gossip, and poor financial circumstances, meeting social needs can be more difficult for some older people. Social technology now plays a modest role in the lives of older people and in fulfilling their social needs. Because of its potential and its role in the lives of younger people, social technology can be seen as a promising resource in the satisfaction of social needs. However, since it is yet unknown how and to what extent the use of social network technologies, such as Facebook, can be beneficial for older people, more research in this area is needed. Based on our findings, we conclude that the world of older individuals is getting smaller. The loss of resources, e.g. the loss of one's health and mobility, may make it more difficult for an older person to connect

with the world outside, which may result in a smaller social network. We therefore suggest that interventions to support older adults to meet their social needs may focus on two aspects: supporting and improving the world close by and bringing the world outside a little bit closer.

KEY WORDS – social needs, Social Production Functions Theory of Successful Aging (SPF-SA), social technology, older adults, interventions.

3.1 Introduction

Social needs, such as acceptance, appreciation, belonging and companionship, are important basic human needs for every individual (Maslow *et al.* 1970). Older people see their social life and their social relationships as important prerequisites for successful ageing. They often value wellbeing and social functioning more than physical and psycho-cognitive functioning (Von Faber *et al.* 2001). Furthermore, older adults with strong social relationships are able to maintain independence and live longer in community settings than socially isolated older adults, and *vice versa*: with the capacity to live one's life independently, one can also maintain a social network (Michael *et al.* 2001). If social needs are not satisfied, this can lead to loneliness and social isolation, which may, in turn, negatively affect a person's physical and mental health (Al-Kandari and Crews 2014; Avlund *et al.* 2004; Berkman and Syme 1979; Cacioppo, Hawkey and Berntson 2003; Golden *et al.* 2009; Holt-Lundstad *et al.* 2015; Iecovich, Jacobs and Stessman 2011; Portero and Oliva 2007; Seeman 1996). With a growing population of older people in Western society and their need to stay healthy and community dwelling, the satisfaction of their social needs is especially important (Antonucci 2001; Carstensen 1993; Steverink and Lindenberg 2006). This study focuses on the social needs of older people and the way they try to fulfil these.

Steverink and Lindenberg (2006) identify three social needs – affection, behavioural confirmation and status – in their Social Production Functions Theory of Successful Aging (SPF-SA), which overlap with the social needs identified in Maslow's hierarchy (Maslow *et al.* 1970). The main difference between the two theories is the possibility for substitution and compensation in the fulfilment of different needs in the SPF-SA. The SPF-SA further states that people have resources and goals to meet their social needs. Relationships with other people are important resources for trying to meet all three needs. According to the SPF-SA, the satisfaction of all three needs is better for social wellbeing than trying to meet just one of the social needs, as a network with diverse types of members satisfies diverse types of social

needs and therefore enhances social wellbeing. This is confirmed in the systematic literature review studying social needs by ten Bruggencate, Luijkx and Sturm (2017).

3.1.1 Social technology and its relationship with (social) wellbeing

The definition of social technology according to Gartner is:

“Any technology that facilitates social interactions and is enabled by a communications capability, such as the Internet or a mobile device. Examples are social software (e.g. wikis, blogs, social networks) and communication capabilities (e.g. Web conferencing) that are targeted at and enable social interactions. (Gartner 2017)”

For young people, social technology plays an important role in their (social) life and in possibly meeting their social needs (Valkenburg 2014). The results of a large representative Dutch online survey indicate that almost all young people use the internet: 89 per cent of people aged 20-39 use Facebook, 72 per cent use Instagram and 93 per cent use WhatsApp to keep in contact with friends and family (Turpijn, Kneefel and Van der Veer 2015). The use of social technology facilitates contact and communication, and it can be a means or resource to meet the need for affection, behavioural confirmation and status. For instance, an online survey among Dutch adolescents revealed that positive feedback on CU2 (a friend networking site) profiles enhances adolescents' social self-esteem and wellbeing, whereas negative feedback decreases their self-esteem and wellbeing (Valkenburg, Peter and Schouten 2006). A cross-sectional survey among American college student Facebook users shows that the number of Facebook friends and positive self-presentation may enhance subjective wellbeing (Kim and Lee 2011). In a study by Hobbs *et al.* (2016), the researchers reference social media profiles against California Department of Public Health vital records to assess whether social media use is associated with longer life. The results showed that online social integration is associated with a reduced risk of mortality. The effects of using social technology are not all positive. In a quantitative study among fifth graders in the United States of America, cyberbullying and sexting were seen as a problem by the respondents. The researchers conclude that young people are confronted at an early age with technology with little protection against cyberbullying or sexting (D'Antona, Kevorkian and Russom 2010). Best, Manktelow and Taylor (2014) carried out a systematic narrative review investigating the effects of online technologies on adolescent mental wellbeing. Besides positive effects such as increased self-esteem, perceived social support, increased social capital, safe identity experimentation and increased opportunity for self-disclosure, there are also negative effects in the use of social technology.

The few studies that shed light on the use of social technology and its influence

among older people come to diverse, sometimes even contradictory, conclusions. In the critical systematic literature review of Cohen-Mansfield and Perach (2015), the effectiveness of different interventions for alleviating loneliness among older persons were analysed. The researchers conclude that technology in interventions can be effective in reducing loneliness. A quantitative study in the Netherlands, among 626 people aged over 60, looked at the relationship between the use of social network sites and mental health and loneliness among older community-dwelling adults. The researchers did not find any direct relationships. The questionnaire reported on how often and for how long people use social network sites, and the authors argue that the subjective experience using these sites may be more relevant and that more research on how and why older people use social network sites is needed (Aarts, Peek and Wouters 2015). The online survey by Sum *et al.* (2008) among Australians aged over 55 showed a relationship between use of the internet for communication and reduced feelings of loneliness; however, people who used the internet to form relationships had more feelings of emotional loneliness, the form of loneliness where people lack a close and intimate companion. The survey among American older adults by Bell *et al.* (2013) concludes that Facebook can indeed be a tool for older adults to stay socially connected. As Leist (2013) concluded, in a review from literature on social media use from a gerontological perspective concerning the possibilities of social technology in clinical practice, social technology has a lot of potential for enhancing social contacts and reducing loneliness. However, according to Leist (2013), there are also fears of threats such as misuse of personal data, as well as the distribution and uncritical adoption of potentially harmful information via online communities.

These findings show that the relationship between use of social technology and wellbeing among older adults is multi-faceted and that further research into the potential of social technology as a means to fulfil older people's social needs is recommended.

Despite the possible positive effects on wellbeing, older people use significantly less social technology than young people (Turpijn, Kneefel and Van der Veer 2015). However, the percentage of older people who use these devices and applications is growing rapidly (Centraal Bureau voor de Statistiek 2017). As Peek *et al.* (2014) identified in a literature review about factors influencing the acceptance of electronic technologies by community-dwelling older adults, age plays an important role in acceptance of the technology. The older generation, according to Peek *et al.* (2014), has more difficulty using technological applications, simply because technology was not a (large) part of their life. Working on a computer is nowadays part of younger and working people's daily lives, but not the lives of the older generation.

3.1.2 Research question

Fulfilling the social needs of people contributes to their general wellbeing (Holt-Lundstad *et al.* 2015; Steverink, Lindenberg and Ormel 1998). Social technology can possibly play a role in meeting the social needs of older people. Our study examines social needs and their satisfaction in the lives of older people with a risk of social isolation or loneliness, the barriers to try to fulfil these needs and the role of social technology in such satisfaction. We expect that people at risk of becoming socially isolated or lonely benefit most from (technological) interventions for fulfilling social needs. Information about their social needs and how they try to meet these can help understand the problem and help create solutions, both technological and non-technological. The following research question is central:

“How do older adults at risk of being lonely or socially isolated meet their social needs?”

To answer this research question, we need to know:

- What are the social needs of older adults at risk of being lonely or socially isolated?
- What do older adults at risk of being lonely or socially isolated do in order to meet these needs?
- Which possibilities and barriers do they experience in meeting their social needs?
- What is the role of social technology in meeting these needs?

3.2 Method

Following approval by the Tilburg University Ethics Review Board (ERB; number EC 2015.42), data were collected via semi-structured interviews.

3.2.1 Participants

Data were collected among community-dwelling older adults, with a minimum age of 75 years, in a medium-sized town in the south of the Netherlands. Participants were selected by a professional at the Lev Group, a welfare organisation that offers practical and emotional help to people living in the southern region of the Netherlands. A professional care-giver from the Lev Group that worked with older adults invited older adults who had one or more risk factors for loneliness or social isolation to participate in the study. Risk factors for being lonely or socially isolated are having a small social network, not having a spouse, being recently widowed and having

expressed feelings of loneliness or isolation (Gierveld 1998; Victor *et al.* 2005). Other inclusion criteria for the participants were aged over 75 years, community dwelling, having sufficient (Dutch) language skills and having sufficient cognitive abilities to participate in an interview of about one hour.

3.2.2 Procedure

In April 2016, 24 selected older people were telephoned and asked whether they were interested in participating in our study. When the participants agreed to take part, they received a letter with information about the study and their right to cancel at any time. Most of the older people that were contacted agreed to participate: only three people declined. Two participants later cancelled the appointment because of personal circumstances. From the 24 people that were contacted, 19 people participated. The interviews took place at the home of the participants. Two female interviewers with a background in psychology conducted the interviews. At the beginning of the visit, further information was given; also, the informed consent was discussed and signed by the participant. The interviews all lasted about one hour, with one exception. One participant was brief in her answers: this interview lasted 20 minutes.

3.2.3 Materials

The topic list was based on results from a systematic literature study about the social needs of older people (ten Bruggencate, Luijkx and Sturm 2017), supplemented with questions about the use of and experiences with social technology (including e-mail and Skype). The topics were social networks, social support, connectedness, neighbourhood, activities and hobbies, and the use of and experiences with social technology. The loneliness and social isolation questionnaire consists of the items of the loneliness scale of De Jong Gierveld and Van Tilburg (2008) and three items about social isolation (Hortulanus, Machielse and Meeuwesen 2006). The items on the questionnaire are proved to be valid and are used widely to measure the (subjective) experienced feelings of loneliness and social isolation (De Jong Gierveld and Van Tilburg 2008; Gierveld 1998; Gierveld and Van Tilburg 2006; Hortulanus, Machielse and Meeuwesen 2006).

3.2.4 Analysis

With the permission of the participants, the interview was digitally audio recorded and transcribed verbatim. Thematic analysis (Braun and Clarke 2006) was employed.

Using qualitative data analysis software (Atlas.ti version 7), inductive codes were attached to quotations relevant to the research question. The topics in our topic list were initially used as sensitising concepts: social networks, social support, connectedness, neighbourhood, activities and hobbies, and the use of and experiences with social technology. Three researchers, working in pairs, were involved in the coding process, to ensure interrater reliability (Boeije 2005). Each transcript was coded independently by two of these researchers who, to reach a consensus, discussed their coding. Discussions in the coding pairs and in the whole coding team led to the introduction of new codes. Frequently used new codes were 'health problems', 'finances', 'mobility' and 'independence'.

3.3 *Results*

The sample consisted of 19 participants whose ages ranged from 75 to 94 years, with a mean age of 82 (Table 1). Eleven of the 19 participants were female. Fourteen of the participants lived alone; all of them were widowed. Five of the participants lived with a partner: in three cases this was their spouse, while in two cases they were not married. Table 1 also shows the scores on the De Jong Gierveld and Van Tilburg (2008) loneliness scale. Because the scores of participant 6 on the loneliness scale did not meet the requirements for a valid analysis, this participant was not assigned to a loneliness category. According to the loneliness scale, most of the participants experienced moderate loneliness feelings, one participant experienced severe loneliness feelings and five participants did not experience loneliness. Scores on the emotional loneliness scale were somewhat higher than those on the social loneliness scale.

3.3.1 **Sample descriptive**

Table 1 shows the scores on the three questionnaire items about social isolation. These items are derived from Hortulanus, Machielse and Meeuwesen (2006) and serve to support the social and emotional loneliness constructs from De Jong Gierveld and Van Tilburg (2008). One of the participants did not fill in the questionnaire for reasons of fatigue. According to the scores on the three items, only one of our participants (participant 8) is socially isolated; this participant has no people in his surroundings who support him. We conclude that the group of participants is not extremely lonely despite the fact that the older people were selected on the basis of risk determinants of loneliness or social isolation.

Table 1. Characteristics of the participants including scores on the loneliness scale (De Jong Gierveld and Van Tilburg 2008) and scores on items about social isolation (Hortulanus, Machielse and Meeuwesen 2006)

Participant number	Age	Gender ³	Living situation ²	I have people around me that want to help me, and want to do small chores ³	I have someone with whom I can talk about personal issues ⁴	For a nice conversation and time I drop by family, friends, acquaintances and neighbours, or they visit me at home ⁵				Total loneliness score	Category ⁶
						Emotional loneliness score	Social loneliness score	Total loneliness score	Category ⁶		
1	76	F	A	N	1	1	0	0	0	0	Not lonely
2	84	F	P	0	1	0	1	0	1	1	Not lonely
3	82	M	P	1	0	N	3	3	6	6	Moderately lonely
4	75	F	P	1	-	1	2	2	4	4	Moderately lonely
5	80	F	A	0	1	0	6	5	11	11	Very severely lonely
6	94	F	P	-	-	-	0	0	0	0	No score
7	85	F	A	1	1	1	1	2	3	3	Moderately lonely
8	81	M	A	0	0	0	4	4	8	8	Moderately lonely
9	83	M	A	1	1	1	2	4	6	6	Moderately lonely
10	81	M	A	1	1	1	0	0	0	0	Not lonely
11	79	M	A	1	1	1	1	0	1	1	Not lonely
12	94	M	A	N	0	N	0	4	4	4	Moderately lonely
13	75	M	A	N	1	1	4	1	5	5	Moderately lonely
14	78	F	P	1	1	1	3	1	4	4	Moderately lonely
15	88	F	A	1	1	N	1	2	3	3	Moderately lonely
16	76	M	A	1	1	1	3	0	3	3	Moderately lonely
17	80	F	A	1	0	0	1	0	1	1	Not lonely
18	80	F	A	1	1	1	6	0	6	6	Moderately lonely
19	84	F	A	1	1	1	5	0	5	5	Moderately lonely

3 Notes 1. F=female, M=male. 2. A=alone, P=with partner. 3. 0=disagrees, N=neutral, 1=agrees. 4. 0=disagrees, N=neutral, 1=agrees. 5. 0=disagrees, N=neutral, 1=agrees. 6. 0, 1 and 2=not lonely, 3-8=moderately lonely, 9 and 10=severely lonely, 11=very severely lonely.

3.3.2 Social needs and relationships

Social relationships are the intimate and/or peripheral relationships the participants have with their network members. These relationships are the resource for fulfilling social needs, and one relationship can meet a number of social needs. For example, a good relationship with a neighbour can meet the need for companionship, connectedness, affection or behavioural confirmation. The participants name their (grand) children, partner, a neighbour, friend or professional caregiver when asked whom they see regularly and whom they feel close to. In our study, the unconditional and reciprocal love the participants have with their children and grandchildren satisfies the need for affection. For instance, one of the female participants told us that when she has not seen her son for three days, she misses him a lot. She said:

“That’s what makes a person human.” (Participant 14)

Five of the participants live with their partner, in three cases their spouse. Two participants live together without being married. The partner is an important network member and source of companionship in the life of these participants. However, the relationship is not always perfect. One male participant admits that he often did not like his partner much. The participants without partners, often widowed, speak sometimes with love about their deceased spouse, but there are also bad marriages. In this group of participants, having a partner does not automatically mean that the participants feel less lonely or isolated, which is in line with our results of the questionnaire by De Jong Gierveld and Van Tilburg (2008). Although the participants have network members with whom they have frequent and intimate contact, some of the participants are hesitant to call them a friend. They prefer to call them an acquaintance. An older man who has frequent contact with his network members said:

“We have a good contact, but I cannot call it a real friendship.” (Participant 13)

One female participant only uses the concept of friendship when there is a shared history with that person.

Relationships other than with family are important for the participants. For one female participant, the relationship she has with her domestic help is the most important. Another female participant goes to a flower shop nearby every day where she talks with the owner about things happening in the neighbourhood.

Not only relationships with other human beings could meet participants’ need for love and affection. Three of the participants own a dog (or two). They all talk with love and respect about their pet. The dog shows love and affection, according to the owners. One older man said:

“When I saw Tarzan [his dog] for the first time, it was love at first sight.” (Participant 16)

This man said that the dog means a lot to him. He teaches him nice tricks and said

that the dog is the reason that other people make contact with him and have a little chat with him. Walking the dog provides opportunities for little chats with other dog owners and a reason to go outside.

The male participants especially find it important to 'just make little conversations' with a variety of people. When the interviewer asked one of the male participants explicitly whether he sometimes feels the need to talk about deeper or emotional subjects, he answered with a definite no. He said:

"I enjoy the daily conversations, about normal topics, about what you have seen or heard that day, what happens in the world and in [town where interview took place], to just have a little chat." (Participant 9)

These conversations about the weather and politics contribute to a sense of connectedness with others, with their neighbourhood and with society.

All of the participants express a strong desire to stay independent and autonomous. Often they mention that they do not want to be a burden to their family and friends. One of the male participants still drives a truck once a week for the logistics organisation of his son (which he used to own in the past), which fills him with much joy and the sense that he is useful and can help his son. This satisfies his need for behavioural confirmation and need for status. Another male participant is very proud of the royal ribbon he received for doing volunteer work. In our study, the need for status is especially present in the male participants.

Connectedness appears to be important for our participants. Participants feel connected to the lady in the flower shop, the domestic help, or the child or grandchild. It looks like the older people want to be independent but still connected to others. This may seem like a contradiction, but can be explained by the concept of reciprocity: one can be connected and stay independent if the relationship is reciprocal. So connectedness exists when the support is received in both directions.

The quality and the size of the social networks of the participants are diverse. Those participants with greater diversity in their network – e.g. family, neighbours and acquaintances – give the most active and happy impression. For example, they present themselves in an active and enthusiastic manner and speak with humour about their life and contacts. They appear to have good social skills. One male participant who makes a happy and active impression participates in a lot of social activities with family as well as with more peripheral network members. He enjoys both the warm contact with his son and grandson, and the activities he participates in arising from different hobbies. He used to be involved in several clubs and associations and is still involved in some of them. He said:

"I was president of the stamp collector, carnival and walking associations. For 18 years I looked after the children in school during their break. I so enjoyed the raising of my children,

I tell my son that he should enjoy every minute of his son (my grandson). Times goes by quickly.”(Participant 9)

On the other hand, the participants with small and homogeneous networks appear to be less active and happy. One female participant with a small network consisting of only her husband and two children is brief in her answers and does not have much to say about her life. One of the few activities she participates in is watching television. When asked how many children she had, she said: *“Thank God, I only have two children.” (Participant 4)*

3.3.3 The influence of life history and personality

The group of participants is heterogeneous in terms of age, gender, living situation and marital status. In addition to these differences, there are differences in personality, coping style, health, and norms and values. These differences influence the social needs of our participants and their approach to the satisfaction of those needs. For instance, some of the participants are disabled, but nevertheless show great strength and a real positive attitude towards life. One of these participants lives independently with minor assistive care: she is in a wheelchair and can only move her arms, but she is really independent and cheerful. She actively looks for companionship and activities in which to participate. She said:

“I can sit here upstairs in my room when I want, but then nothing happens, you have to go out and make contact.” (Participant 1)

Some of the female participants are quite assertive. For example, they argue with local government about the accessibility of streets and buildings with their walkers and with neighbours about leaving behind trash. By acting autonomously, independently and demanding respect from authorities, these women try to meet their need for status.

The respondents differ in terms of personality, which is visible in the demands they have for (new) network members. Two higher-educated female participants appear to be selective in their network contacts. They prefer to be able to have a good conversation with someone who has the same interests and standards, which corresponds with the need for behavioural confirmation and status. Both participants experience a discrepancy between the satisfaction of their social needs in the past and in the present. One of these participants is, according to the questionnaire, most lonely. She really has a need for a good friend. The social needs of the participants seem congruent during their life and when there is a discrepancy this can result in feelings of loneliness and isolation. Some of the participants, for example, had a small network in the past, and did not feel the need for an extensive network

now, and vice versa. For one male participant, his wife was his most important social network member, with hardly any other people in his life. When she died, his network became really small. This respondent (participant 8) is, according to the questionnaire, socially isolated.

One female participant with a small network engages in solo activities such as listening to music, doing puzzles and watching DVDs. She said: “

“I never feel bored, although I am alone.” (Participant 15)

Other participants clearly have more social needs and also had these in their past. It appears that social needs do not change with ageing: when there is a discrepancy between the satisfaction in social need in the past and future, this can lead to feelings of loneliness or social isolation.

3.3.4 Possibilities and barriers to meet social needs

Besides relationships with other people, as discussed in the previous sections, other possible ways to meet the social needs of the participants are participating in activities and volunteer work, personal circumstances and social technology. This last resource to meet social needs will be discussed in the next section about the use of and attitude towards (social) technology.

Almost all of the participants participate in hobbies and activities that involve network members who fulfil the need for behavioural confirmation. For example, the nice and cheerful contacts they have when participating in hobbies and activities give a sense of shared values and ideas. One male participant plays billiards with the same group of men a few times a week. Four of the female participants play cards in a community centre, often with the same group of people. Those frequent activities mean a lot to them and are a source of fun and belonging. One woman said:

“Then I go there and play cards and have chats with people – that’s fun!” (Participant 15)

The participants who engage in several hobbies and activities seem most active and positive towards life and express more feelings of independence and joy. For instance, one female participant has a passion for embroidery and she also gives lessons to other people: this makes her feel autonomous and brings her great joy. Most of the participants did some voluntary work in the past but stopped because of health problems. Most of the participants with health problems do, however, give emotional support to friends and family. Some of the more mobile participants still participate in active voluntary work. Participants who receive support from family and friends often find it important to do something in return. One older participant twice a year organises a nice meal for the people who helped him. He said:

“I do not go on vacation any more: that money I now spend on my care-givers.” (Participant 12)

Personal circumstances are an important resource for the participants to help meet their social needs. These are, for example, good health, a comfortable house in a safe, friendly or green neighbourhood, and sufficient financial resources. One participant, for example, leads a comfortable life with a luxury apartment and enough money to treat himself to a tasteful dinner and wine. His grandson works in a famous restaurant with a Michelin star where he sometimes eats with his family. The neighbourhood is an important resource to fulfil social needs. With reduced mobility, the direct neighbourhood becomes more important for the older individual, both in terms of the physical environment and the persons (neighbours) who live close by. One of the male respondents appreciates his house and neighbourhood very much. He said: *“I like the surroundings, the people – in fact I have everything here I want.”* (Participant 13)

Participants also value the safety of their house and neighbourhood. The neighbours play an important role in the lives of most of the participants. They often have an agreement to keep an eye on each other. Often the contact is good, with little chats during the week when they see each other. Some participants said they appreciate their neighbours but also value their privacy; so contact with the neighbours remains good but does not become too close.

For some of our participants, their social needs cannot be satisfied, mostly because of a lack of physical resources, such as health problems or reduced mobility. When asked about the contact with his neighbours, one male participant answered: *“They [the neighbours] ask me if I can come outside and have a little chat, but then I have to bring a chair or my walker to sit. And I cannot get up any more when I am seated. One time my grandson had to help me to stand again.”* (Participant 16)

This participant is happily embedded in the neighbourhood and has good contacts with his neighbours.

Only two of the participants are still driving a car and can visit network members further away, but they drive only small distances and are reluctant and anxious to use the motorway because of the fast and hectic circumstances. Sometimes, but not often, the participants use public transport, mostly a bus, to visit family or friends. Because of the reduced mobility of all the participants, people living close by are becoming more important. Children who live further away do not visit their parents often. The participants who do not see their children much do not appear to be bitter because of the few visits from their children. For instance, a male participant, although he moved eight years ago and never had a visit from one of his three children since, nevertheless says that the contact with his children is good. Participants often say that their children have their own lives and busy jobs. They do not want to be a burden to their children. Therefore, their need for affection cannot entirely be satisfied or has to be satisfied by other relationships, such as neighbours and other network members living nearby.

Other barriers besides reduced health and mobility are fear of rejection and gossip, death of network members and reduced financial circumstances. Some of the female participants specifically say that they are afraid to be rejected and some are hesitant to invite acquaintances over for a visit or conversation. One female participant often plays cards with other older people in a community centre. When asked whether she sometimes invites these people over for coffee, she says she does not do that:

“Maybe they already have friends or good contacts with neighbours.” (Participant 15)

Sometimes participants have the feeling that the other person is not eager to accept new friendships. One woman particularly mentions that the other person already has a family and network and will not accept a new friend. Because this woman comes from another part of the country, she said:

“The people have roots here and there is no place for me.” (Participant 5)

Another woman says that she has nice conversations with other people, but that she does not get invitations for a visit or to do something together.

These two women do not have a large network and have an explicit need to make new contacts. Fear of gossip is another reason why some participants are reluctant to make new contacts or friends. The participants all dislike the gossiping which they observe in their direct environment. Also, the need for privacy is mentioned a few times in the interviews.

The death of network members, especially a spouse, is another important reason why social needs may not be satisfied. The social life of one of the male participants was almost totally linked to his deceased wife. They did most things together and when she died his world became much smaller. Even the contact with his children is limited because of her death. Two widowed male participants talk about the need for a new partner. They like to share things and want the company. One male participant put it like this:

“I miss that one special person to whom I can talk in the evening, watching some television programme, and we can discuss the programme.” (Participant 9)

Besides the death of a spouse, the participants talk about losing important friends, siblings and other network members. One female participant played cards with a group of four friends: all four of them died in a period of two years.

Another barrier to the satisfaction of social needs are the financial circumstances of the participants. Sometimes their pension is small and they do not have the opportunity to engage in the (social) activities they want. They cannot afford to go out for dinner, go to the theatre or go on vacation. When financial circumstances are comfortable, this can be a resource or possibility, as, for example, with the male participant living in a comfortable apartment enjoying a good bottle of wine and a tasteful dinner.

3.3.5 The use of and attitude towards (social) technology

Table 2 shows the use of social technology and the possession of technological devices such as a smartphone, mobile phone, laptop, computer and/or tablet among the 19 participants. All the participants are familiar with forms of social technology and most devices such as a computer, smartphone or tablet. The participants, both social technology users and non-users, are introduced to or informed about social technology mostly by their children or grandchildren, who almost unanimously advise their (grand)parents to use it.

Most of the participants use only a normal telephone (not a mobile phone or smartphone) to keep in contact with family and friends. They often have a mobile phone but only use it when they go out of the house.

Table 2. Use of (social) technology

Participant number	Mobile phone	Smartphone	Tablet	Laptop or desktop	Use of social technology
1	No	No	No	No	No
2	No	No	Yes	Yes (desktop)	Yes – Stepbridge
3	Yes	No	No	Yes (desktop)	Yes – Stepbridge, mail
4	Yes	No	No	No	No
5	Yes	No	No	Yes (desktop)	Yes – Skype, mail
6	No	No	Yes	Yes (desktop)	Yes – Skype, mail
7	Yes	No	No	Yes (desktop)	Yes – mail
8	Yes	No	Yes	Yes (desktop)	Yes – mail
9	Yes	No	No	No	No
10	No	No	No	No	No
11	Yes	No	No	No	No
12	Yes	No	No	No	No
13	Yes	No	No	No	No
14	No	No	Yes	No	No
15	No	No	No	No	No
16	No	No	No	Yes (laptop)	Yes – Skype, mail, chat
17	Yes	No	No	Yes (desktop)	Yes – mail
18	No	No	Yes	No	Yes – Facebook
19	Yes	No	No	No	No

They find it a safe idea to have it with them in case there is an emergency. One participant said: I only use the mobile telephone when I go somewhere by car, so I can call the break-down service. (Participant 13)

None of the participants owns a smartphone. They often know what a smartphone is, but see no reason to purchase one themselves, although sometimes their (grand) children encourage the purchase of it. Five of the participants are in the possession of a tablet, though one of them never uses it. Three participants use the tablet primarily to read the paper and play games on it. They do not use it for social purposes.

Six participants use e-mail to keep in touch with their family and/or friends. One female participant uses it to communicate with her daughter, who lives in Germany. The other participants use it for short practical messages to communicate with family and friends. For example, one male participant uses e-mail to confirm the date and time his daughter is visiting, so that he can provide some extra groceries. One of the participants uses Facebook in a passive way, to be informed about the lives of her close relatives. She only looks at the profiles and does not send messages or post information herself.

Two of the participants, a couple that lived together, both use Stepbridge, an online bridge program. They both see bridge, offline and online, as an important aspect of their (social) life, as they speak enthusiastically about it and play it almost every day. In total, four of the participants use the internet to play games, mostly cards.

More than half of the participants do not use any form of social technology. Sometimes the opportunity it can offer some of these participants is quite clear. One of the participants, a proud grandmother of two grandchildren, said:

“I miss the smiling face of my granddaughter at the window when she came out of school and came to visit us.” (Participant 14)

Her granddaughter is 18 years old and going to a distant university and is not visiting her grandparents that often any more.

3.3.6 Attitude towards social technology

Nine out of the 19 participants use some form of social technology (e-mail, Skype, Stepbridge and Facebook). The participants who do use social technology are enthusiastic. The participants who do not use social technology are often negative or do not see any benefits in using it. Most of them argue that when they want to contact someone they can use the landline telephone; one male participant said:

“When I want something I can use the [landline] telephone and for doing the groceries my grandchildren drop by.” (Participant 9)

The main reason most participants give for not using social technology is that there is simply no direct need to use it. Some experience that in their surroundings more and more people use social technology, but this does not seem to be a reason to use it themselves. They communicate and seek information mainly face to face

and through the landline telephone. One male participant said:

“All the information I need I hear on the radio or through the [landline] telephone.”
(Participant 11)

Another reason that some of the participants do not use social technology or the internet is that it is too expensive.

One participant (not using social technology), however, experienced that organisations, for instance insurance companies, become more difficult to contact by telephone. In that way she feels almost obligated to purchase an internet connection.

Participants who do not use social technology sometimes have an explicit negative and cautious attitude towards it. They have problems, for example, with the fact that people are too busy with their smartphones to make a conversation. One male participant said:

“People don’t have time for each other anymore, they are all talking into their telephones or playing games on it.” (Participant 11)

They may also be hesitant for reasons concerning privacy or misuse. For example, one participant mentions a television programme about social technology bullying which made him afraid to use the technology himself. Some of the participants have physical or cognitive problems hindering the use of technological devices. Arthritic or shivering hands are barriers for using social technology or devices like tablets or smartphones. According to the participants, the small parts on, for example, a smartphone or tablet, are difficult to operate. One participant commented:

“It is just too difficult for me, all those little things you have to use when you app, or chat or whatever it is called.” (Participant 16)

For other participants, technology is a solution to daily problems such as reading the newspaper and a connection to their network and the world. One male participant has problems with his sight and cannot read the small letters from the (non-digital) newspaper. With the tablet, he can make the letters bigger and read the paper properly. This participant sees poor eyesight as a reason to use the tablet. Three other participants with poor eyesight, on the contrary, see their poor vision as a reason for not using social technology or any other devices. For another male participant, his laptop is really important to stay connected with his family and friends:

“Every morning I send them an e-mail saying: Good morning, I am still here!”(Participant 16)

One male participant used the internet to find health information when his wife was ill (she passed away a couple of years ago). He found out that the medicines she got from her medical specialist were not accurate and caused his wife more complaints.

Social technology does not play an important role in the lives of most of the participants. The participants who do use social technology (nine of the 19) show

positive attitudes towards using mostly e-mail and Skype programmes, however, only one participant engages (passively) with more recent social technologies, such as Facebook.

3.4 Discussion

In this study, the social needs of older people and the way they meet them are presented. To have a meaningful life and to feel independent and autonomous is important for all our participants. They all want to be connected to other people, to a neighbourhood or to society. The relative importance of the individual's social needs and the way these are satisfied are diverse among the participants because of differences in personality, personal circumstances, coping style and life history. Some of the participants' social needs are small and easy to fulfil. Just playing cards at a community centre once a week and meeting and chatting with other people was sufficient. Other participants did need an active (social) life with a variety of network members and activities. The community centre seems an important place for our participants to be connected to others, which is in line with the study by Buz *et al.* (2014), who found that pubs and churches fulfilled an important role as meeting places for older adults in Spain.

The social needs of the participants appear to be congruent throughout their lives. If they did not have an active (social) life in the past, they did not feel the need to have one now. On the other hand, older people with an active (social) life in the past often had an active life now or indeed felt the need to have one. Where there is a discrepancy in the satisfaction of needs in the past and in the present, loneliness or social isolation can occur. The participant who felt most lonely had the largest discrepancy between her past social life and the present, where she lacked companionship and someone to whom she could talk. Our results indicate that social needs do not change much with ageing. Only the resources a person has seem to change during a lifetime, which corresponds with the SPF-SA (Steverink and Lindenberg 2006; Steverink, Lindenberg and Ormel 1998).

In our study, resources to fulfil social needs are relationships with other people, participating in activities, personal circumstances and, to a lesser extent, social technology. Lack of resources are the reason that social needs cannot be (entirely) satisfied. Such a lack of resources, as identified in the SPF-SA (Steverink and Lindenberg 2006), can be caused by health problems, reduced mobility, fear of gossip and rejection, death of network members and poor finances. For our participants, health problems are among the main reasons why some social needs cannot

be satisfied: for instance, older adults sometimes cannot easily get out of the house to be socially active. In this case, the mind of the older individual wants something that their body cannot accomplish. Resources as defined by the SPF-SA is a broad category, comprising health and personal circumstances, but also personality, social skills and coping style. In our study, some resources, such as health, seem to be more important than others; however, physical and social needs can substitute and compensate for each other. For instance, a strong and positive personality, like having perseverance and an optimistic view of life, can compensate for the loss of health, as the female participant showed who was physically disabled but (socially) very active.

Participants who were most (socially) active and most connected to others, the neighbourhood and the community seemed to be happiest. These participants were not just living their lives and making the best of it, but they were truly enjoying life. They enjoyed their hobbies, their meals, their trips, and they enjoyed their family and friends. These participants had a positive and optimistic view of life, which has been associated with a positive effect on successful and healthy ageing (Smith, Young and Lee 2004; Steptoe *et al.* 2006; Wurm and Benyamini 2014). Diversity of the social network – e.g. networks that comprise both intimate and peripheral members – is found to be a predictor of wellbeing (Cohen and Janicki-Deverts 2009).

We found indications that there is a difference between the sexes in the relative importance of the three types of social needs. For instance, the need for behavioural confirmation and status appeared to be more important for men than for women. Some of the male participants especially stated very clearly that they just need to have small talk, about the weather, politics or something they watched on television. They often do not feel the need to talk about feelings or deeper emotional subjects. Their connection to a person, neighbourhood or community is just having a simple conversation. For the female participants, a good friend, preferably with the same interests or background, is important, which corresponds to the need for affection and behavioural confirmation. They like to talk about their feelings and what is bothering them. The need to be independent, useful, significant and meaningful is especially important for the male participants in our study, which corresponds to the need for status. Looking at the traditional sex roles where women care for the children and men have a paid job, this has face validity (Archer 1996; Eagly 2013). In our group of participants, these traditional differences in roles were also present. Due to a growing population of higher-educated and working women, the need for behavioural confirmation, and especially status, may become more important for women as well in future cohorts of older adults; and the reverse is true for men, with a changing role in the upbringing of the children, satisfaction of the need for affec-

tion may take on a more prominent role in future cohorts of older adults. The SPF-SA does not explain these differences between the sexes.

Despite the fact that the participants in this study were selected on the basis of criteria of being lonely or socially isolated by a professional caregiver, the scores on the loneliness scale do not reflect this. Having one or more criteria for being at risk of social isolation or loneliness does not automatically mean that the person is indeed lonely or isolated. The prediction for people being lonely or isolated seems to be complex and risk factors based on a population do not always reflect loneliness or social isolation for an individual. Although we used risk factors that have been presented in empirical studies, there is always also a subjective component (Gierveld 1998; Gierveld and Van Tilburg 2006; Victor *et al.* 2005). As a consequence, our findings may not adequately reflect the social needs of older people who are lonely or socially isolated, but the needs of a broader group of older people with different grades of expressed feelings of loneliness or social isolation.

Social technology plays a modest role in meeting the social needs of our participants. None of the participants was in possession of a smartphone. Participants who used a computer or tablet used it primarily for information, and less for communication or social purposes. The main reason not to use social technology is that there is no direct need for it. There is need for a trigger to use it, which is in line with findings by Peek *et al.* (2017). The most important device to fulfil social needs was the landline telephone, and not a smartphone. In a society where using the landline telephone is becoming less obvious, the older people who depend heavily on this form of communication may have problems communicating in the future, because fewer people use their smartphone for actually calling someone, they sometimes prefer chatting and texting. Some participants were in possession of a tablet, a laptop or desktop computer, and they used it to play games or read the paper. In this way, they stayed informed and in a sense connected to the world. Also, some of the participants used some form of social technology for social purposes, mostly e-mail and Skype, and this fulfilled the need for contact with loved ones. The participants who did use some form of social technology all had a positive attitude and clearly saw the benefits. Especially for the older adults with small networks because of health and mobility problems, social technology can play a role in fulfilling social needs. Social technology could facilitate meeting other people with similar interests, hobbies and needs. Older people, for example, who have lost a partner could contact and communicate with other older people who experienced the same pain and grief. With Skype, older people can contact their relatives and friends living further away, which is, when in the possession of an internet connection, cheaper than the landline telephone and brings an extra visual dimension. Whether social technology can

solve, for example, the problem of emotional loneliness (the lack of a close friend or companion) has yet to be answered, for there is evidence that face-to-face contact is different and preferable than online contact (Knop *et al.* 2016; Redcay *et al.* 2010). Social technology on its own maybe is not a direct solution to problems like loneliness, but it may be a means to solve or reduce it and meet some of the social needs.

Furthermore, in this study we could not learn much about the use of more recent social technology such as Facebook, as only one participant used this (passively). Social technology such as Facebook provides a larger virtual platform for social interaction than e-mail and Skype, and so its use is not directly comparable. More research, *e.g.* observational and intervention research using a large sample of older adults, is needed to investigate the attitude of older adults towards different types of social technology.

3.4.1 Opportunities for (technological) interventions

In this section, two opportunities for (technological) interventions supporting the satisfaction of social needs are presented, as well as a number of issues that should be taken into consideration when developing interventions.

Because of loss of resources such as loss of mobility and health in the lives of older adults, the house and close neighbourhood become more important and prominent. The loss of these resources makes the world of older adults smaller, *e.g.* in the sense that they have access to a potentially smaller network. Social technology can facilitate creating a connection to family, friends and neighbourhood members. Social technology may be able to provide people with a form of autonomy and independence by providing accessible tools for communication and connection to others and the world. It may be able to decrease distances and bring the world a little bit closer for those with reduced resources to have face-to-face social contact.

We see the following two ways of helping older people to meet their social needs:

- *Support participation in the world nearby:* by enabling older people to take part in neighbourhood activities and supporting them to ask for and especially provide help and make contacts in their direct neighbourhood, we believe that older people will feel more useful, more autonomous and more connected.
- *Bring the outside world closer to home to overcome physical distance:* technology or other types of interventions can help facilitate communication or even transportation. Technology can help older people to communicate with children and grandchildren far away and make friends with people with similar interests.

Further considerations are:

- *Support people's first step towards social technology:* when our participants used some form of social technology, they always had a positive attitude towards it. So when the first step is made, the older people all seem to benefit from the technology. In a study by Luijkx, Peek and Wouters (2015), the role of (grand) children in the acceptance of social technology was important. Family members can help to introduce social technology.
- *Respect individual differences and attitudes:* some of the most (socially) active participants have a perfectly satisfying and happy life without any form of social technology. They all appreciate non-technological contact with network members.

On the basis of these opportunities and the results of a previous systematic literature review (ten Bruggencate, Luijkx and Sturm 2017), we will focus on developing and implementing a (technological) intervention to meet the social needs of older people and prevent loneliness or social isolation.

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Chapter 4

To Meet, to Matter, and to Have Fun: The Development, Implementation, and Evaluation of an Intervention to Fulfil the Social Needs of Older People

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Abstract

Interventions for older people are often not evaluated and, if evaluated, are not proven successful. Based on a systematic literature review and two qualitative studies about the social needs of older people, an intervention has been developed, implemented, and evaluated. Important social needs that emerged from these studies are connectedness, meaningfulness, and independence. Samsam, the developed intervention, aims to fulfil these needs. Samsam is a place where older (native Dutch speaking) people teach the Dutch language to expats, refugees, and immigrants. Two group interviews and one interview with a total of seven older participants were held to find out what the experiences are with this intervention to fulfil the social needs of older people. After analysis, three themes emerged: (1) The general experience of Samsam, (2) connectedness, and (3) meaningfulness and status. Results indicate that the volunteers are content with the conditions of the intervention, although it is sometimes hard work. The older participants indicated that helping other people and contributing to society is important for them. The intervention also has a strong social and fun element which contributes to their feeling of connectedness. The intervention fulfils various social needs, such as connectedness, meaningfulness, and status. When participating in Samsam, participants feel connected to each other, to the students, and to society. The older participants want to have meaningful lives and use their skills and talents. Samsam offers possibilities for them to do so. We further found that participants have some common characteristics such as an openness to others and to other cultures. An openness towards others and to society helps older people to connect. Most interventions focus on stimulating contact between older people, primarily on their need for affection. We conclude that meaningfulness and status are important social needs. Successful interventions for older people should focus more on fulfilling these needs - for example, by engaging in purposeful activities. It becomes easier to connect when a person feels useful.

Keywords: *social needs; older adults; interventions; volunteer work*

4.1 Introduction

“When you are old, you have all the answers, but nobody asks you the questions.”
(Dr. Laurence J. Peter)

4.1.1 Social Needs and Well-Being

Social needs are important needs for every individual [1–3]. Rowe and Kahn [4] stated that besides the low probability of disease and high cognitive and physical functional capacities, social engagement is one of three major elements of successful ageing. They define social engagement in two ways:

(1) Remaining involved in activities that are meaningful and purposeful, as well as (2) maintaining close relationships. Older people value their social life and social well-being even more than their physical or cognitive functioning [5]. Steverink and Lindenberg [3] identified, in their social production function theory, three social needs: Affection, behavioral confirmation, and status. Affection is fulfilled by relationships that give you the feeling that you are liked, loved, trusted, and accepted. Behavioral confirmation is fulfilled by relationships that give you the feeling of doing the right thing in the eyes of relevant others and yourself. Status is fulfilled by relationships that give you the feeling that you are being treated with respect, are being taken seriously and are independent or autonomous. Status also refers to being known for your achievements, skills, or assets. A study by Bruggencate [6] found that the social needs that are relevant for older people are connectedness, meaningfulness, and independence. These three needs largely correspond with the three needs of the aforementioned social production function theory of Steverink and Lindenberg [3]. Older people want to be independent for as long as possible and be connected to other people, to a neighborhood, or to society [6–11]. To engage in different activities and to be involved in the lives of others, both intimate and peripheral contacts, contributes to the well-being of older people [7–11]. In a systematic literature review conducted by ten Bruggencate, Luijckx and Sturm [7], reciprocity—as in doing something for others for a community or a society—was found to be an important concept in the social lives of older people. Reciprocity is the glue that binds older people to others, to a neighborhood, and to society. In doing something for others, older people feel independent and have meaningful lives. When a person gets older, while their social needs and the need to fulfil them do not change much, the resources to fulfil these needs do. With a loss of health, mobility, and network members, it gets more difficult to fulfil social needs [3]. Despite the loss of resources, fulfilling social needs remains important and contributes to the well-being of older people.

In Western countries, the emphasis is on the individuals' own responsibilities for their health and well-being and on activating people to help each other [12]. In countries like the Netherlands, a shift has already been taking place from a welfare state to a society where participation is promoted in the last couple of years. Older people in local communities in the Netherlands are stimulated to actively be part of the community and society. They are encouraged to remain independent in their own homes for as long as possible, to take care of themselves and others, and to actively participate in society. Local governments stimulate this active participation of its older citizens [13]

4.1.2 Social Interventions for Older People

Many interventions for older people to stimulate social connectedness or independence have been developed and implemented worldwide [14–17]. Though these interventions are aimed at improving their general well-being and, in that way, the quality of life of older individuals, the interventions differ in terms of their specific focus, their target group, their overall organization, and whether or not technology is involved. Cattán et al. [14], in their systematic literature review about health promotion interventions, made a distinction between group (e.g., activities of educational input or social support), one-to-one (e.g., activities of home visits or telephone contact to provide information, services, or support), service provision (e.g., transport, medical intervention), and community development (e.g., social activities) interventions. The interventions in this study were all designed for older people at risk of being lonely or socially isolated. A few of these interventions used a form of technology.

Though many interventions have been developed for older people, evaluations of these interventions are scarce. Moreover, interventions that have been evaluated often fail to be proven successful [14–17]. There are several reasons why interventions do not meet the needs of the target group. Many interventions focus on stimulating contacts, and, while this can be beneficial, it does not always match the specific social needs of an older person [16–20]. For instance, in a scoping review of O'Rourke, Collins [19], various interventions to promote social connectedness and prevent loneliness were analyzed. The conclusion of this research was that different approaches other than stimulating social contacts are needed. The authors especially mentioned purposeful activity as an interesting focus. Due to the diversity of the population of older people and the diversity of their social needs, interventions do not always match these needs [7,16]. Therefore, a single intervention that will work for every older individual is simply impossible. Besides the heterogeneity of older people, some older people do not actively participate and are, in a way, withdrawn from society. They are,

in fact, invisible and therefore do not actively make use of available interventions. Alternatively, they purposely choose to let social needs go unfulfilled; they choose not to participate [16]. These aspects should also be considered in developing and implementing interventions. From our perspective, interventions should be tailor-made and based on knowledge about social needs and how older people fulfil these. With this study, we developed, implemented, and evaluated an intervention aimed at fulfilling the social needs of older people. Evaluating the intervention can provide deeper insights about the social needs of older people.

4.1.3 Samsam: An Intervention to Fulfil Social Needs of Older People

In 2017, eleven students from the Dutch Design Academy in Eindhoven (DAE) were asked to design and implement an intervention that matched the social needs of older people based on the results and recommendations of previous studies [6–9]. One of the students developed an intervention that matched well with the results and considerations of these studies. To develop the intervention, this student wanted to gather more information about the population of older people, and she came in contact with an older woman in a residence for older people. For two months, she observed the everyday situations occurring at this residence while having conversations and playing scrabble with the older woman. The student observed that there were many organized activities in the residence, but none of them had a genuine meaning or purpose; the activities did not, for example, focus on the talents or skills of the older people. She also observed that the staff (the caretakers) were working hard and had tight schedules, leading her to the conclusion that it would be important to develop an intervention that was meaningful for older adults with little burden on the staff. The concept of SamSam was born when the student saw an announcement for volunteers to teach the Dutch language. Samsam is a language café where older people help expats, migrants, and refugees (hereafter referred to as students) in the Netherlands to learn the Dutch language. It takes place once a week, on Tuesday at 14.00 h. The first meeting of Samsam was on the 6th of March 2018. The older people who participate as volunteers are community-dwelling residents and live independently in or nearby the care center. To volunteer in Samsam requires good cognitive and verbal skills. The coordinator of the care center decides which older people meet these requirements. The foreign students (who want to learn the Dutch language) are recruited primarily through Facebook. Their age varies from 20 to 60 years old. They are from countries such as Syria, China, Hungary, Italy, and Turkey.

Figure 1. Examples of materials used in Samsam.



During the weekly language café, the volunteers and the foreign students engage in conversations about daily life, do short (grammatical) exercises, and play games centered around specific themes. Examples of themes are ‘spring,’ ‘the news,’ and ‘family.’ Every week, supported by informal learning materials, new themes are introduced. For example, for the theme ‘food,’ there were placemats with different topics and questions the volunteer could ask. With this theme, the students and the participants were also asked to bring food from their own culture and country (see Figure 1). The themes activate communication and conversations, and they sometimes relate to the needs of the foreign language learners, with such themes including ‘applying for a job’ or ‘how to build up a network.’ The learning materials help the participants to ask questions and talk about certain topics related to a theme. Samsam takes place in an informal setting—the restaurant and café in a care center in a city in the south of the Netherlands.

The concept of Samsam is not new. There are similar initiatives where volunteers teach foreigners a language in libraries and community centers. Samsam is different in that only older volunteers (aged over 60) are involved and that it is located in a residence for older people and therefore easily accessible for older volunteers. The learning is informal, as there are no formal language or grammar workbooks; only themes are presented, and matching designed materials are used. Samsam is coordinated by a student from the Dutch Design Academy and students studying applied psychology under supervision of professors of the psychology department. Another aspect of Samsam that makes it stand out from similar initiatives is that this intervention has been developed and implemented on the basis of strong empirical evidence regarding the social needs of older people.

4.1.4 Purpose of Research

In this study, we aimed to find out how and to what extent this intervention, in the form of volunteer work and based on the concepts of connectedness, independence, and meaningfulness, supports the participants in the fulfilment of their social needs. Therefore, our research question is:

“What are the experiences of the older volunteers participating in Samsam, and how does participation affect their social needs?”

4.2 *Materials and Methods*

Following approval by the Tilburg University Ethics Review Board (ERB) EC-2018. EX105, data were collected. We evaluated the intervention in a qualitative way, because we wanted to know the experiences and stories of the older participants regarding the intervention. Qualitative methods can play a significant role in intervention evaluation. Qualitative methods can yield information with a breadth and depth that is not possible to achieve with quantitative approaches [21]. We held two group interviews because of the benefits and possible valuable results of the interaction and discussion between the participants. In addition, we carried out one individual interview, because this volunteer was not able to attend the group interviews.

4.2.1 **Participants**

The inclusion criteria for the participants were:

- Volunteers of Samsam (in total, 10 participants are involved in Samsam)
- Participated in three or more of Samsam sessions

In addition, all the participants had good verbal and cognitive skills, because these are requirements for taking part in Samsam.

From the 10 older volunteers, seven agreed to participate in the evaluation. Two participants did not want to participate because they were too busy with family and other activities, and they did not feel like it. One of the female participants could not participate due to her poor health at the time of the data collection.

The group interviews were facilitated by a researcher who has a background in psychology. The facilitator guided the process and ensured that every participant had a chance to speak. The individual interview was conducted by the same researcher.

4.2.2 **Procedure**

The study consisted of two group interview meetings and one individual interview. Each group interview was with three participants of Samsam.

In June 2018, we telephoned the older people and asked whether they were interested in participating in the evaluation of Samsam. When the participants agreed to take part, they received a letter with detailed information about the study and the group interview. We informed them about the voluntariness of their participation and their right to cancel at any time without giving a reason. They were also asked to complete and sign a letter of consent.

4.2.3 Materials

Our topic list was quite open (semi-structured) and was about the participants' experience of Samsam. The topic list was partly based on our previous studies about the social needs of older people [6–9]. We asked questions in relation to bonding with the foreign students, for what reasons they participated, and if and why they would recommend Samsam to other older people. We specifically asked about special moments where they enjoyed or learned something, and how they experienced the atmosphere in Samsam.

4.2.4 Analysis

With the permission of the participants, the interviews were digitally audio recorded and transcribed verbatim. A thematic analysis [22] was employed. Using a qualitative data analysis software (Atlas.ti version 8), inductive codes were attached to quotations relevant to the research question. Two researchers were involved in the coding process to ensure inter-rater reliability [23]. Each transcript was independently coded by two researchers who, to reach a consensus, discussed their coding. Afterwards, the two researchers discussed the codes and relevant themes. We especially looked at social needs and in which ways the intervention helps to fulfil these, but we also looked at the overall experiences and stories regarding the intervention.

4.3 Results

4.3.1 Sample Description

In total, seven people participated in the interviews, three of whom were female (see Table 1). Some common characteristics of the seven participants were that they have quite socially active lives and that some of them also engage in other forms of volunteer work. They all have relatively good verbal and cognitive skills, which are required conditions to work as a volunteer in Samsam.

Table 1. Age and sex of the participants.

Group interview 1	Group interview 2	Individual interview
Woman, 61	Woman, 83	Woman, 80
Man, 88	Man, 92	
Man, 84	Man, 84	

In our interviews, the general evaluation of Samsam was a repeated topic in the discussions. Participants mentioned what they like and do not like about the organization and conditions of Samsam. Our first theme was: (1) The general experience of Samsam. On a deeper level, we looked at which social needs are fulfilled in Samsam, and we found: (2) Connectedness and (3) meaningfulness and status to be relevant themes in the transcripts. Each of the three themes is discussed in more detail in the following sections.

4.3.2 General Experience of Samsam

During the interviews, participants often expressed their experiences with the language café in terms of what they like and dislike about this intervention. The participants all like the fact that Samsam has a low threshold for them to participate and is easily accessible. At the time of the interviews, none of the participants had quit Samsam, and they had all volunteered for a couple of months—most participants about 10 times (Samsam takes place every week). Some could not always come because of health reasons or vacation, but, among the participants, there was no intention to stop this work. The participants liked the fact that participating in Samsam is fun and not obligatory. The participants appreciate the themes around which the conversations take place. They found it important to have some guidelines and structure in the form of a theme (e.g., there are themes related to spring, food, or travelling). The participants have liked the different themes, except for one time when the theme was ‘design and art.’ The participants discussed pieces of art and design with the students. Most of the participants did not enjoy this. One participant explicitly said:

“When it is going to be like this, I quit.”(Woman, 80)

Apparently, this theme did not match their interests. The participants also found it important for the students to be motivated. One time, one participant had a student who was not motivated and mentioned this student during the group interview: *“When you don’t want to learn anything, you better stay away.”(Man, 92)*

Some of the participants found participating in Samsam to be hard work, and, although they enjoyed doing it, it sometimes cost them too much energy. One participant felt quite exhausted after participating in Samsam. One other participant said: *“I like doing it, but it is hard work.”(Man, 84)*

The participants indicated that they would recommend participating in Samsam to other older people. One of the female participants was introduced to Samsam by a friend. That Samsam has a low threshold, is nearby, is easy accessible, and is a lot of fun were reasons for her to join. One of the participants said:

“From all the volunteer work I do and have done, I like this (Samsam) the best.”(Man, 88)
The fun element is essential in Samsam. The participants indicated that they enjoy the laughter and cozy atmosphere.

4.3.3 Connectedness

The need for connectedness to other people and to society was a major theme during the interviews. The participants of Samsam find friendship and companionship with their students and with each other. Some of the participants meet with each other outside Samsam. One of the female participants enjoyed the company of another male participant and joked about his obsession with planes and flying. They know each other from living in the same neighborhood, and their contact is now stronger through Samsam. She stated that the two of them regularly go for little walks together, and they talk about all kind of things, including Samsam.

“We know each other, we walk together, and we make jokes together.”(Woman, 80)

The participants bond with the students through their shared interests. One of the participants is a retired architect. In Samsam, he teaches the Dutch language to a Hungarian female architect. They are friends now and made a connection through their shared interests and background. They also meet outside the regular Samsam times to drink tea. The participants often mentioned the laughter and fun they have. One of the first remarks one of the participants made was:

“What more can you ask for, at age 88, to have that much fun.”(Man, 88)

The students learn from the participants but also vice versa. The participants learn about other cultures, habits, and countries. The sharing of stories is key to the success of Samsam. The connectedness between the participants and students is influenced by the feeling of reciprocity the participants have with their students. The participants and students talk about common interests, hobbies, and experiences. One of the participants said:

“They also ask me questions about my life and my interests.”(Woman, 61)

The contact in Samsam is not a one-way direction of learning and communication. The participants indicated that there is a sincere interest in one another. This means that the relationship is reciprocal. The good atmosphere contributes to the connectedness the participants feel. The participants describe the atmosphere in Samsam as fun, cozy, and open.

The participants all show openness to other people and cultures, and they have a will to help others. The older participants learn about other cultures and countries, and they are often fascinated about the differences in culture. One participant has talked with his Chinese student about how small the Netherlands is in comparison

with China. They talk about differences in habits, norms, and values. Samsam seems to create an intercultural understanding between the two groups—the older participants and the students. The foreign students are, in most cases, much younger than the participants, so besides an intercultural understanding, an intergenerational understanding and bonding is also present. The older generation bonds with the younger generation, thus creating understanding and respect. As one of the participants said about Samsam:

“You connect to each other human to human.”(Woman, 83)

The participants and students have an open attitude towards each other and, in this way, connect to each other. They also learn from each other. One of the students is a man from Syria who impressed one of the participants with his optimistic and positive nature. The participant said:

“I learned from him that they are not sad or pathetic despite the situation they come from.”(Woman, 61)

The connectedness is not only felt towards the students. By participating in Samsam, the participants feel connected to society. In the interviews, they demonstrated a connectedness and a will to contribute to society. They want to contribute to a better world because they feel connected to this world. This relates strongly to the feeling of meaningfulness and status, which will be described in more detail in the next paragraph.

4.3.4 Meaningfulness and Status

Many of the participants addressed the need to be meaningful, to be respected, and to have status. The participants are happy and proud that they can teach something to the students. They all have a need to stay active and contribute in a meaningful way; this was explicitly or implicitly mentioned by almost all of the participants. One said:

“I want to do my bit in the world.”(Man, 92)

This participant, an active and eloquent man of 92 years old, mentioned in the group interview that he sees people of his own age and younger being passive and looking tired. He mentioned that he sometimes wants to tell them to get up and do something useful, because that is what keeps you young. He also argues that some people need a little push to get involved in initiatives like Samsam. He made remarks about using your talents and staying active even when you are old:

“You have to stay close to who you are and see what (activity) matches with that.”(Man, 92)

To help others and teach something to other people was found to be the main reason for participating in Samsam. Furthermore, the motivation to participate varies from fun, to political, to social reasons, and to a combination of reasons. Some

of the participants have a strong social motivation to participate. One of the participants, a very involved and friendly man of 84, has deep sympathy for refugees and migrants. He sees a big problem in the fact that foreigners cannot find a job because they cannot speak the Dutch language. The participants all sympathize with these refugees and foreigners, and, in teaching them the Dutch language, they hope that there will be more and better (job) opportunities for them.

Being part of Samsam gives the participants meaning, purpose, and status. Status refers to using your skills and assets, being taken seriously, and being respected. The participants are proud that these students come to them every week and that they see progress with their students. One of the participants said: *“I had never thought that at my age I would teach someone the Dutch language, and that I would be successful in it!”*(Woman, 80)

The themes, materials, and assignments are present every week, but the participants all have their own style and manner of teaching. In this way, they use their own talents and their skills to teach. One of the participants lets the students write everything down. Another participant gives homework: His/her students must learn five new words a week. The participants also really want to do a good job and want to make progress with the student sitting across the table. One participant said: *“It is quite of exciting too, because you want to do a good job.”*(Woman, 83)

The participants are proud and happy that they can use their talents in Samsam. One of the participants always had a passion for language. Samsam is an opportunity for her to use her talents and passion. She said: *“Languages are my passion and I thought that (Samsam) was really something for me.”*(-Woman, 80)

The need to be meaningful is linked to the need of status and independence. Being taken seriously and treated with respect by using your assets, talents, and skills makes a person feel autonomous and independent. In doing something for another person or contributing in one way or another, a person can feel less dependent and more equal. Most of the participants have had busy lives, careers, and a prominent role in society. Many of the participants find it important that they can use their talents and skills. For instance, one of the participants has worked in different disciplines of volunteer work. He proudly mentioned that he has become an honored citizen of the city where he lives. He is chairman of a country club and has a lot of different functions. He is sharply dressed and highly educated. In his working life, he was respected, and in his retired life, he achieves the same by staying active and doing volunteer work like Samsam.

The participants enjoy speaking with the students about their lives and passions. One of the participants has lived in various exotic countries, and he very

much enjoyed exchanging experiences about these countries and their politics. One of the participants said:

“Then we (the student and I) talked about Slovakia and how corrupt it is out there.”(Man, 92)

As discussed in the previous section, the participants all want to contribute in a significant way and want to mean something. When asked specifically about their main motivation for participating in Samsam, one of the participants said:

“About my motivation, my reasons, I want to mean something to other people.”(Man, 92)

The participants all have a strong motive to help other human beings. One of the participants is engaged in a lot of different forms of volunteer work. When asked why she is so active and committed, she said:

“I have a need to bring something to other people and to take care of them.”(Woman, 80)

Besides Samsam, she also works with older people with dementia. She loves the fact that despite their cognitive problems, they are happy to see her. She said:

“The nurses are happy, I am happy, and the patients are happy. What more do you want.”(-Woman, 80)

In doing something for other people, they also do something for themselves. By using their talents and skills to contribute in a meaningful way, they feel proud and satisfied—therefore, important social needs such as status and meaningfulness can be fulfilled.

4.4 Discussion

This article describes the development, implementation, and evaluation of an intervention that fulfils the social needs of older people: Samsam. The evaluation furthermore gives deeper insight into the social needs of older people and the way they can be fulfilled. Samsam is a language café where older people teach foreign students the Dutch language. This intervention is based on our previous insights related to the important social needs of connectedness, meaningfulness, and independence. With this study, we wanted to find out how participants experience this intervention, and in what way participation in Samsam contributes to fulfilling their social needs. We found that participating in Samsam has generated a lot of positive reactions from the participants. It has positive side effects because it creates intergenerational openness and intercultural understanding. It also has a fun element to it, has practical benefits, it is easily accessible, and is organized by students. Volunteers find it worthwhile to participate in Samsam despite the hard work, skepticism about some of the weekly themes, and non-motivated students. Results indicate that Samsam offers opportunities for the participants to be connected in different ways, as they

are connected to other people and to society. The main reason the older people volunteer in Samsam is that they want to mean something to other people and to themselves. On the basis of the overall positive experiences of the participants, we can conclude that this intervention seems to match the social needs and, in that way, contributes to the well-being of the participants. This matches the findings of O'Rourke, Collins [19], where engaging in purposeful activities was seen as a promising factor in interventions to stimulate social connectedness. It is also in line with our previous research, where we found that interventions that support older people in giving back and doing something for other people, for a community, or for society in general can be and are successful [6]. A person can feel useful, independent, and connected by doing volunteer work [6,11,19,24]. Engaging in volunteer work can therefore fulfil different social needs for older people and, in that way, contribute to their overall well-being [24,25]. Volunteer work is therefore seen as a promising activity and a possible successful intervention for older people.

Linked to the social production function theory of Steverink and Lindenberg [3], this study illustrates that Samsam supports older people in fulfilling all three social needs: Affection, behavioral confirmation, and status. Status is perhaps the most interesting need, because this is rarely linked to older people. According to Steverink and Lindenberg [3], status is fulfilled by relationships that give you the feeling that you are being treated with respect, are being taken seriously, and are known for your achievements, skills, or assets. It has a strong relationship with feeling independent and autonomous. Most interventions focus on stimulating contacts between older people and therefore focus primarily on fulfilling the need of affection. Older people want to be actively involved in what happens in a society or community [6,26]. They do not want to stand on the side lines and do nothing. They want to actively contribute to a better world. Samsam enables older people to actively contribute something to the lives of refugees and migrants. In this way, the intervention contributes to the well-being of both groups.

The participants in our study clearly do not disengage from society. They have a strong need to be involved and engaged. This seems contradictory to the classical disengagement theory of Cumming and Henry [27], who proposed that in the normal course of aging, people gradually withdraw or disengage from social roles. As also stated by [28], this theory made sense in the 1960s, but it seems outdated today. In current society and modern times, a new way of looking at older people is needed. The social selectivity theory (SST) of Carstensen, Fung, and Charles [29] states that the social networks of older people are formed through network movements that are characterized by a process of selectivity, and that these movements are motivated by the emotional goals of the older individuals. The SST states that older adults main-

tain or increase their interactions with family and intimate friends, and they invest less in peripheral network members. The SST also argues that old age is associated with an increasing motivation to derive emotional meaning from life and a decreasing motivation to expand one's horizons [29]. This partly corresponds with the results of our study, as the participants do indeed search for purpose and meaning, but they also expand their horizon by participating in Samsam. In Samsam, they also connect with more peripheral members—the students of Samsam. As also indicated in the systematic review of Bruggencate [7], both intimate and peripheral relationships are and remain important for older people.

In general, most (local) communities in Western societies have policy makers that work on improving the social wellbeing of older people by developing and implementing interventions. Developing and implementing interventions is a way to work on improving the social wellbeing of older people. The way a society looks at older people has an influence on how older people are treated within this society. Diamond [30] reported, for example, in his book “The World Until Yesterday: What Can We Learn from Traditional Societies?” how different societies deal with their older citizens. He pointed out that in Western society people are respected when they have work, are independent, and are self-reliant. In addition, youth and being young is being idealized. In some more primitive societies, older people still have important (social) roles; they make baskets, cook, and look after grandchildren. Diamond's advice is therefore that older people should play a more active role in Western societies. The life experience and wisdom of older people can be more efficiently used and put into practice. [30].

There are different perspectives about the role of older people in society and whether they have to keep busy, stay active, and contribute to society. Some argue that an older person should not have to perform this busy role [31–33]. Holstein and Minkler [32] and Martinson and Minkler [33] argued that there should not be an economic or political gain in keeping older people active, and older people must not be misused or be seen as a resource. Furthermore, by only pointing out the positive aspects of (active) ageing, older people who cannot live up to this standard are being mistreated and overlooked [32,33]. This study and previous studies [6–9] indicate that, for a group of older individuals, it is important to be have meaningful lives—contributing to others, to a neighborhood, or to society can fulfil this need [8]. Every older person must be free to live the life they want and need, so interventions should be tailor-made and meet the specific social needs of the older individual.

As is indicated in the study of Steverink and Lindenberg [3], the social needs of people stay the same during their lives, but the resources to fulfil them change. With a loss of health, mobility, and network members, the fulfilment of social needs

becomes more difficult when growing older. This intervention, which is primarily based on verbal, communication, and some didactic skills, is in most cases suitable for older people. It is not a physically difficult task, and it takes place in the care center. It is an easily accessible and achievable intervention for older people in different care centers.

Besides the fact that a large group of older people can potentially be part of Samsam or comparable initiatives, we realize that being a volunteer in the language café is not suitable for every older person. There is simply not one intervention that matches with the social needs of every older person [7,16]. Perhaps the most vulnerable older people do not benefit from interventions like this. The participants have to be in a cognitively and verbally good state. It also appears that our participants have an open mind and a will to help others. This intervention can therefore appeal more to older people who have an open mind and a will and motive to help other people.

The group of volunteers currently involved in Samsam consists of ten older people, from which seven agreed to share their experiences with us in two group interviews and an individual interview. We realize this number is small, and we must be cautious with generalizing our findings. However, our findings underline a lot of existing evidence which point out the benefits of volunteer work [6,24,25,34]. Our study also reveals some new insights, such as the importance and possibility for older people to fulfil their need for meaningfulness and status. We also found that openness is a promising personality trait which can be beneficial for the well-being of older people because it can enhance social connectedness.

4.5 Conclusions

Based on our results, we may conclude that Samsam is an intervention that helps older people fulfil their social needs. As the participants contribute in a meaningful way, they probably connect more easily. The connection towards others and to society is also a result of their openness. When you connect, you are not isolated, and that connectedness contributes to the overall well-being of people. Connectedness is better achieved in a reciprocal relationship, such as in a relationship where the older individual contributes in a meaningful way. We believe that interventions that focus more on purposeful activities or volunteer work also create connectedness and have more positive effects on the general well-being of older people. Every older person has talents, skills, and life experiences which can be put to use. Interventions should appeal to the needs of older people to meet, to matter, and to have fun, as well as their needs for connectedness, meaningfulness, and independence.

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Part II

Social needs and social technology

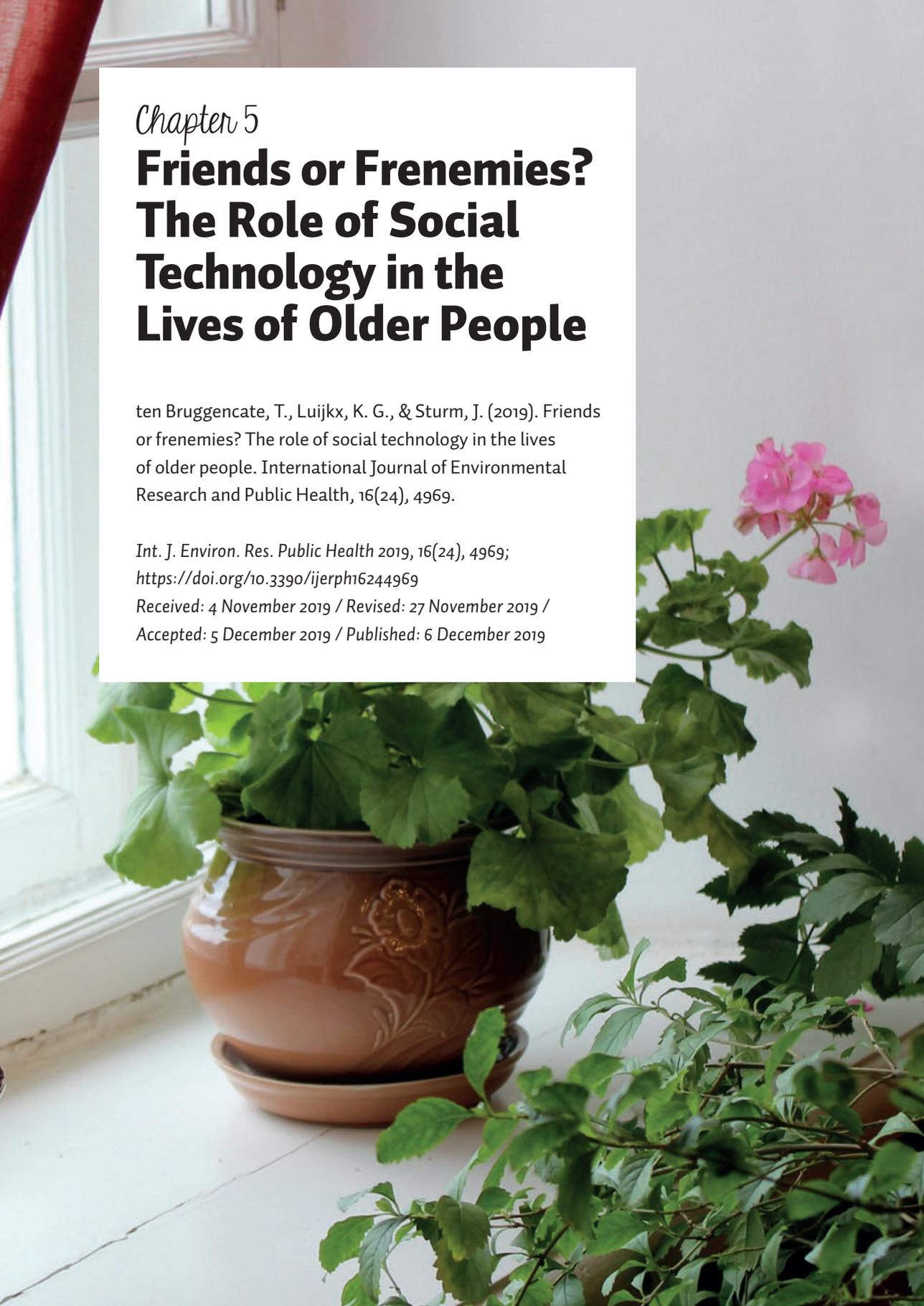
Chapter 5

Friends or Frenemies? The Role of Social Technology in the Lives of Older People

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Abstract

By having a healthy and happy social life, social needs are fulfilled. When social needs are not fulfilled, loneliness and social isolation can occur, which have negative consequences for one's physical and mental health. Social technology, technology that enables social interaction, can be a resource to fulfil the social needs of older people. In this study, we aimed to learn what role social technology plays in the social life of older people. We held 15 interviews with people aged over 70 who regularly use some form of social technology. Our results indicate that social technology plays different roles in the lives of older people. It strengthens the existing social relationships and social structures. It also brings depth and fun to the social contacts of older people and in this way, enriches their social lives. Social technology also gives a sense of safety and peace of mind to the older people themselves but also to their network members. However, there are barriers in the use of social technology. The older people struggled with using social technology and feel that social technology sometimes stands in the way of real human contact. In supporting and facilitating people's relationship with others, a community and society, technology helps fulfil older people's need for connectedness, meaningfulness and independence. However, the relationship with independence is ambiguous. Their life experience gives older people a thoughtful way of looking at social technology and the role it plays in their lives.

Keywords: *social technology; social life; social needs; older people; interventions.*

5.1 *Introduction*

Older people see their social life and their social relationships as important prerequisites for successful ageing [1–3]. Older people see family relationships, social contacts and activities as valued components of a good quality of life as much as general health and functional status. By having an active social life, older people may fulfil their social needs, which contributes to their wellbeing. By social life, we mean the social contacts people have and the interactions and activities with these social contacts. Both intimate social contacts and more peripheral social contacts contribute to the social wellbeing of older people [3]. If social needs are not fulfilled, this can lead to loneliness and social isolation, which may, in turn, negatively affect a person's physical and mental health [4–10]. According to Jong-Gierveld, van Tilburg, and Dykstra [11] loneliness is a subjective emotional state where people experience a lack of (quality) of relationships. The number of existing relationships is smaller than

is desirable or admissible, and/or the intimacy one wishes for is not realized. Social isolation is a more objective state. Persons with a very small number of meaningful ties are socially isolated, but they do not necessarily feel lonely [11]. With a growing population of older people in Western society and their need to stay healthy and community dwelling, a healthy and happy social life is especially important [2,12–14]. Technology can support the social life of older people, as it does for other areas, and thus contribute to the wellbeing of older people. For instance, domotics facilitate the lives and living circumstances of older people. Domotics range from a simple alarm button in a house to an intelligent system that detects when the client's activities deviate significantly from their normal daily routines [15]. This is technology that stimulates older people to live independently for longer and to age in place. Most scientific studies about older people in relation to technology primarily focused on the use, attitude and acceptance by older people of technology in general, such as domotics [15–18].

Technology can also be more social in the sense that it facilitates social contact between people. Email and the Internet can provide various ways for older people to communicate with family and friends as well as provide access to information [15]. This type of technology is called social technology. In this study, we use the following definition of social technology: “any technology that facilitates social interactions and influences social processes between people.” Social technology facilitates social processes through social software and social hardware. Examples of social software are Facebook, email, wikis, blogs, and social networks. Examples of social hardware are devices such as smartphones, tablets and computers but also the landline telephone.

In this research, we focused specifically on social needs and not on loneliness or social isolation. Focusing on the fulfilment of social needs is a positive and preventive perspective on the social life of older people, instead of only focusing on loneliness or social isolation and on lonely and isolated older people. It has a broader scope and offers a new and fresh perspective for the development and implementation of successful interventions to prevent loneliness and isolation. Studies which focus on the relationship between social technology and the fulfilment of social needs are scarce. Most scientific studies focused on the relationship between social technology and loneliness and/or social isolation. Studies that shed light on the relationship between social technology and its effects on the social life and wellbeing of older people come to diverse, sometimes even contradictory, conclusions. For instance, in the study by Aarts, Peek and Wouters [19], the researchers concluded that a simple association between the use of social technology, in this case, social network sites, and loneliness and mental health could not be determined. In the

systematic literature study of Khosravi, Rezvani and Wiewiora [20], 34 technological interventions to reduce social isolation were analysed. They found eight different technologies that have been applied to alleviate social isolation, namely, general ICT (Internet and email), video games, robotics, a personal reminder information and social management system (PRISM), an asynchronous peer support chat room, social network sites, Telecare and a 3D virtual environment. In these eight categories, both effective and non-effective technological interventions were found. Video games and PRISM were the most effective, but both categories contain only one study and it is not reasonable to generalise the effectiveness of those technologies. The findings of the study demonstrate that in principle, each of these technologies can be used to reduce social isolation among seniors. However, more studies are needed to evaluate the effectiveness of new technologies. In the critical systematic literature review of Cohen-Mansfield and Perach [21], the effectiveness of different interventions, both non-technological and technological, for alleviating loneliness among older persons were analysed. Although the interventions analysed are quite diverse, they could be divided into two main groups: one-to-one interventions and group interventions. The researchers concluded that technology in interventions can be effective in reducing loneliness. For instance, technological educational programmes that provide computer training and facilitate the use of a videoconference programme to enable interaction with a family member have proven effective [20]. Sum et al. [22] found positive relations in a population of older people between using the Internet and reduced social loneliness when it was used with friends and family. However, using the Internet for creating new network members resulted in more (emotional) loneliness. The researchers argued that the influence on wellbeing greatly depends on the person you communicate with through the Internet; communicating with unknown people can create more loneliness and anxiety [22]. In the study by Wilson [23], the researcher found that social technology (mostly email) encouraged older people to communicate with friends and relatives. This communication had a positive impact on older adults' perceptions of self-worth. However, they also found a negative relationship between emotional attachment towards a device (e.g., a smartphone) and a sense of belonging (whether a person feels they belong to society and their network of family and friends). The more the participant was emotionally attached to their technology, the less socially involved they were in their surroundings. This suggests that older people can also be too attached and dependent on their devices, resulting in a negative effect on their wellbeing.

These findings suggest that although using social technology to improve the social life of older people seems promising, the relationship between technology and the quality of social life can be complex and multi-faceted. Some technological

interventions are successful, and some are not, it does not become clear why and which role social technology plays in these interventions. With our focus on social needs and social technology, we offer a broader scope and a new and fresh perspective for the development and implementation of successful interventions to prevent loneliness and isolation. To develop successful technological interventions, further research into the role of social technology as a means to fulfil older people's social needs and improve their social life is needed.

5.1.1 Purpose of the Study and Research Question

This study gives deeper insight into the role social technology can have in the social life of older people. With this study, we provide insight into the current role of social technology in fulfilling the social needs of older people and contribute to the scientific knowledge in this area. This knowledge can contribute to the development and implementation of technological interventions which intend to have positive effects on the social lives of older people. We examined what kind of social technology older people use and why and with whom they use the social technology. We also investigated how social technology contributes to the social lives of the older people who use it, focusing on the barriers and motivations in using social technology. The following research question is central:

“What is the role of social technology in the social lives of older people who use social technology?”

5.2 *Materials and Methods*

Following approval by the Tilburg University Ethics Review Board (ERB) EC-2018.88, data were collected via 15 semi-structured interviews with older people.

5.2.1 Participants

Data were collected among older people who regularly (more than once a week) use one or more forms of social technology, such as WhatsApp, Facebook, social games such as Wordfeud, Skype, Instagram and email. Participants were selected with the help of the project coordinator. The project coordinator is responsible for the activities and facilities organised in a residence where older people live independently with no or a minimum of care. The project coordinator was asked to select people who, according to their knowledge, use social technology (besides the landline tele-

phone). By the researchers' use of the snowball effect and visiting a weekly social gathering, older people were invited to participate. Not all older people who were invited wanted to participate; some had health problems or were too busy. Nineteen people were contacted by the researchers, of which fifteen people agreed to participate. Based on previous studies with a similar focus the researchers assumed that 15 participants would be a representative sample [24,25]. Further inclusion criteria for the participants were the following: aged 70 years and older, having sufficient (Dutch) language skills and adequate cognitive and physical abilities to participate in an interview for about one hour. We interviewed people aged 70 and older because at that age, resources, such as health and mobility, sometimes diminish and social networks therefore become more important [2].

5.2.2 Procedure and Materials

After the project coordinator briefly informed the older people of the study and asked if they wanted to participate, the researchers received their names. The selected older people were contacted by phone by the researchers. In this phone conversation, the researchers informed the older people about the study and invited them to participate. When the older people agreed to take part, they received a letter with information about the study. In this letter and in the phone conversation, the older people were told that they could refuse to participate at any time without giving a reason. The participants were asked to sign a letter of informed consent before the interview took place. All the participants received a sensitising workbook at least one week prior to the interview. The sensitising workbook served as a primer to be used by the participants before the interview took place. In the information letter and the phone conversation with the participants, it was mentioned that this workbook helped to prepare them for the interview, but was not obligatory. The researchers tried to make relevant but also fun assignments. The participants were asked the following: (1) to make an ecogram (a drawing) of their social network, (2) to indicate, by means of icons, what form(s) of social technology they use, (3) to indicate reasons for using social technology, (4) to make a schedule of their day and indicate at what time and why they use social technology and (5) to write down tips or ideas for developers and designers to improve forms of social technology. The workbooks were not analysed, but merely served as a primer for the participants so that the older people were well prepared for the interviews since they had already reflected on the role of social technology in their lives.

To answer the research question “What is the role of social technology in the social lives of older people who use social technology?”, we conducted semi-struct-

tured interviews during which we used a topic list addressing the following topics: Attitude (how do you feel about social technology?). We ask why and how they start using social technology (start using technology). We asked what, with whom (network), but especially why (reasons) older people use social technology. We especially asked about the situations in which older people use social technology. The topic list for the semi-structured interviews is based on the results of two systematic literature studies, one on the social needs of older people and one on the factors influencing the acceptance of technology [17,26], and two qualitative studies on the social needs of older people and the role of social technology [24,25].

Two interviewers (a researcher in the area of applied psychology and a student in his final year of the Bachelor of Applied Psychology programme) conducted the interviews.

After ten interviews, hardly any relevant new information related to the purpose and research question was extracted. After fifteen interviews, data saturation was achieved.

5.2.3 Analysis

With the permission of each participant, interviews were digitally audio-recorded and transcribed verbatim. Based on the transcripts, the researchers made a personal profile for each participant and a list of all the reasons why the participant used social technology. A thematic analysis [27] was applied using a combination of inductive and deductive coding [28,29], using qualitative data-analysis software (Atlas.ti version 8).

In the first phase of the (open) coding process, two researchers were involved in the coding process, to ensure objectivity [27]. The researchers attached the inductive codes first individually and at a later stage together and discussed the discrepancies to reach a consensus. The agreement between the researchers was high; the discrepancies in the coding process were small and only related to different names for the same fragment/concept.

In the second phase (axial coding), we used the following sensitizing concepts based on previous studies [23–25] to interpret the data. These concepts are (1) first contact with social technology, (2) contact with network members (intimate and peripheral), (3) reasons for using social technology, (4) advantages and disadvantages of social technology, (5) what are they using (hardware and software), (6) characteristics of the respondent, including attitude, (7) barriers in use.

In the third and last phase (selective coding), the three researchers discussed which themes best represent the data and reflect the research question. The

researchers especially looked at ‘What is the role of social technology in the social lives of older people who use social technology?’. Five themes emerged from this analysis, three describing the role that social technology plays in the social lives of the participants and two describing the downside of using social technology: (1) strengthening social relationships, (2) enriching social contacts, (3) reassuring older people and their network, (4) usability and (5) ambivalent attitude towards social technology.

5.3 Results

In Table 1 the characteristics of the participants are presented. In total, fifteen people, of whom nine are female, participated in our study. The age range is from 70 to 92 years. The sensitising workbook was completed by six of the participants. Some other participants only read the assignments to be inspired by them but did not actually carry them out. The rest of the participants did not do the assignments in the workbook. The social technological devices (hardware) used most often by the participants are the landline telephone, the smartphone and the tablet. Most of the participants frequently use their landline telephone to contact network members. They prefer this telephone sometimes because it is bigger and easier to use than a smartphone and they are accustomed to using it. The social technological applications (software) most used by the participants are WhatsApp and email. Most of the participants were made enthusiastic about social technology by children and grandchildren; our participants realise that to communicate with and contact them, social technology can be a resource. Some of our participants are interested in and using technology because they had a technical profession.

Table 1. Characteristics of participants and their use of social technology.

Participant	Sex	Age	Social Technology Hardware	Social Technology Software
1	F	77	Landline telephone, smartphone, tablet, laptop	WhatsApp, Facebook, email
2	M	92	Landline telephone, smartphone, tablet, laptop	WhatsApp, email
3	M	92	Landline telephone, smartphone, tablet, laptop	WhatsApp, games (chess)
4	M	92	Landline telephone, tablet	Email, Skype
5	F	83	Landline telephone, smartphone, tablet	WhatsApp, email
6	M	90	Landline telephone, smartphone, tablet, PC	Email
7	F	78	Landline telephone, smartphone, tablet	WhatsApp, email
8	F	82	Landline telephone, smartphone, tablet, PC	WhatsApp, Facebook, Skype
9	F	92	Landline telephone, tablet	Skype
10	F	72	Landline telephone, smartphone, PC	WhatsApp, Facebook, email

11	F	72	Landline telephone, smartphone, laptop	WhatsApp, Facebook, email, Skype
12	M	74	Landline telephone, smartphone, tablet, PC	WhatsApp, FaceTime, email
13	F	78	Landline telephone smartphone, tablet	WhatsApp, Facebook, email
14	F	74	Landline telephone, smartphone, laptop	Facebook, online games
15	M	70	Landline telephone, smartphone, tablet	WhatsApp, Facebook, online games

The role that social technology plays in the lives of the participants and the time they spend using social technology varies. Most of the participants use social technology every day because it enables them to communicate more easily with their friends and family. Some of the participants even pointed out that they could not live without social technology.

The five themes that emerge from our analysis are (1) strengthening social relationships, (2) enriching social contacts, (3) reassuring older people and their network, (4) usability, and (5) ambivalent attitude towards social technology.

5.3.1 Strengthening Social Relationships

For our participants, social technology strengthens the social relationships they have with both their intimate and their peripheral network members. Social technology makes communication with existing network members easier and therefore, more frequent. One participant said,

“My sister lives far away, and we don’t visit every day or every week and then WhatsApp is just really precious “ (Woman, 72)

Most of the participants use social technology to strengthen existing social structures and social relationships. Only one of the participants uses social technology to make new contacts; she plays an online game (Wordfeud) with people she does not know and chats with them. However, the relationship with these contacts remains superficial and only relates to playing Wordfeud. Some of the participants also indicated that social technology facilitates the arrangement of face-to-face contact. For example, one of the participants said,

“I meet my sister every week to chat and see how she is doing [...], we send each other a message in the WhatsApp saying: Hi sister, where shall we meet this time?” (Woman, 83)

Many participants have friends and family who live, study and work all around the country and even abroad; social technology facilitates and strengthens contact with them. One of the participants commented that social technology, especially WhatsApp, strengthens the connectedness and bond in his family. A few times during the interview, he pointed out that social technology is an important communication

and bonding tool in his family. It makes the communication in his family more easy, frequent and fun. He said,
“If we didn’t have this (WhatsApp), we could not have built our bond of trust in the family.”
(Man, 92)

One of the older participants has a brother who lives in Canada and is going through a difficult time. She offers him emotional support using social technology. She said,
“I speak to my brother almost every day, mostly through skype [...], My brother is single and at the moment he is not doing well. He needs his big sister, he’s four years younger than me.” (Woman, 82)

Social technology can be instrumental in the sense that it enables older people to communicate more easily. It also can be more emotional in the sense that through social technology, help and comfort can be offered to loved ones. Social technology offers possibilities in providing social support to network members when face-to-face contact is not possible. However, most of the participants prefer face-to-face contact to strengthen their relationships and only use social technology when face-to-face contact is not possible. One participant said,
“It’s all about the real contact, the warmth in our family” (Man, 92)

One of the participants uses the technology to gain insight into the activities and wellbeing of his family. He has files on his computer with information and correspondence of all his children and grandchildren. It gives him a sense of peace and even a sense of control that he knows what everybody is up to. He said,
“I like to know what everyone is up [...] We have an agreement in the family that everyone responds to each other within 5 minutes through WhatsApp” (Man, 92)

He enjoys looking at the information about his family; it brings back happy memories. He showed the researcher a digital album of the 65th wedding anniversary of him and his wife and said,
“This is my family, these photos are all in the cloud, and can always be reached there, everything is about family, that is what is most important” (Man, 92)

The fact that he has this information and precious memories on his computer strengthens the already close family ties.

Social technology occasionally facilitates communication with organisations for volunteer work. One of the participants uses social technology (i.e., email) to receive information about the clients she has to visit for her volunteer work. The use of social technology can also strengthen feelings of being useful. This is illustrated by the following quotes:

“I like that because of my smartphone people can contact me at any time when they are in need of help” (Woman, 82),

“Because of my smartphone they all know where to find me” (Man, 70)

This participant often helps his neighbours and friends with chores and is, because of his smartphone, easy to contact. Therefore, social technology strengthens the relationships our participants have with others and makes communication easier, for example, with possible volunteer work. It also strengthens contact with friends and family by enabling them to offer emotional support. Social technology in this matter connects the participants to other people, to the community and to society and fulfils the need to feel meaningful.

5.3.2 Enriching Social Contacts

For our participants, social technology not only strengthens their social relationships but also enriches the moments of social contacts. All participants connect with their social relationships through sharing verbal (stories) and visual (photos/videos) information with their families and friends. Stories in the form of updates of one’s life vary from light and funny stories to the sharing of deeper emotional feelings and experiences. For example, one participant said,

“A friend of mine, she is 80 years old and she recently send me a really funny video about people in their seventies who cannot go outside because of the cold [...] and they have to make up things to do inside [...], it was really funny” (Woman, 82)

The participants make jokes and send short messages through WhatsApp, but, through Skype, they have deep emotional conversations, as the participant has with her brother living in Canada. In addition to sharing verbal information, almost all participants enjoy sending and receiving photos and videos, for which they mostly use email and WhatsApp. The photos that older people take and share within their network are often related to the personal experiences of the participants. For instance, one of the participants loves to go for walks in nature and sends pictures to her children and friends of the beautiful landscapes she encounters. The morning of the interview, it was sunny and foggy; she said,

“It was so beautiful and mysterious, that fog, I had to make a picture and send it to my friend.” (Woman, 77)

A good friend of one of the participants, an older woman, moved to Turkey, where they are building a house.

“The man is an artist [...], look at this photo, he did everything himself, the paintings on the wall are like icons, and when I watch this video he send I can see him work” (Woman, 78)

The older woman regularly receives pictures and videos of the house. In this way, she is able to keep in touch with her friends and stay informed of their situation. In turn, this woman sends her friends pictures from her own life. The participants

also can see the places where their network members go on vacation more easily and be more connected and more aware of the lives of these network members. They become a part of the holiday experience. One participant said,

“I like the fact that when they (my children) are on a holiday, they immediately send pictures and I don’t have to wait to see the pictures until they return.” (Woman, 82)

Social technology enriches social contacts and makes older people more involved in the lives of their loved ones and vice versa. It gives the participants joy to share visual materials of their lives and activities and to have visual images of what family and friends are doing, especially when these friends or relatives are further away, making other forms of communication difficult.

Occasionally, there are practical reasons for sharing photos. One of the participants said,

“My granddaughter now has an important job [...], I said you need a car, let me help you and then she was in the showroom and sent me a photo [...], I said that is the one you should take” (Man, 92)

Another participant said,

“I love making cryptograms, on Saturday there is a large cryptogram, my friend who lives in [...] makes it at the same time, then we send each other WhatsApp messages: 9 letters? Do you know?” (Woman, 83)

Through WhatsApp, they communicate about the puzzle, help each other and make jokes. In this way, the use of social technology thus enriches her social life.

Social technology also serves as an important storage point for social interactions and memories. Older people enjoy looking back at photos and conversations they had with their friends and family. A clear advantage of social technology (except for the landline telephone) in comparison to face-to-face contact is that the social interactions are saved and therefore, can be watched and read at any time. One participant carefully stores all the photos she takes and receives from her family in a digital album; she said,

“All those photos, those will never get lost, they always stay there” (Woman, 72)

Therefore, social technology enriches the social lives of our participants because it enables them to feel connected to their loved ones even when there is no direct contact or communication.

5.3.3 Reassuring Older People and their Network

Social technology and the fact that through their smartphones, the participants are always connected, offers them a sense of security and peace of mind. They can communicate at any time with their social relationships, which is very reassuring for

the older people as well as for their family and friends. The children of some of our participants encouraged their parents to purchase a smartphone for their own peace of mind as it is an easier way to be reassured that their parents are in good health. One participant said,

“They can always reach me now, which is of course really important. For my daughter, it is a relief that I can always call her.” (Man, 92)

This was also the reason why one of the participants purchased a smartphone. When he had car trouble years ago, he decided to buy a smartphone. Now, he can contact network members at any time and that gives him a feeling of reassurance. Most of the participants mentioned that when having the smartphone with them, they feel safer and at peace.

The participants in our study also use social technology to facilitate and structure their daily lives. It helps them to remain more independent and in control of their own social life. One of the participants uses her smartphone as a calendar and reminder for appointments with her network members. She said,

“I use the tablet and its schedule to be in touch with the people I know. I know when I last saw them, if it was face-to-face or through telephone and when our next meeting is.” (Woman, 72)

Social technology does not only give a sense of control, safety and structure, it also makes it easier for participants to ask for help if it is needed. Social technology facilitates communication to help network members and reassures both the older people and their social contacts.

5.3.4 Usability

Although social technology strengthens and enriches the social lives of our participants and provides reassurance, they sometimes feel frustrated and experience barriers in using social technology. They struggle with the usability of social technology. For instance, all the participants indicated that they sometimes encounter technological problems with their devices and have trouble using it. They struggle with updates, passwords, Wi-Fi, and how to use the devices and the applications. One of the participants said,

“We are not always friends, me and my smartphone.” (Woman, 83)

She further commented:

“[...] and then I am struggling with it and there is nobody at home to help me, that is really frustrating, That I phone really can be a pain in the ass, and then I think, I will throw the thing out of the window” (Woman, 83)

Some of the participants only passively use the photo options on their devices; they receive photos from friends and family, but find it difficult to take, send or

forward photos themselves. They do not understand how this option works, or they forget how to use this function. One of the participants only recently started using a tablet that she received from her son. She was clearly struggling with how to use and benefit from it. She said,

“I pushed all the buttons, because I didn’t know what to do.” (Woman, 92)

This participant is willing and eager to use the tablet, but without help, she simply cannot. When the participants face difficulties in using the technology, they often ask their children or grandchildren to help them. In these cases, social technology is a reason for contact with children and grandchildren. Another participant said,

“When I don’t understand how to use the smartphone, I ask one of my two sons to help out.” (Man, 92)

Overall, the participants ask for help relatively easily. Most of them frequently ask a family member or friend for help when they struggle with social technology. Sometimes, those friends or relatives live further away, which makes asking for help more difficult.

Almost all the participants indicated that they need help from family or friends to be able to use the social technology. Therefore, network members are needed to be able to use the social technology to get in touch with (other) network members. In other words, the social network of the participants is a condition for using social technology.

5.3.5 Ambivalent Attitude Towards Social Technology

In addition to barriers in use, the participants also expressed an ambivalent attitude towards social technology. Some participants expressed that social technology is not as personal as other forms of communication. One participant said,

“These days one can send cards digitally, but I much more prefer handwritten postcards, that’s so much nicer” (Woman, 78)

According to this participant, it takes more effort to send a postcard. This participant uses social technology and clearly sees the benefits, such as the ease of communication and the feeling of safety, but she states that if possible, she prefers face-to-face contact and real postcards. She has a clear view of how and when she uses social technology and when she prefers other ways of communication. This attitude is shared by other participants; they use social technology when other ways of communication are not possible. Some participants dislike the fact that social technology sometimes stands in the way of or replaces real human contact, for example, when sitting at a diner and everyone is looking at their smartphone instead at looking and talking to each other. They see network members and other people spending too

much time on their smartphones. One of the participants said, *“All day, those sounds: ping ping. When my children visit, I say, ‘Please turn off your phone when you are at my place, I don’t like that.’”* (Woman, 78)

This participant makes comments to her (grand) children that when they are at her place, they should have real face-to-face conversations and not stare at their smartphones. When the grandchildren visit their grandmother, they know that she wants their sincere and full attention.

Another participant is afraid that she will be excluded because of the modern technologies. She is really motivated to keep up and sees the possibilities of technological developments but sometimes feels that it is all moving too fast for her generation. She points out that she prefers real face-to-face contact but that for younger people, this seems less obvious. She said, *“And it (the modernisation of society) is still continuing and if you don’t keep up with that you will be excluded.”* (Woman, 74)

Overall, the participants feel a need to keep up with their families and friends and see that as an important motivation to use social technology. One participant also pointed out the necessity of using WhatsApp to contact her grandchildren. *“When you don’t use WhatsApp, you never hear from them.”* (Woman, 78)

The participants sometimes feel pressure to keep up with their relatives and with society and although they do not always agree with the amount of time their network members spend on their devices, in general, they are motivated to use social technology.

5.4 Discussion

In this qualitative research, the role of social technology in the social lives of older people was studied. The role of social technology in the lives of older people is that it strengthens existing social relationships, it enriches social contacts and it reassures both the older people and their network members. Social technology, in this matter, can be seen as a friend of older people; it makes their social lives stronger, richer and more at peace. Social technology is a frenemy in the sense that besides all the advantages, older people have problems in using social technology and have an ambivalent attitude towards social technology.

The fulfilment of social needs contributes to a healthy and happy social life and to the social wellbeing of older people. Looking at the three social needs identified in the study of Bruggencate et al. [25]—connectedness, meaningfulness and independence—social technology in our study helps to fulfil all three needs, but

especially the need for connectedness by strengthening and enriching social relationships. To strengthen and connect, older people share stories, memories, emotions and photos by means of social technology. These interactions vary from funny and light to deep and emotional. Sharing visual information (photos and videos) with friends and family is very popular among the older participants in our study; these benefits of social technology are appreciated and differ from communication in the past where only verbal communication was possible through the landline telephone. The possible role of social technology in creating (social) connectedness is also highlighted in the study by Sinclair and Grieve [30]. In this study, Facebook created social connectedness in a population of older people. In the study of Barbosa Neves, Franz [31] social technology especially increased social connectedness with geographically distant relatives. In the current era of globalization, social technology is a solution to strengthen social ties when loved ones are living and working further away.

Social technology reassures and gives peace of mind both to older people themselves and their friends and relatives, but also gives a sense of structure and sometimes control. The participants feel independent and autonomous when using social technology and when connecting with network members and society. The relationship between social technology and independence is, however, somewhat ambiguous. On the one hand, it helps to facilitate and have control over one's life, while on the other hand, it offers older people a sense of dependence because they have problems using it and forces them to depend on others to solve those issues. All the participants in our study experienced barriers in using social technology and depend largely on others for help. That there can be an ambivalent relationship between technology and wellbeing also becomes clear in the study by Wilson [23], where while positive relations between using technological devices and self-worth were found, older people can also depend too much on the technology, which causes a reduced sense of belonging.

The participants in our study indicated that by using social technology, it is easier to engage in and communicate with their volunteer work. Social technology also enables them to offer emotional support to their friends and family. Social technology connects the participants to a community and to society and in this way, fulfils the need to feel meaningful. The researchers of one study [25], concluded that (social) technology can indeed enable older people to engage more easily in volunteer work; it can also be used to share stories and experiences and to offer support and comfort. As these researchers also concluded, by staying active in a meaningful way, all three needs can be fulfilled, the need for connectedness, independence and meaningfulness [26].

Family plays an important role in the acceptance and use of social technology, as also indicated by Luijkx et al. [24] and Peek et al. [16]. The older people in our study

found it relatively easy to ask for help and often have a relative who helps them, but this is not always the case. This is in line with the study by Peek et al. [16], which illustrated that support and coaching may be essential in the adaptation and use of technology by older people. Barriers older people face in using social technology are mostly congruent with those described in the systematic literature study of Peek et al. [17]. In their study, 27 factors divided into six themes were identified that influence the acceptance of technology in the pre-implementation stage; one of these themes is 'concerns about technology'. These concerns are high costs, usability and privacy implications. All three concerns are mentioned in our study, especially usability. All the participants at one time struggled with using the devices and social technology. As one of the participants said about her smartphone, "We are not always friends". The struggle of the participants is significant, which is why sometimes, social technology feels more like a frenemy than a friend for the participants. The role of social technology is that it enriches, strengthens, reassures, but it also and to a large extent, frustrates our participants. As we mentioned at the beginning of this paragraph, the participants depend largely on family and friends to help them out with social technology. Studies show that older people are not eager to ask for help or to be dependent on others. [32,33] For the participants in our study, asking for help was not mentioned as a barrier.

In addition to the struggle of usability the participants face, their attitude towards social technology is mostly positive. The advantages seem to outweigh the disadvantages. There is a shift of attitude towards social technology when older people start to use it, as also described in the study of Bruggencate [24]. In this study, the participants who do use social technology are enthusiastic. The participants who do not use social technology are often negative or do not see any benefits in using it. Although, in this study, we did not explicitly look for information about what influences older people's purchase and use of social technology, this topic was addressed by some participants in relation to their attitude towards technology and their reasons for using it. Our findings underline the most important aspects of existing technology acceptance models [34–38] in that perceived usefulness and ease of use are the most important influencing factors. Basically, older people will use social technology if the benefits of using it are clear to them and if it is not too difficult to use (or help is present).

Looking at the role social technology plays in the lives of the participants, most older people could probably benefit from using it. However, it seems to be especially used by people with an already existing network and enough social and technological skills. This also becomes clear in the study by Hage [39]. In her thesis, Hage [39] argued that online communication strategies as interventions to create connected-

ness are mostly only beneficial for highly educated, rich and younger (than 65 years) older adults. Hage [39] even argued that the implementation of online communication technologies often increases the social inequality between vulnerable older adults and non-vulnerable older adults. Based on our study and other studies [23,26,31], using social technology for creating new friendships is not a solution for their loneliness or isolation, particularly for vulnerable older adults. It is probably better to first create a social structure and network; social technology can then strengthen these relationships.

Older people seem to have a thoughtful way of looking at and using social technology. For them, it should not replace face-to-face contact. Spitzer [40] argued that social skills are better taught through face-to-face contact [41]. Turkle [42] also warned against the excessive use of technology, especially in the social area. According to Turkle [42], there is a great risk of relations becoming more superficial when people communicate through technology. The older people in our study do not use social technology to make new contacts; this seems wise considering the results of Sum et al. [22] that showed that loneliness increases when social technology is used to make new contacts.

5.5 *Limitations*

We realise that the benefits and barriers these older people face in using social technology are not generalisable to the whole population of older people. The participants of our study are older people who live independently with a minimum of care and who regularly use some form of social technology besides the landline telephone. This means that they are relatively healthy and have the motivation and the financial means to use social technology. Furthermore, the older people in our study all have a network of friends and family; almost all of them receive help in using social technology. For people with a smaller network, this help may not be available. All the participants received a workbook prior to the interview, which served as a primer. It gave them the opportunity to think about how and why they use social technology. Almost half of the participants did not complete the workbook, because they forgot, were too busy or just did not feel like doing this. The participants who did complete the workbook were better prepared for the interview topics and could discuss these more easily than the others. As a result, the interviews with these participants had more structure and depth. For future research, such primers are highly recommendable. Researchers can stimulate participants to use the primers by creating interesting assignments and preparing well designed workbooks.

5.6 *Conclusions*

Based on the results of our study, we can conclude that social technology mostly is a friend of older people; it makes their social life stronger, richer and more at peace. Social technology is a mean or recourse to connect the older individual to their network members and to society. Social technology strengthens the existing social relationships and structures of older people and brings both depth and fun to social relationships. The fact that visual and verbal interactions can be saved and re-watched is a great advantage. Social technology offers the participants structure and control on the one hand but makes them feel dependent on the other hand. Most participants struggle with using social technology and need help from their network. They also feel that social technology sometimes stands in the way of real human contact. However, with proper support, social technology can play an important role in the lives of older people, primarily in facilitating and strengthening their existing social relationships. Interventions can therefore best focus on facilitating and supporting older people's use of social technology with existing network members. We conclude that social technology can indeed be a good friend to a large group of older individuals, a complex friend with a high maintenance, but a friend they would not like to miss.

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Chapter 6

How to fulfil social needs of older people: Exploring design opportunities for technological interventions

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Abstract

Social needs are important basic human needs; when not satisfied, loneliness and social isolation can occur and subsequently sickness or even premature death. For older people social needs can be more difficult to satisfy because of the loss of resources such as health and mobility. Interventions for older people to satisfy social needs are often not evaluated and when evaluated are not proven successful. Technological interventions can be successful, but the relationship between technology and social wellbeing is complex and more research in this area is needed. The aim of this research is to uncover design opportunities for technological interventions to fulfil social needs of older people. Context-mapping sessions are a way to gain more insight into the social needs of older people and to involve them in the design of interventions to fulfil social needs. Participants of the context-mapping sessions were older people and social workers working with older people. Four sessions with a total of 20 participants were held to generate ideas for interventions to satisfy social needs. The results are transcripts from the discussion parts of the context-mapping sessions and collages the participants created. The transcripts were independently analysed and inductive codes were attached to quotations in the transcripts that are relevant to the research question and subsequently thematic analysis took place. Collages made by the participants were independently analysed by the researchers and after discussion consensus was reached about important themes. The following three main themes emerged: 'connectedness', 'independence' and 'meaningfulness'. Technology was not identified as a separate theme, but was addressed in relation to the above-mentioned themes. Staying active in a meaningful way, for example by engaging in volunteer work, may fulfil the three needs of being connected, independent and meaningful. In addition, interventions can also focus on the need to be and remain independent and to deal with becoming more dependent. The older people in our study have an ambivalent attitude towards technology, which needs to be taken into account when designing an intervention. We conclude this paper by making recommendations for possible technological interventions to fulfil social needs.

Keywords: *context-mapping, social needs, social technology, older adults, interventions.*

6.1 Introduction

Social needs are important basic human needs for every individual. If social needs are not satisfied this can lead to loneliness and social isolation, which may, in turn, negatively affect a person's physical and mental health (Berkman & Syme, 1979; Cacioppo, Hawkley, & Berntson, 2003; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015; Holt-Lunstad, Smith, & Layton, 2010; Portero & Oliva, 2007). A lack of close social relations or social integration is in fact seen as an important predictor of premature death (Holt-Lunstad et al., 2015; Holt-Lunstad et al., 2010). To fulfil one's social needs is therefore seen as a basic condition to improve well-being and quality of life. In our Western society where the population of older people is growing rapidly and where it is important for them to stay healthy and community-dwelling, interventions that help older people to satisfy their social needs are essential.

There are a quite a lot of interventions for older people to improve their well-being and fulfil their social needs. The effectiveness of these interventions is evaluated only occasionally. Moreover, when the effectiveness of an intervention is evaluated, often it fails to be proven successful. One of the main reasons is that the intervention does not match the social needs of the older individual (Cattan, White, Bond, & Learmouth, 2005; Cohen-Mansfield & Perach, 2015; Findlay, 2003). This is due to the diversity of the population of older people and the diversity of their social needs (ten Bruggencate et al., 2018). Therefore, an intervention that will work for every older individual simply cannot exist.

Multiple studies have shown that technology can play a role in fulfilling social needs of older people, for instance the systematic literature reviews of Khosravi et al. (2016), Chen and Schulz (2016) and Cohen-Mansfield and Perach (2015). ICT (email and internet) can improve the social lives of older people, as it connects them with their friends and family. Although most technological interventions seem to have positive outcomes for social wellbeing, the review by Chen & Schulz (2016) indicates that these effects often did not last (Chen & Schulz, 2016). Several other studies show that there is an ambivalent relationship between digital technology and wellbeing. For instance, the study of Sum et al. (2008) revealed positive effects on social wellbeing when Internet was used to communicate with family and friends. However, using the internet for finding new network members resulted in more loneliness. In the study of Wilson (2018) positive relationships were found between frequency of use of technological devices and emotional attachment and between frequency of use and perceptions of self-worth. However, they also found a negative relationship between emotional attachment towards a device (for example a smartphone) and a

sense of belonging, suggesting that older people can also be too much attached to their devices, which has a negative effect on their wellbeing. Other studies showed that there was no direct relationship between the use of social network sites and loneliness and mental health for community-dwelling older adults (Aarts, Peek, and Wouters, 2015). Thus, literature suggests that technological interventions to improve the social life of older people seem promising, but that the relationship between technology and (social) wellbeing is complex and that more research is needed.

In order to develop interventions, products and services that really meet the needs of older people, it is essential to involve older people, as well as other stakeholders such as caregivers in the design process. In fact, being emphatic and building a relationship with older people in the design process is, according to Newell, Arnott, Carmichael, and Morgan (2007), essential for the success of products for this population. A designer should really know the population he or she is designing for and actively involve them in the design process. Designers of products and services are therefore moving more closely to their target users by involving them in the creation of new products (Sanders & Stappers, 2008). In this vision on design, also referred to as 'participatory design', human-centred design or co-design, tacit as well as latent knowledge of users' plays an important role (Sanders & Stappers, 2008; L. Sanders & Stappers, 2012; Spinuzzi, 2005). Context-mapping is a participatory design technique, aimed at learning about populations like older people, hearing their stories and defining design opportunities (Sanders & Stappers, 2008; Visser, Stappers, Van der Lugt, & Sanders, 2005). Studying the context of a population helps designers to gain empathy with users, avoid fixation on preset assumptions about the user, and create innovative concepts on how a product can be experienced (Visser et al., 2005). 'Make' and 'say' assignments let participants take small steps in constructing and expressing deeper levels of knowledge about their experiences. In our study, context-mapping sessions were aimed at learning more about the social needs and wishes of the population of older people, and how these can be translated into design opportunities. The context-mapping sessions and subsequent results presented in this article build on the results of two earlier studies. In a systematic literature review (ten Bruggencate et al., 2018) and a qualitative research (ten Bruggencate et al., 2019a) the social needs of older people and ways to satisfy these needs, including the role of social technology, were studied. Like others, we found that although the social needs of older persons are rather diverse, there are some important general elements in these social needs. Among the social needs of older people are affection, behavioural confirmation and status. The Social Production Functions – Successful Aging (SPF-SA) theory of Steverink and Lindenberg (2006) offered a strong framework for our data. Both intimate (need for affection) and more peripheral (need for

behavioural confirmation and status) contacts are significant in the lives of older people. In particular, the feeling of connectedness, being useful, meaningful and independent contributes to the overall well-being of older people (ten Bruggencate et al., 2018). Social needs stay mostly congruent during a lifetime, however the resources to satisfy these needs change when ageing (Steverink & Lindenberg, 2006). For example, because of retirement an older person can lose a sense of status and a feeling of being useful. Resources, such as one's health and mobility, diminish when a person gets older, so that social needs become harder to fulfil (Steverink & Lindenberg, 2006; ten Bruggencate et al., 2018). Older people want to contribute to the lives of others and to a community and have a meaningful life. Social technology appears to play an ambiguous role in the lives of older people. In our qualitative study (ten Bruggencate et al., 2019a) none of the 19 participants owned a smartphone. If they use some form of social technology, in most cases e-mail, they are enthusiastic and see the benefits; if they do not use social technology the older people have a more negative attitude towards it. Children and grandchildren often play a role in stimulating their parents or grandparents to use some form of (social) technology, as is also pointed out in the studies of Luijckx, Peek, and Wouters (2015) and Peek et al. (2016).

In this study, with the help of older people and social workers working with older people, we focused on collecting deeper, tacit information related to the social needs of older people and generating ideas for technological interventions to support the fulfilment of social needs.

The research question for this study is: "What are design opportunities for technological interventions aimed at fulfilling the social needs of older people according to older people themselves and social workers?"

6.2 *Method*

After approval from the ethical commission, approval number EC-2016.64, of the Tilburg University (ERB), qualitative data were collected using context-mapping sessions.

6.2.1 **Research design: Context-mapping**

In the context-mapping sessions, participatory and empathic design methods were applied to discover design opportunities for interventions aimed at fulfilling the social needs of older people.

6.2.2 Participants

The inclusion criteria for the older participants of the context-mapping sessions were:

- Age over 75 years
- Community-dwelling
- Normal verbal skills

The minimum age of 75 years is based on the observation that from this age onwards resources, such as health and mobility, are more likely to diminish and social networks get more important (Antonucci, Ajrouch, & Birditt, 2013; Carstensen, Fung, & Charles, 2003). Obviously, because of the heterogeneity of the population, any choice of age limit is to some extent arbitrary. In addition to these inclusion criteria, we tried to involve older people with a diversity in the size of their network.

We conducted four context-mapping sessions with different group compositions and with a total of 20 participants (Table 1). Two groups consisted entirely of older people. One group consisted of only social workers and one group was composed of social workers and older people. The social workers work at the LEV group, a welfare organization that offers practical and emotional help to people living in the southern region of the Netherlands.

Table 1. Age and sex of the participants

Participant number	Session 1 (older people)	Session 2 (older people)	Session 3 (social workers)	Session 4 (mixed group)
1	Woman, 78	Woman, 74	Woman, 27	Woman, 44
2	Woman, 74	Woman, 78	Woman, 49	Woman, 39
3	Woman, 82	Man, 75	Woman, 52	Woman, 54
4	Man, 83	Man, 75	Woman, 61	Man, 75
5	Man, 88	Man, 76		Woman, 77
6				Woman, 87

Social workers were included in our study because we think they have good insight into the possibilities of fulfilling the social needs of older people. Moreover, social workers are important stakeholders of interventions in supporting older people in satisfying their social needs.

Two of the older (female) participants were 74 years old, and so did not meet our inclusion criteria (aged over 75 years old). We included them because their stories corresponded to that of the other older participants. Moreover, we did not find it ethical to refuse their participation.

6.2.3 Procedure

With the help of the LEV Group, 25 older people and social workers were selected and invited to participate in the context-mapping sessions. In April 2017 they were telephoned by the researcher and asked whether they were interested in participating in a context-mapping session. When the participants agreed to take part, they received a letter with information about the study and context-mapping session and their right to cancel at any time, without giving a reason. In this letter it was also mentioned that based on the results of this study a (technological) intervention would be developed. Because most older people do not have a lot of knowledge of the current technological possibilities, we chose not to ask the participants come up with technological interventions explicitly (Turpijn, Kneefel, & Van der Veer, 2015). Rather, we invited them to think about and discuss their social needs and possible solutions with an open mind and a broad perspective, using creative techniques in context-mapping sessions. On the basis of the results of these sessions, we discuss the opportunities for technological interventions. This study was aimed at finding opportunities for the design of an intervention, without going into details about the specific form, technological support or organizational structure the intervention should entail.

Twenty of the 25 older people and seven social workers who were contacted agreed to participate: Three from a total of 25 people declined immediately, while two participants later cancelled because of personal circumstances. The five participants who did not participate were all older people.

All the older participants received a sensitizing workbook at least one week prior to the session. The sensitizing workbook served as a primer to be used by the older participants before the actual context-mapping session took place. With 'sensitizing', we mean that the participants are prepared for the topics in the session(s). In the course of one week, memories are triggered by self-reflection assignments. Sensitizing will give the participants insight into their experiences and enable them to talk about this more easily in a group session with other participants. With no primer there is a risk that it takes a lot of time to come up with relevant information. The workbooks were designed to be used for five days, with one assignment per day. Each daily assignment addressed one theme, based on our two previous studies (ten Bruggencate et al., 2018 and ten Bruggencate et al., 2019a). One was about their

social contacts during a day (day 1): in this assignment they were asked to indicate who they had contact with during that specific day. In addition, the assignments were about close relations (day 2), volunteer work (day 3), independence (day 4) and connectedness with their environment (day 5).

Three context-mapping sessions took place at the LEV group organization, which was a convenient location for all participants. For one participant a taxi was arranged. One context-mapping session took place at the Savant group, also a convenient location for the participants of this particular session (session 4, the mixed group). The Savant group is a partner of the LEV group and a welfare organization in the south of the Netherlands. Two female researchers with a background in psychology coordinated the context-mapping sessions. The context-mapping sessions all lasted about two hours. The researchers first introduced themselves and made some practical announcements regarding the session. Each session had four to six participants (Table 1) ensuring that the group was large enough to stimulate discussion and ideas, but at the same time small enough to create a safe and comfortable atmosphere. Our context-mapping session was divided into two larger assignments.

Assignment 1: Social needs (1 hour)

In this assignment the participants were asked to individually think about what they found positive and negative in the social life of older people. The sensitizing workbook the older participants filled in the week before the session helped the participants to think about this. To make collages, participants received a toolkit with the following materials: a large piece of paper, a set of various lifestyle magazines, coloured markers and pencils and pens. Participants could use words and pictures from magazines to express these positive and negative aspects.

The assignment took about 20 minutes and afterwards the participants presented their collages to each other and to the researchers, which lasted about 15 minutes. The presentations and discussion were transcribed and analysed with the rest of the data. From this assignment negative aspects and positive aspects related to the social needs of older people were documented on a flip chart. The researchers asked every participant to name the three most important positive and negative aspects and further elaborate on why they chose these aspects. One of the researchers and the participants then made an inventory of the most important aspects from the individual collages.

Assignment 2: Interventions to fulfil social needs (45 minutes)

In this assignment groups of two or three participants selected one of the aspects

of their collages, reflecting a positive or negative aspect of social life that was most urgent or important for the participants. This positive or negative aspect was written on a large sheet of paper, after which each small group of participants started generating ideas for interventions. In the case of a positive social aspect, for example, “helping others”, the groups came up with ideas for how older people can realize this. This assignment took about 30 minutes. Each group then presented their solution to the other participants, which took about 15 minutes. After the presentations there was time for discussion. These presentations and discussions were also transcribed and analysed with the rest of the data.

6.2.4 Analysis of the data

The qualitative data collected in context-mapping sessions are rich and diverse. The discussions as well as the tangible results of the assignments contain a lot of valuable information related to the topic. Both assignments from the context-mapping sessions resulted in a collage. The first assignment resulted in a collage about positive and negative aspects of their social lives. In the second assignment the participants were asked to choose one of these social aspects and come up with ideas for solutions. The collages were discussed by the participants. The recorded audio of the sessions includes the discussions about the collages and other discussions that emerged for the assignments and from the group dynamics.

All audio data was transcribed verbatim. Three researchers, working in pairs, were involved in the coding process, to ensure interrater reliability (Boeije, 2002). Each transcript was coded independently by two of these researchers and inductive codes were attached to quotations in the transcripts that were relevant to the research question. After that, thematic analysis took place. To reach consensus, the researchers discussed their coding. Afterwards the three researchers discussed all the analysed material and consensus was reached about the three relevant themes: connectedness, independence and meaningfulness.

6.3 Results

6.3.1 Sample descriptive

In total, 20 people participated in the context-mapping sessions, 13 older people, of whom seven were female, and seven social workers who were all female.

6.3.2 Themes

The themes that emerged from our analysis are:

(1) Connectedness; (2) Independence; and (3) Meaningfulness. Despite the fact that we decided not to focus explicitly on technological solutions in the context-mapping assignments, technology was addressed by most of the participants. We present the insights related to technology in relation to the three themes.

6.3.3. Connectedness

The participants feel connected when social ties and networks are present. This was the case for all of the participants and they did value this. Some of the participants see their social networks decline because of illness and death. The social contacts the participants have are both intimate and peripheral. Peripheral contacts help our participants in reducing or preventing social loneliness and the intimate contacts in reducing or preventing emotional loneliness. Social contacts all provide connectedness and pleasure. For the participants, their network members (both intimate and peripheral) fulfil a basic and essential need for love, company and fun. The important need to stay active is put strongly by one of the older participants. He is engaged in all kinds of volunteer work, such as getting groceries for vulnerable people; he is also a mentor of a young student. In this way he stays connected to other people and to a community. He has a very active life himself but sees other older people passively and silently passing their time. He said:

“When you do nothing and sit passively, you fade away.”

Interventions can focus on engaging in activities. This is mentioned by many of the participants as an important way to satisfy their social needs. The participants in our study engage in various activity clubs, such as a choir, bridge club or a billiards club.

The need to make a connection with other individuals is mentioned often by the participants. They feel that people are not as eager anymore to make this connection. They also see their neighbourhood changing. Younger people move into the neighbourhood and are not as open to connecting; to make contact or help one another as the participants are used to from their past. Sometimes they do not even greet when passing by, which stands in the way of social cohesion. The participants mention that a small village is in this way different from a larger city. In a village people seem to keep more of an eye on each other, they connect more. One female participant said:

“When I sit on a terrace in ‘small village’, I sit 5 minutes and people come over to have a little chat; when I am in ‘larger city’ this does not happen.”

Interventions could focus on the connection to others and to a community. The participants came up with ways to connect people to each other and to a community, for example by organizing gatherings especially for older people, where they can socialize and share interests. These meetings should not be attractive only for vulnerable older people, but also for social and healthy older people. The interaction may be beneficial for both groups. Participants also think that organizing something in a neighbourhood so that people can meet and connect can enable people to help each other.

The (social) context seems to be important in the interventions and for satisfying the needs of the older individual, in this case the need for connectedness with neighbours and a neighbourhood or community. A social neighbourhood and close community can help to satisfy the social needs of older people. Some of the proposed interventions are about improving this context, for example creating a safe and social neighbourhood. Organizing a barbecue to make the neighbourhood more social and organizing a neighbourhood watch to make it more safe. In one of the sessions, a concrete solution was presented by the participants in the form of an idea for a buddy project to welcome new older people in a neighbourhood. The potential benefits are that the new habitant is introduced to the people and to the activities in the neighbourhood. They even had a name for it: "Feel welcome". According to the participants, the coordination of the buddy project should be in the hands of a street coordinator, or social worker related to that neighbourhood.

The need to avoid gossip was mentioned – the older participants are anxious about gossiping. Gossiping can be (negatively) related to connectedness and contact with other people. It is possible that gossiping can be a result of a greater social cohesion and connectedness. One participant really dislikes the gossiping she encounters in her neighbourhood, and actively avoids it by avoiding social contact. She said:

"I have no need for gossiping, I stay on my own, I don't need to know what they have and what they do."

Participants came up with several ways to deal with gossiping when confronted with it. These are to be open-minded towards others and to be confident and have respect for yourself and others. But also to ignore the person who gossips or respond with an assertive reaction that will stop the gossiping. Whether these are effective ways to deal with gossiping depends on the personality and articulateness of the older person.

The need to be connected on a deeper and spiritual level was significant for the participants. Faith, religion and going to church are important for some of the participants, because it gives them support and guidance. They realize that for younger people religion does not have a prominent place in their life. The connectedness they

feel with others in the same religious community and to themselves can be considered an important social need. One male participant said:

“Love, hope and faith, those are necessary, but the youth do not know that anymore.”

The participants see a fast-changing society and have to deal with this in general but also socially. These changes in society are not always seen as negative. More openness to discuss certain subjects such as sexuality is seen as a positive change. One of the older participants said:

“People are more open now, for example about sex; in my days those things were covered up.”

Interventions in their eyes must focus on a real interest in each other, on openness and investing in another person. These are, according to the participants, important elements of every human life. They would like to see a community that is more collectivistic and less individualistic. They see possibilities in interventions that stimulate respect for each other and more openness towards other people. This can be achieved by creating a social and close neighbourhood where people take the time to get to know each other and at least greet one another.

The perspective of the older participants towards (social) technology is ambivalent. Some of the participants have the feeling that technology may stand in the way of human contact and that it may make social contact more superficial. One older participant said:

“Writing a text or email, I think, is impersonal.”

The sharing of all kinds of information, for example via Facebook, is seen as a violation of privacy by some of the participants. They do not understand that young people share their lives easily on, for example, Facebook. One of the participants clearly dislikes the fact that young people use their smartphone all day. At a birthday of her grandson she reprimanded a girlfriend of her grandson who was using her phone too much. She said:

“I really think it [using smartphone in a social context] is quite rude, it stands in the way of a good conversation.”

This participant also mentioned that people hardly think for themselves anymore, every piece of information is found on the smartphone.

A male participant actively uses Facebook and clearly sees its possibilities and likes to share his experiences with his network. This participant has a positive attitude towards social technology. One of the participants uses Skype to contact her daughter in Australia, but she said:

“This contact (Skype) is not the same as real face-to-face contact.”

The way social technology enables contact with network members can fulfill

the need of connectedness. The social workers see benefits and possibilities in the use of social technology. One of the social workers said:

“I advise older people to use Facebook, so that they can easily contact their grandchildren.”

6.3.4 Independence

The need for independence, according to our participants, means to have control over one’s life. The participants of our study consider independence and (on the other side of the coin) dependence to be important themes in their lives. Independence is a social need in the sense that it is related to oneself in relation to others. Doing volunteer work contributes to a feeling of independence. One participant who does a lot of volunteer work and is engaged in all kind of activities said:

“It gives me a lot of satisfaction that I am able to help so many people.”

Interventions should focus on enabling older people to (easily) engage in volunteer work, for example through a clear and direct communication of the different options available for volunteer work. The need to be able to deal with becoming increasingly dependent is essential for the well-being of the older individual. One participant, a social worker, used her mother as an example to illustrate the importance of maintaining one’s independence. Her mother became more disabled, but did not want to ask for help and therefore became increasingly isolated. She said about her mother:

“It’s like a circle. By not moving anymore and not asking for help, you get isolated, you become more disabled and the chance of falling increases.”

Staying independent for as long as possible is a strong desire of the participants. When staying independent becomes a problem, due to physical or cognitive disabilities, people often find it hard to ask for help, to deal with this new situation and accept it, as one of the social workers mentioned. The social workers see a threshold in older people’s willingness to ask for help. Asking for help and in that way feeling dependent on other people is a big issue. One participant (social worker) said:

“That’s really a big deal for them, to ask their children or neighbours for help.”

Interventions in their eyes should focus on reciprocity (helping others makes it easier to ask for help for yourself) and in learning to ask for help. Reciprocity in a relationship makes older people feel less dependent, even when they receive some kind of support. They also suggested focusing on accepting that there is no shame in asking for help and that everyone needs help sometimes. For instance, an intervention could support talking with other older people who have the same experiences. To talk with others about feelings of being dependent and how to deal with this can be a relief and can give more insights into how to deal with it or maybe how to ask

for help. Interventions could also take the form of support groups for older people regarding how to deal with the loss of resources.

The older participants and social workers all indicate that there are individual differences in the motivation of older individuals to engage in activities and to take control over their own lives. They state that the older person has to cross a fictional threshold when, for example, taking part in organized activities. In interventions, the social workers see a role for themselves in this. By really speaking to the older person on a deeper level and finding out about their anxieties and wishes they can better help and guide them towards (social) activities. One of the social workers said:

“You have to find out the question behind the question.”

The need for a social neighbourhood with a strong social cohesion is mentioned by the participants. An example of an intervention that focuses on feeling more independent is a neighbourhood watch, so that an older person can stay community-dwelling longer, feel safe and live independently. The neighbourhood watch is an initiative by neighbours and is also carried out by them, including older persons. People keep an eye on each other and, for example, guard the neighbourhood by taking an evening walk. The participants expect that this results in a more connected neighbourhood where people know, respect and protect each other.

Technology in relation to independence was mentioned by one of the participants. This older female participant who felt quite independent in general, said that technology made her feel more dependent. She said:

“I feel that I am getting behind on things, I don’t have the interest or energy to invest in learning it, but it seems necessary sometimes.”

6.3.5 Meaningfulness

The need to do something for other people and have a meaningful life is essential to be connected to society, according to our participants. It is also the first thing the social workers mention when in the first assignment they are asked what are the important social needs for older people. One of the social workers said:

“They want to mean something to or do something for another person.”

The older participants mention the need of being meaningful and useful more implicitly by pointing out the importance of helping other people, engaging in volunteer work or in activities. Reciprocal relations and activities in the sense that older people give (and take) some form of support create a sense of meaningfulness. The satisfaction and gratitude this can give is pointed out by one of the participants who helps a neighbour who has health problems. She said:

“I am very grateful that I can help her (my neighbour), she has always been a good friend.”

In helping a friend or neighbour, older people feel connected, useful, independent and meaningful. Interventions can focus on people helping and caring about each other, for example a neighbourhood initiative where neighbours help each other with practical or emotional support. The social workers named an existing neighbourhood app in particular, where people can offer and ask for help. People should, according to our participants, care about other people and keep an eye on each other. They also argue that small things matter. No great deeds are necessary in just helping each other out. Meaningfulness can also lie in listening to each other's stories and providing the feeling that a person is heard and seen, that their lives matter. In doing something for other people the participants saw all kinds of benefits such as feeling useful, taking away lonely feelings, encouraging friendship.

The need to have a strong personality that is able to cope with every day (social) challenges is mentioned often. A couple of the interventions presented by the participants relate to the personality and active attitude of the older person. In one of the sessions this becomes clear when one of the older participants said:

"I have a lot of good social contacts, but you have to work for that, people don't just come knocking at your door."

As mentioned earlier gossip is seen by the participants as a negative aspect in their social lives. Interventions can also focus on how to avoid gossip and engage in more meaningful activities. To defend oneself from gossip demands good verbal skills and an active attitude. Interventions can hereby focus on creating a more active attitude in older people, for example in the form of workshops and courses given by behavioural experts and trainers. Obviously, to be articulate and (pro) active is a lot easier when the older person is still healthy and mobile enough to fulfil their social needs. One of the participants struggles with her health and also her daughter is very sick. Her first priority lies in caring for herself and her daughter.

6.4 Discussion

In this study we discussed how to fulfil the social needs of older people with older people themselves and with social workers who work with them. By applying a context-mapping approach to collect tacit information related to the social needs of older people, we were able to identify design opportunities for social interventions. Overall, the participants stated that being active and involved is key to the fulfilment of social needs and to possible interventions. To engage in different activities and to be involved in the lives of others, both intimate and peripheral contacts, contributes to the well-being of older people. This is in line with the studies of Buz,

Sanchez, Levenson, and Aldwin (2014) and Toepoel (2013). When an older person feels connected, independent and meaningful, important social needs are satisfied. To engage in volunteer work is important for our participants and was presented often as a possible intervention to fulfil social needs. This makes sense, because to engage in volunteer work satisfies all the three needs: connectedness, independence and meaningfulness. In doing something for someone else, the older person feels connected, independent and meaningful (Gallagher, 2012; ten Bruggencate et al., 2018; Walker & Hiller, 2007).

The needs of being connected, independent and meaningful are interrelated, as becomes clear in the previous paragraphs and in previous studies. Connectedness is often a condition for the other two needs to be fulfilled. When people are connected, they can be meaningful, and when the connection or relationship is reciprocal the older person feels independent as is also the case for the participants of our study (ten Bruggencate et al., 2018; ten Bruggencate et al., 2019a). Interventions can focus on connecting older people to other people, to a neighbourhood and to a community.

6.4.1 Technology and design opportunities

Technology can be a solution for a lot of fundamental issues and can help, especially older people, to live a comfortable and happy life. However technology cannot be a solution for every problem and never should be the only solution considered. Especially in the social area, technology is not always contributing to a better (social) life as is also pointed out in the critical book of Spitzer (2012). So technology can be a powerful resource for interventions to fulfil social needs, but it should for example not replace face-to-face contact. Nevertheless technology offers many opportunities for supporting older people's needs of connectedness, meaningfulness and independence. In the following sections specific recommendations are made for technological solutions for fulfilling social needs of older people, based on the insights collected in the context-mapping sessions and relevant literature. Technology can be instrumental in connecting people with their network members, with their neighbourhood and with society, especially when face-to-face contact is difficult, for instance because of physical disabilities of the older person, or when network members live far away. As the results of this study indicate older people can be connected in three ways: (1) to other people, (2) to a neighbourhood, and (3) to society.

Being connected to network members, both intimate and peripheral, is essential for the participants in our study. Various studies have shown that using social technology the contact with family and friends who live far away can be facilitated and strengthened, and that older people really benefit from using these social tech-

nologies; they are much more aware of the lives of their loved ones (Chen & Schulz, 2016 and Sum et al, 2008). Moreover, in the study of Chen & Schulz (2016) ICT use, primarily internet and email, was consistently found to positively affect social support, social connectedness, and social isolation. Results indicate that technology can strengthen these existing social relations. The connectedness between different generations can also be stimulated through technology. When older people start using technology the distance that is often felt between the older and younger generation may be reduced, because they share the same interest (Peek, 2017). Furthermore, to be embedded in a close and supporting social network helps the older people to remain more independent (Ashida & Heaney, 2008). Social technology can facilitate and strengthen the social networks of older people and in that way contribute to the feeling of independence of older people.

Our study shows that helping other people, for instance by engaging in volunteer work, may fulfill older people's need for meaningfulness as well as their needs for connectedness and independence (Gallagher, 2012; ten Bruggencate et al., 2019b). By actively participating in society they feel connected to this society. Technology can enable older people to engage in volunteer work, for example by giving relevant, clearly presented and understandable information about the volunteer work and activities available in the vicinity. Moreover, technology, for example smart algorithms, can help finding a perfect match between the interests and wishes of the older person and the offered volunteer work. Also, Facebook, Skype and WhatsApp offer possibilities for older people to share stories and experiences and to offer support and comfort.

When older people are able to use their talents and skills to help others in their neighbourhood or community they feel useful and meaningful (Walker & Hiller, 2007; ten Bruggencate et al., 2018; Gallagher, 2012; ten Bruggencate et al., 2019a). Older people often have time to help their neighbors for example by accepting parcels, or to use their skills such as sowing, helping out in the garden or repairing small things. Special neighborhood apps may facilitate the exchange of services and goods (Capece & Costa, 2013). The participants in our study indicated that social cohesion and a safe and pleasant neighbourhood are essential for them. Technology can play a role in strengthening social cohesion, although it is important that online and offline social networks are integrated (Wallace, Vincent, Luguzan, Townsend, and Beel, 2017).

6.4.2 General considerations

We found that the participants have an ambivalent attitude towards technology. Although they realize that technology may be helpful in many ways, in the eyes of the

participants, technology sometimes stands in the way of real human contact. In the studies by the ten Bruggencate et al. (2019) and Luijkx et al. (2015) it becomes clear that the negative attitude that older people may have towards social technology often changes when they start using some form of social technology, because they experience its benefits. For the successful implementation of technological interventions an important first step is therefore to change the (negative) attitude of the older person, so that they take this first step and start using the technology. Support and proper coaching by network members, for instance children and grandchildren, are essential to achieve this (Peek et al., 2016). At the same time, it is important to realize and take into account that some older people have difficulties adapting to our fast-moving technological society. Ideally, the design of an intervention is inclusive, which means that the limitations and possibilities of the population are all taken into account, so that every older individual has the possibility to benefit from the intervention (Newell & Gregor, 2000). For an inclusive design, it is essential that the older people and other stakeholders are involved in the design process. The context-mapping method that was applied in this study employs creative techniques to give deeper insight in the tacit needs and wishes of the participants (Sanders & Stappers, 2008).

The following considerations should be made when designing for older people: adapt to the individual user, respect their needs for privacy, use older people's frame of reference and avoid stigmatizing. First, as already mentioned, one intervention cannot match the social needs of all older individuals, due to the heterogeneity of the population (Fokkema & Van Tilburg, 2007). Therefore, ideally, interventions should be tailor-made. Technology can play a role in matching and fine-tuning interventions to the needs and capabilities of older people. The great advantage of technological devices is that they can easily be adapted to their users. Second, one of the main concerns of older people with respect to using technology is their privacy; this has also been addressed by the participants in our study (Peek et al., 2014, Yusif, Soar, & Hafeez-Baig, 2016). Trust seems to be an important factor to consider when designing for older people, they need to be able to trust that the technology can be used safely. (Sattarov & Nagel, 2019, McMurray et al., 2017). Furthermore, in the design of technological interventions, older people's experiences and frame of reference should be taken into consideration (Lim, 2010). In addition to the decline in abilities related to age, also the era in which older people grew up and at what age they started to first use technology determine the acceptance and effective use of new technologies, and should therefore be taken into account when designing new products and services. Finally, designers should be careful not to design and implement technological solutions that are stigmatizing or that emphasize the vulnerability or

frailty of the older person (Yusif, Soar, & Hafeez-Baig, 2016). The older participants in our study all are active citizens and do not want to be treated differently because of their old age.

In our Western society the focus is mainly on what we can do for older people to help them. Based on our findings, we argue that the focus should be on what older people can do for society and actively invite them to contribute. This is in line with the shift that has been taking place in the last couple of years, in countries like the Netherlands, from a welfare state to a society where participation is promoted. Older people in local communities in the Netherlands are stimulated to actively be part of the community and society (van Hees, Horstman, Jansen, & Ruwaard, 2015). Perhaps the real solution is also a change of perception of the society towards older people and a change in what position and status they have in that society. The focus of future interventions should be more on what we can learn from the life experience and wisdom of older people. How can they contribute? This relates to the three main themes of connectedness, independence and meaningfulness.

6.4.3 Limitations

To engage in volunteer work is a solution to fulfilling the social needs of our participants. Most of the participants in our study were relatively active and healthy and did some form of volunteer work. It is possible that the results in that matter are biased.

Furthermore, the older participants in the context-mapping sessions were given the instruction that they could use experiences and themes from their own life, but they could also use other older people's experiences. For example, a lonely neighbour or friend. We made this choice because some older people find it difficult to think about interventions for themselves and sometimes find it difficult to accept that they need them. To have another person in mind makes it easier to talk about. The social workers were given the instruction to use examples from the older people they work with or know privately. This means that some, and in the case of the social workers all, of the information is not about the participants themselves, but about people they know or work with. The advantage is that we have more information from different perspectives. The disadvantage is that some of the information in our study is 'secondhand' and does not come directly from the older person experiencing this need or feeling.

6.5 *Conclusion*

Based on the findings, we argue that interventions to fulfil the social needs of older people should best focus on older people's needs to be connected, independent and meaningful. Interventions to fulfil all three needs can be found for older people by engaging in volunteer work, in helping other persons and in being open and active. We found that social cohesion and the role of a neighbourhood are important opportunities for interventions aimed at supporting the social needs of older people. We discussed the role of technology in possible interventions, considering older people's ambivalent attitude towards technology. With this study we uncovered opportunities for technological interventions to fulfil social needs based on deeper insights into these social needs.

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Chapter 7

General discussion



This thesis focusses on the social needs of older people aged 70 and over. We investigate how older people fulfil their social needs and what barriers and facilitators they experience in fulfilling these needs. We also consider the role of social technology in fulfilling the social needs of older people. With this information about social needs and social technology we generate implications for interventions to fulfil social needs. Interventions to fulfil the social needs of older people are important because they contribute to their well-being. This thesis offers insights in social needs, social technology and interventions for older people.

The main research question that is central to this thesis is:

“How can older people be supported in the fulfilment of their social needs?”

With the following subquestions:

RQ 1) What are the social needs of older people?

RQ 2) How do older people fulfil their social needs?

RQ 3) What is the role of social technology in fulfilling the social needs of older people?

RQ 4) What are the implications for interventions?

In this chapter we present the general discussion including the main findings, the strengths and limitation and a final conclusion. We also present a table with practical implications for interventions.

7.1 *Main findings*

As we learn from the results of our studies, older people have a strong desire to be connected, to be independent and to feel meaningful; they feel the need to be needed. Older people want to be connected to both intimate network members as well as peripheral ones. Older people fulfil their social needs through their social relationships. To fulfil social needs older people engage in (social) activities. Personal circumstances like their home and neighbourhood and their financial situation, and sometimes social technology also facilitate fulfilling social needs. The role of social technology in fulfilling the social needs of older people is that it strengthens existing social relationships, it enriches social contacts and it reassures both the older people and their network members. Social technology can, however, also have barriers in terms of usability; some older people have problems in using social technology and have an ambivalent attitude towards it. On the basis of all of our studies, we come

up with implications for interventions to fulfil social needs, both technological and non-technological.

7.1.1 The fulfilment of social needs

Our studies all show that both intimate and peripheral relationships satisfy older people's social needs and continue to be important as people age. The intimate contacts the older people in our studies have are those with family and close friends; peripheral contacts in our studies are friends from (sport or leisure) clubs, voluntary work, church and, for example, the nice lady at the chemist. While more intimate relationships bring love and belonging into the lives of older people, peripheral relationships offer fun, friendship and equality. In particular, contacts with neighbours, which can be either intimate or peripheral, are important for older people. Neighbours offer friendship, but also a feeling of safety in knowing that there is someone nearby when help is needed. A friendly and comfortable neighbourhood, with strong social structures, can therefore be a resource in fulfilling the social needs of older people. The older people in our studies showed that when their world gets smaller, for example because of a loss of mobility, the world nearby, such as a neighbourhood, becomes more important for them.

So an important resource to fulfil social needs are the social relationships older people have. Three theories that explain how social networks change when people grow older are the Social Convoy Model (SCM) of Antonucci, Ajrouch, and Birditt (2014), the socioemotional selectivity theory (SST) of Carstensen, Fung, and Charles (2003) and the social production function theory of successful ageing (SPF-SA theory) of Steverink and Lindenberg (2006). The older people in our studies have their social convoy (SCM), which during their life span has changed because of changing social roles, as well as their perspective on life and their priorities (SST). So both the SCM and SST partly correspond with the results of our studies. When looking at the distinction between intimate and peripheral network members, the SCM and SST explain that older people focus more on intimate relationships due to selectivity (SST) or their changing social roles (SCM). In all our studies, it became evident that peripheral relationships cannot be ignored and remain equally important as intimate relationships. For example, the daily chat with the neighbour about politics or the weather is important for older people to feel connected. The SPF-SA explains that the need for status and behavioural confirmation, which is mostly satisfied by having peripheral relationships, remains important when people grow older. However, due to the loss of resources and goals, this need sometimes becomes more difficult to satisfy. So our results mostly relate to the theory of SPF-SA, because it states that

older people also value these peripheral contacts highly, but because of the loss of resources the number of peripheral network members can decline. The SPF-SA also identifies three social needs, namely status, behavioural confirmation and affection, which offers a better understanding of the different social needs older people have. The need for status and behavioural confirmation largely corresponds with the need to feel meaningful and the need for independence identified in our studies. The need for affection largely corresponds with 'our' need for connectedness.

Our studies also show the perhaps obvious but important fact that the population of older people is quite heterogeneous. Their social needs and the way in which they fulfil them are diverse. Some of the participants of our studies have social needs that are quite small and easy to fulfil, like having a weekly chat with the neighbour. Other participants need an active social life with a variety of network members and activities, such as one of the more active participants who is chairman of the stamp collectors society and involved in organizing the carnival; he also babysits his grandson on a weekly basis. The social needs of our participants appear to be congruent throughout their lives and do not change much when a person grows older. The participant that is involved in the stamp collectors society and the organization of the carnival always had a busy life, when his health or mobility would diminish in the future, he probably have more difficulty fulfilling his social needs. So social needs do not change much, only the resources a person has seem to change during a lifetime, which corresponds with the SPF-SA (Steverink & Lindenberg, 2006). For older people this can mean that because resources diminish, social needs are more difficult to fulfil. The resources of our participants that are mostly affected are health, mobility and network members (due to their death). For example, it becomes more difficult to fulfil social needs when one has difficulty leaving one's house. It also becomes clear in our studies that when there is a discrepancy in the satisfaction of needs in the past and in the present, loneliness or social isolation can occur. One of the participants of our studies had always had a busy (social) life. She owned her own store and had a lot of friends. When her husband became ill and had to be taken care of, she lost a lot of her network members. After a long time in his sickbed her husband died. This participant felt lonely because there was now a large discrepancy between her past social life and the present, where she lacked companionship and someone to whom she could talk.

7.1.2 The relevance of reciprocity

While reciprocity, in all of our studies, has been identified as an important concept in relation to the social needs of older people, this concept is not explicitly part of the

three theories discussed in the previous section. Our studies show that reciprocity is the glue that connects older people to other people, to a neighbourhood and to a community. Reciprocity is highly valued by older adults. The participants in our studies not only want to receive friendship, companionship and love, they also want to give something back to other people, but also to the community that they are part of. They need to be needed. Reciprocity makes a person feel less dependent on others. So reciprocity contributes to a feeling of independence, which is highly valued by older individuals, as also becomes clear in the studies of Krause (2007), Walker and Hiller (2007). Many of the participants in our studies also mention that they find purpose and meaning in helping others, for example family, friends or helping in a community. The participants also want to participate in society by doing volunteer work. For future research and for successful interventions, reciprocity is an important concept to consider.

7.1.3 Participation of older people

Our studies show that the social needs of older people do not change much, but the resources they have diminish making it more difficult to fulfil these needs. Despite the occasionally negative perception of a society towards older people (Johnstone, 2013; Nelson, 2004), the results of our studies and other studies (Anderson et al., 2014; Brown, Hoyer, & Nicholson, 2012; Van Willigen, 2000) indicate that older people are capable and willing to contribute. With a lifetime of experiences and wisdom it is quite surprising that older people's talents are not used more or in a more effective way. In almost all of our studies, the (political) engagement of the participants is demonstrated, especially in Chapter 4. In Chapter 4 we discuss the development, implementation and evaluation of an intervention for older people to fulfil social needs, in the form of volunteer work: Samsam. In SamSam, older people spend time and effort weekly on teaching migrants, refugees and expats the Dutch language. These people feel a strong need to stay connected to what happens in the world. Unfortunately, in areas like politics older people are rarely actively involved and employed. As one can learn from history and the past, what can be better than involving people who lived that past and can talk about it and teach us? We can use the talents of older adults more effectively, like, for example, societies in the Blue Zones are doing, as also discussed in Chapters 2 and 4. According to Buettner (2012), an important reason for the many happy older people in the Blue Zones is how older people are treated in these communities. The older one gets, the more one is respected, which has positive consequences for the well-being of older people.

7.1.4 Social technology

In our qualitative studies which study the role of social technology (Chapters 3, 5 and 6) we found that social technology in general plays a modest role in meeting the social needs of the participants, especially in the studies of Chapters 3 and 6. Participants who used a computer or tablet used it primarily to search for information, and less for communication or social purposes. The main reason not to use social technology is that there is no direct need for it. Furthermore the older people who do use social technology face barriers in using it, they struggle with the usability, with the little buttons, the Wi-Fi, the updates. They also feel that because of (social) technology they are getting behind in things. They have to deal with this fast-changing world and sometimes just cannot keep up.

In the study that specifically look into the role of social technology in the lives of older people who use it, chapters 5, it becomes clear that social technology can play a strengthening and facilitating role and is a resource in fulfilling social needs. Social technology strengthens existing social relationships of older people by making the social contacts more frequent and easier, and it enriches social contacts by adding visual material. It reassures both the older people and their network members by making it easy to contact anyone when, for example, help is needed. Also, the study of Chen and Schulz (2016) shows that social technology is consistently found to positively affect social support and social connectedness, and prevents social isolation. So social technology makes the social relationships of older people stronger, richer and more at peace.

Technology can be of value, but there are also negative aspects of technology that must not be overlooked. Most of the older people in our studies indicate that they sometimes feel that technology stands in the way of real human contact. Especially in the social area, technology does not always contribute to a better (social) life, as is also pointed out in the critical book of Spitzer (2012). Besides the risks of inappropriate online social behaviour, Spitzer (2012) points out that the replacement of real-life face-to-face social contacts by online social networks can damage the social areas in the brain. So technology can be a powerful resource for interventions to fulfil social needs, but it should not, for example, replace face-to-face contact, as some of our participants said during the interviews.

Social technology for older people is especially used to facilitate social contact, not to replace human contact with more digital contact. We found that the older people in our studies have a thoughtful approach towards using social technology. They use it to strengthen and facilitate existing social contacts. They do not let it replace face-to-face contact and are annoyed when their (grand)children just stare at their phones when visiting.

7.1.5 Implications for interventions

To answer the main research question in this thesis “How can older people be supported in the fulfilment of their social needs?”, we conclude this section with describing several implications for interventions aimed at helping older people to fulfil their social needs. Chapter 6 of this thesis focusses totally on design opportunities for interventions for older people. Table 1 shows the practical implications based on all our studies. In general, looking at the results of our studies, interventions can best focus on fulfilling the social needs of connectedness, meaningfulness and independence. Our studies show that helping other people, for instance by doing volunteer work, may fulfil older people’s need for meaningfulness as well as their need for connectedness and independence. With developing interventions one must always consider the heterogeneity of the population and respect the individual differences.

One important consideration is that the role that older people play in our society changes when they grow old. Our results show that older people in general benefit from active participation in the lives of other people, a neighbourhood or a community. One participant of our studies put this in words:

“It gives me a lot of satisfaction that I am able to help so many people.”

There are different views on the role of older people in society and whether they should keep busy, stay active and contribute to society. Some argue that an older person should not have to perform this active role (Holstein & Minkler, 2007; Martinson & Minkler, 2006). These researchers argue that there should not be an economic or political gain in keeping older people active, and older people must not be misused or be seen as a resource. Furthermore, by only pointing out the positive aspects of (active) ageing, older people who cannot live up to this standard are being mistreated and overlooked (Holstein & Minkler, 2007; Martinson & Minkler, 2006). While we agree, our studies indicate that, for a group of older individuals, it is important to have meaningful lives - contributing to others, to a neighbourhood or to society can fulfil this need. Most of the participants of our studies were quite active and committed, and this might also have influenced the results. Every older person must be free to live the life they want and need, so interventions should be tailor-made and meet the specific social needs of the older individual. We have to take into account the possibilities every older individual has and search for a balance, where older people are invited to participate but feel no stress or pressure in doing so.

In our studies, stimulating older people to engage in purposeful and social activities is often mentioned by the older people themselves as a promising intervention. This is in line with the findings of O’Rourke, Collins, and Sidani (2018).

Successful activities where older people use their specific skills and talents include sowing and knitting, participating in a repair café, and also being part of (decision-making) committees and boards. And of course, the language café (Samsam) is a good example of a place where older people can use their skills and talents, and help other people. It also connects the older people to the other volunteers and to the students. The positive effect of engaging in activities on the well-being of older people is discussed in the literature review by Adams, Leibbrandt, and Moon (2011). The older people in our studies also don't want to be treated as a separate or vulnerable group; they like the intergenerational contacts with their (grand)children and, for example, with the foreign students of Samsam. Initiatives where social cohesion in a neighbourhood or community are stimulated are promising, because of the relative importance of a neighbourhood for older people.

Gossiping is mentioned by a lot of the participants of our studies as very unwelcome social interaction. A lot of them experienced gossiping directly or indirectly. Especially in the studies of Chapters 3 (qualitative study) and 6 (context mapping session) gossiping is often mentioned by the older respondents as unpleasant, but present among older people. It can be a problem especially in care centres where groups of older people live together (Trompetter, Scholte & Westerhof, 2011). It is, for example, common for older people to have little groups and special chairs and places where they meet. When another older person wants to sit at a particular table, he or she is not welcome. So there can be bullying and gossiping among older people. Gossiping gives you a kind of power when you can control the processes in the group and can say who can join and who cannot; this is related to status. In a study among adolescents, some of the popular adolescents use bullying and gossiping as a tool for status (Abeele & De Cock, 2013). This can be the same for older people. As we learn from the SPF-SA, that status is an important social need, and normally difficult to fulfil for older people (Steверink & Lindenberg, 2006). Studies about gossiping or other undesirable social behaviour like bullying or excluding someone would be interesting, as are interventions aimed at preventing this unwelcome social behaviour among older people.

In Chapter 6, where design opportunities for technological interventions are presented, it is shown that technology should always be a means and not a goal in itself. It should be a way of connecting older people to others or to a community. It can help older people feel independent, autonomous and meaningful. As becomes clear in the study of Chapter 5, besides all the advantages, older people also experience disadvantages of using social technology, especially in terms of usability. Technological interventions can focus on helping older people use the devices and software, for example with ICT help centres in care centres or community centres.

Table 1: Implications for interventions for older people

**Focus on connectedness, independence and feeling of meaningfulness
(Chapters 2, 3, 4, 5 and 6)**

Promote active involvement

- Involve older people in creating and implementing interventions (Chapters 2, 4 and 6)
- Focus on volunteer work: older people want to contribute (Chapters 2, 3, 4 and 6)
- Focus on leisure activities: older people want to stay active and have fun (Chapters 2, 3, 4 and 6)
- Focus on neighbourhood or community activities (Chapters 2, 3 and 6)
- Enable reciprocity: older people prefer reciprocal relationships (Chapters 2, 3, 4, 5 and 6)

Show respect

- Respect individual differences (Chapters 2, 3, 4, 5 and 6)
- Address the talents and skills of older people (Chapters 2, 4 and 6)
- Create intergenerational initiatives: older people prefer not to be treated as a separate group (Chapters 2 and 4)
- Focus on independence: older people want to stay active and independent as long as possible (Chapters 2, 3, 4, 5 and 6)
- Be aware of and prevent gossiping in places where older people meet and live (Chapters 3 and 6)

Stimulate social contacts

- Focus on creating both close and peripheral relationships (Chapters 2, 3, 4, 5 and 6)
- Stimulate neighbourhood initiatives: proximity and peripheral contacts with neighbours are highly appreciated and beneficial for well-being (Chapters 2, 3 and 6)
- Facilitate (intergenerational) gathering in social meeting places such as pubs and churches (Chapters 2 and 6)

Use of technology

- Focus on strengthening and enriching existing contacts (Chapter 5)
- Support people's first step towards social technology (Chapters 3 and 5)
- Provide technological support in residencies and community centres (Chapters 3 and 5)
- Pay attention to safety and trust; for example, educate older people in privacy matters and the dangers of phishing (Chapters 3, 5 and 6)
- Involve older people in the development and implementation of technological interventions (Chapters 5 and 6)
- Respect individual differences and attitudes (Chapters 2, 3, 4, 5 and 6)

7.2 Strengths and limitations

This section presents the strengths and limitations of the studies that are described in this thesis. The first strength is that this thesis focusses on social needs rather than on loneliness and social isolation. In focussing more on the positive aspects, and on relatively socially active older people who fulfil their social needs, instead of on loneliness or social isolation or lonely or isolated people, this thesis offers new perspectives for interventions to prevent loneliness or social isolation. An important new insight is that interventions should focus on the talents and skills of older people and on what they can contribute. When older people feel meaningful, they connect more easily and they feel independent. Another new insight is the relative importance of the social need status and of peripheral relations, which in scientific studies and theories about social needs of older people is sometimes overlooked. This research offers a new perspective and a new way of looking at older people. It does not emphasize their weakness or their vulnerability, but focusses on their talents, their passions and their skills. Looking at their strengths and talents and involving them in a community and society at the same time fulfils their social needs and is beneficial for the community and society.

There is also a limitation in the fact that we focus on social needs rather than on loneliness or social isolation. Although overall we had a quite heterogeneous sample in all our studies, in general, the participants of all our studies were quite healthy and active. Also, a large proportion of the participants in our studies seem to have an open personality - an openness towards other people. The participants of Samsam

in particular have an openness and a willingness to help other people. This may have influenced the results of this thesis. The finding that older people have a need to participate and contribute can, for example, be biased by the fact that the participants share this openness and willingness. So the data from our studies are based on the experiences and feelings of these relatively open, willing, but also healthy and active older people. Our data do not involve the feelings and experiences of lonely or socially isolated older people, although they are arguably the people who would benefit most from interventions that support the fulfilment of their social needs. It would be interesting to carry out studies about social needs and/or social technology with a more vulnerable group of older people: the older people who are lonely or socially isolated. Perhaps these studies will come to some other conclusions.

A second strength is that this thesis presents new ways of looking at interventions that may help to prevent loneliness or social isolation. A lot of interventions are developed and implemented, but they are often not successful (Cattan et al, 2005, Findlay 2003) and perhaps end up somewhere in a drawer. The research described in this thesis resulted in an intervention, namely Samsam, which actually contributes to the lives of older people and also to those of expats, refugees and migrants who are learning the Dutch language. The Samsam intervention has now been very successful for over two years and new Samsam initiatives have been created in different locations.

On the basis of the research described in this thesis very practical and concrete implications for interventions have been generated. We expect that with these practical implications a lot of successful interventions can be developed and implemented by policymakers and local governments. Samsam is an example of one of these successful interventions.

Third, the older people played an important role in the whole process of this thesis. The older people participated in the interviews, in the context mapping sessions and in the intervention. In one of our studies, we also applied context mapping as a research method; this allows the user to think and help to design. In this case, the older people and their carers were involved in the process. This involvement of the target group, older people, should be an important and necessary condition of every (development of an) intervention for this population. Through this qualitative research with the active involvement of older people their experiences, thoughts and feelings are studied. This also brings a depth to the results that could not have been achieved with questionnaires or quantitative research. Through our in-depth research we could find out what the participants really felt and experienced in their daily social lives. The downside of this strength is that the results are not always generalizable.

A limitation lies in the fast changes that occur in the field of social technology and the people who use it. The results of part two of this thesis concern the role of social technology in the lives of older people. These results are relevant for the current generation of older people. The younger generation of older people (aged around 65) uses social technology more frequently and for that reason will have a different attitude towards social technology. So the results of part two will be partly outdated for the next-generation older people. For this generation new research about the role of social technology is recommendable. However, since there will always be new technologies and technological applications, the younger generation will experience similar problems related to usability, anxiety and resistance towards technology, which have to be addressed when technology is used in interventions.

7.3 Conclusion

The social needs of older people are diverse, as is the population. However, some social needs are important for most older people, namely connectedness, independence and feeling meaningful. Older people want to be connected to other people, to a neighbourhood or to society. Reciprocity in this matter is an important concept and helps older people to connect and feel meaningful and independent. Older people want to make use of their talents and skills and contribute. The relative importance of an individual's social needs and the way these are satisfied are diverse among the participants because of differences in personality, personal circumstances, coping style and life history. Social technology can play a role in fulfilling the social needs of older people; it strengthens, enriches social relationships and reassures. However, there are also barriers to the use of social technology, especially in terms of the usability and the attitude towards social technology. Interventions, technological and non-technological, can best focus on connecting older people to other people, to a neighbourhood and to a society, preferably in a reciprocal way. We should look at the potential and skills older people have, rather than treat them as vulnerable group. As we began this thesis with the citation of Dr Laurence J. Peeter, "When you are old you have all the answers, but nobody asks you the questions", we can conclude that it is time to ask the questions to older people and invite them to actively participate in the lives of other people. To make them feel needed.

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Summary

This thesis is about social needs of older people, social technology and interventions. For most individuals, social needs are among the most important basic human needs. When older people fulfil their social needs, this contributes in many ways to their well-being. However if social needs are not satisfied, this may lead to loneliness or social isolation. Both loneliness and social isolation have negative consequences for an individual and can lead to sickness and even death. The fulfilment of social needs has a protective influence on the health and well-being of older people. Therefore interventions to fulfil social needs are important.

Interventions can be non-technological or technological. Technology can play a supporting role in the lives of older people and can facilitate and improve different areas of living and also contribute to the quality of social life. Social technology facilitates social interactions and is enabled by a communications capability, such as the Internet or a mobile device Email, Facebook or Skype, for example, provide ways for older people to communicate with family and friends, when for example they live further away. This last few months during the Corona crisis social technology was proven to be an important mean to communicate when face-to-face contact was not possible. Social technology can therefore be a means to fulfil social needs of older people.

Although many interventions for older people to stimulate social well-being have been developed and implemented worldwide, evaluations of these interventions are scarce. Moreover, interventions that have been evaluated often fail to be proven successful.

In this thesis, it is studied how older people fulfil their social needs and on the basis of these insights come up with implications for interventions, technological and non-technological. The main research question for this thesis is: “How can older people be supported in the fulfilment of their social needs?”, which is studied in five chapters that have been published in scientific journals.

In Chapter 2 ‘Social needs of older people: a systematic literature review’, a systematic literature review to learn more about what is already known about the social needs of older people in scientific literature, is described. A systematic literature search is carried out with a result of 14 articles which are analysed, regarding the social needs of older people. The results show that the social needs of older people are diverse. Older people focus on both the intimate and the peripheral members of their networks. When satisfying social needs, reciprocity is important. Older people also do have a strong will to be independent and to be connected. Participation in

hobbies and in volunteer work and being connected is how older people fulfil their social needs. In conclusion interventions should focus especially on the connectedness, participation and independence of the older people.

In Chapter 3, 'When your world gets smaller: How older people try to meet their social needs, including the role of social technology', a deeper look into the social needs of older people at risk of being lonely or socially isolated is taken. In this study 19 interviews are conducted with older people about their social needs, the barriers they experience in fulfilling them and the role of social technology. The results indicate that the group of participants is heterogeneous and that their social needs and the way they try to meet these are diverse. Social needs such as connectedness, autonomy, affection, behavioural confirmation and status are important for the wellbeing of older people. Resources such as relationships, activities, personal circumstances and social technology can help to meet social needs. For some older people meeting social needs can be more difficult, because of health problems, reduced mobility, death of network members, fear of rejection and gossip, and poor financial circumstances. Social technology plays a modest role in the lives of older people and in fulfilling their social needs. Based on the findings of this study, it can be concluded that the world of people is getting smaller when they grow older. Interventions to support older people to meet their social needs may best focus on two aspects: supporting and improving the world close by and bringing the world further away a little bit closer.

In Chapter 4 'To Meet, to Matter, and to Have Fun: The Development, Implementation, and Evaluation of an Intervention to Fulfil the Social Needs of Older People' the evaluation of an intervention that is developed and implemented based on the results of the studies described in Chapters 2, 3 and 6 is discussed. The intervention is called 'Samsam' and is a language café in which older people as volunteers teach the Dutch language to foreigners. Seven participants in Samsam are interviewed and the implementation, development and evaluation of this intervention is described. Results indicate that the volunteers are content with participating in Samsam and how it is organized, although it is sometimes hard work. The older participants indicated that helping other people and contributing to society is important for them. The intervention also has a strong social and fun element which contributes to their feeling of connectedness. The intervention fulfils various social needs, such as connectedness, meaningfulness, and status. When participating in Samsam, participants feel connected to each other, to the students, and to society. Successful interventions for older people should focus more on fulfilling the needs for connectedness and meaningfulness —for example, by engaging in purposeful activities.

In Chapter 5, 'Friends or Frenemies, the role of social technology in the lives of older people' the role of social technology in fulfilling the social needs of older people is described. Fifteen interviews with older people who use some form of social technology are held, addressing in what way it helps them to fulfil their social needs. The results indicate that social technology plays various roles in the lives of older people. It strengthens existing social relationships and social structures. It also brings depth and fun to the social contacts of older people and in this way, enriches their social lives, for example through sharing photos and video's with network members, or by communicating and sharing emotional moments through Skype when network members live far away. Social technology, especially the smartphone, gives a sense of safety and peace of mind to the older people themselves but also to their network members. However, older people also experience barriers in the use of social technology, especially the usability. Older people don't want the social technology to stand in the way of face-to-face contact and in general do not use social technology to make new contacts. It seems that older people in that way have a thoughtful way of looking at social technology and the role it plays in their lives. In supporting and facilitating people's relationship with others, a community and society, technology helps to fulfil older people's need for connectedness, meaningfulness and independence. However, the relationship with independence is ambiguous, because in using the social technology they need help from network members. They often struggle with using the social technology. In conclusion social technology is mainly a friend for older people, but a complex friend with a high maintenance.

In Chapter 6 'How to fulfil social needs of older people; exploring design opportunities for technological interventions' design opportunities for technological interventions to fulfil social needs are presented. Context mapping sessions are carried out with the important and essential involvement of older people themselves and social workers. Results indicate that interventions should focus on the following three social needs: 'connectedness', 'independence' and 'meaningfulness'. Technology is addressed in relation to the above-mentioned three needs. Staying active in a meaningful way, for example by engaging in volunteer work, may fulfil the three needs of being connected, independent and meaningful. In addition, interventions can also focus on the need to be and remain independent and to deal with becoming more dependent. The older people in our study have an ambivalent attitude towards technology, which needs to be taken into account when designing an intervention. We conclude chapter 6 by making recommendations for possible technological interventions to fulfil social needs. Interventions can focus on connecting older people to other people, to a neighbourhood and to a community. For example special neighbourhood apps may facilitate the exchange of services and goods and connect people

in a neighbourhood. Technology can enable older people to engage in volunteer work, for example by giving relevant, clearly presented and understandable information about the volunteer work and activities available in the vicinity. Technology, for example smart algorithms, can help finding a good match between the interests and wishes of the older person and offered volunteer work. Also, Facebook, Skype and WhatsApp offer possibilities for older people to share stories and experiences and to offer support and comfort.

Our studies show that older people have a strong desire to be connected, to be independent and to feel meaningful; they feel the need to be needed. Older people want to be connected to both intimate network members as well as peripheral ones. The results of existing literature are confirmed in the sense that older people fulfil their social needs through their social relationships. To fulfil social needs older people engage in (social) activities. Personal circumstances like their home and neighbourhood and their financial situation, facilitate fulfilling social needs. The role of social technology in fulfilling the social needs of older people is that it strengthens existing social relationships, it enriches social contacts and it reassures both the older people and their network members. Using social technology can however also be frustrating in terms of usability. And older people have an ambivalent attitude towards social technology. Our studies result in implications for interventions to fulfil social needs, both technological and non-technological. For example to promote the active involvement of older people, to stimulate social contacts, to respect individual differences and to provide technological support for older people in using social technology.

Nederlandse samenvatting

In dit proefschrift wordt gekeken naar sociale behoeften van ouderen, hoe ze deze vervullen en welke rol sociale technologie speelt hierin. Ook worden implicaties voor interventies gepresenteerd. Het eerste deel van het proefschrift, wat bestaat uit de hoofdstukken 2, 3 en 4 focust zich op sociale behoeften. Het twee deel van dit proefschrift, wat bestaat uit de hoofdstukken 5 en 6 focust zich op sociale behoeften en sociale technologie.

Deel I: sociale behoeften

Het belang van sociale behoeften

Mensen zijn sociale wezens, ze leven in families, groepen en gemeenschappen. Voor de meeste individuen behoren sociale behoeften tot de meest belangrijke basis-behoeften. Ze komen in de bekende Pyramide van Maslow vlak na basale fysieke behoeften zoals eten en drinken en veiligheid. Sociale behoeften worden gedefiniëerd als basale menselijke behoeften zoals liefde, acceptatie en ergens bij horen. Ouderen vinden hun sociale behoeften en sociale leven erg belangrijk. Ouderen vinden soms hun sociale functioneren belangrijker dan hun cognitieve functioneren. Als ouderen sterke sociale banden hebben kunnen ze ook langer onafhankelijk blijven. Als ouderen hun sociale behoeften vervullen draagt dit in grote mate bij aan hun welbevinden. Ouderen vinden het vervullen van hun sociale behoeften belangrijk, maar vinden dit soms moeilijk om te doen vanwege verlies van gezondheid, mobiliteit of netwerkleiden. Voor ouderen en hun omgeving is het belangrijk om succesvolle interventies te ontwikkelen en te implementeren, om te helpen hun sociale behoeften te vervullen. Het beschermt hen tegen de nadelige effecten van eenzaamheid en sociale isolatie en is daarom interessant voor zowel humanistische als economische redenen.

Als sociale behoeften niet vervuld worden kan dit leiden tot sociale isolatie en/of eenzaamheid. Sociale behoeften en eenzaamheid en sociale isolatie zijn aan elkaar gerelateerd en zitten elk aan een andere kant van hetzelfde spectrum. Eenzaamheid is een subjectieve emotionele staat waarin mensen een gebrek ervaren aan (kwaliteit van) relaties, omdat het aantal relaties minder is dan gewenst of de intimiteit die iemand zoekt niet gerealiseerd kan worden. Sociale isolatie is een meer objectieve staat. Mensen met slechts een beperkt aantal betekenisvolle relaties zijn sociaal

geïsoleerd. Dit betekent niet automatisch dat ze zich ook eenzaam voelen. Ze voelen hun sociale behoeften niet of laten ze bewust onvervuld. Ze kiezen ervoor om niet deel te nemen. Zowel eenzaamheid als sociale isolatie hebben negatieve gevolgen voor een individu en kunnen leiden tot ziekte en zelfs voortijdig overlijden. Het vervullen van sociale behoeften heeft een beschermende invloed op het welzijn van ouderen. Interventies die sociale behoeften vervullen zijn daarmee belangrijk.

Het vervullen van sociale behoeften

Sociale behoeften worden vervuld door de relaties die mensen hebben. deze relaties kunnen veranderen als mensen ouder worden. Er zijn drie theorieën die de veranderingen verklaren op sociaal gebied wanneer mensen ouder worden; dit zijn de Social Convoy Model (SCM), de Socioemotional Selectivity Theory (SST) en de Social Production Function, Successful Ageing theory (SPF-SA). De SCM geeft aan dat mensen in hun leven ingebed zijn in persoonlijke netwerken van andere mensen, van wie ze sociale steun krijgen en aan wie ze sociale steun geven; dit worden convoys genoemd. Met het ouder worden wordt het aantal convoyleden minder, in het bijzonder neemt het aantal meer perifere leden af. De SST verklaart dat sociale netwerken van ouderen gevormd worden door bewegingen en/of veranderingen die gekenmerkt worden door een proces van selectiviteit en gemotiveerd door de emotionele doelen die ouderen hebben. De SCM en de SST geven beide aan dat het aantal netwerkleiden vermindert als je ouder wordt, vooral het aantal perifere leden, en dat ouderen de interacties met hun intieme netwerkleiden, zoals vrienden en familie behouden en/of verhogen. Het verschil van de beide theorieën ligt in de motivatie voor deze verandering van netwerksamenstelling. In de SCM komt het door de veranderde sociale rollen, bijvoorbeeld met pensioen gaan zorgt ervoor dat ouderen zich meer op familie en vrienden gaan richten. In de SST ontwikkelt de motivatie zich meer; met een verhoogd bewustzijn op het feit dat men minder tijd over heeft, willen mensen zich meer richten op betekenisvolle relaties. De derde theorie, de SPF-SA, verklaart de sociale relaties en sociale behoeften van ouderen en is een combinatie van een theorie van behoeften, doelen en bronnen. De SPF-SA identificeert drie sociale behoeften: affectie, gedragsconfirmatie en status. Om deze behoeften te vervullen hebben mensen verschillende bronnen en als mensen ouder worden, nemen de bronnen af. Bijvoorbeeld: de behoefte aan status kan vervuld worden met een betaalde baan, maar als mensen met pensioen gaan komt deze bron te vervallen. Affectie blijft op latere leeftijd het meest makkelijk te vervullen, dit is de behoefte aan onvoorwaardelijke liefde en vriendschap. Gedragsconfirmatie zit tussen beide behoeften in e wordt vervuld doordat je bijvoorbeeld bij een vereniging hoort, of bij mensen die hetzelfde denken over dingen als jezelf en bevestigen dat je het goede doet. Deze drie theorieën verklaren hoe en waarom sociale relaties

veranderen als men ouder wordt en zullen dienen om de resultaten van onze studies te interpreteren.

Een middel om sociale behoeften te vervullen is sociale technologie. Het tweede deel van dit proefschrift focust op sociale technologie en de rol die het kan spelen in het vervullen van sociale behoeften van ouderen. Technologie kan een ondersteunende rol spelen in het leven van ouderen en kan verschillende leefgebieden verbeteren of faciliteren en op die manier bijdragen aan de kwaliteit van leven van ouderen. Technologie kan sociaal zijn als dit het contact tussen mensen faciliteert. Email of videobellen bijvoorbeeld kunnen een manier zijn voor ouderen om met vrienden en familie te communiceren. Dit soort technologie noemen we sociale technologie. In dit proefschrift gebruiken we de definitie van Gartner wat betreft sociale technologie:

“Elke technologie die sociale interacties faciliteert en mogelijk wordt gemaakt door bijvoorbeeld het internet of een mobiele device.”

Sociale technologie faciliteert sociale processen door sociale software en sociale hardware. Voorbeelden van sociale software zijn bijvoorbeeld Facebook, email, wiki's, blogs en sociale netwerken. Voorbeelden van sociale hardware zijn apparaten zoals smartphones, tablets en computers, maar ook de ouderwetse telefoon. In een samenleving waar technologie een rol speelt op bijna elk onderdeel van het menselijk leven en mogelijk een rol kan spelen in het vervullen van sociale behoeften en het verbinden van generaties, is het interessant om te ontdekken welke rol technologie kan spelen in het sociale leven van ouderen. Het is interessant en relevant om te kijken hoe en op welke manier sociale technologie kan bijdragen aan het vervullen van de sociale behoeften van ouderen.

Interventies voor sociale behoeften

Er zijn veel interventies voor ouderen ontwikkeld en wereldwijd geïmplementeerd, bedoeld om het sociale welzijn van ouderen te verbeteren. Deze interventies zijn allemaal verschillend wat betreft hun focus, doelgroep en algemene organisatie. Ook verschillen ze in of er al dan niet gebruik gemaakt wordt van technologie. Ondanks dat er veel interventies zijn ontwikkeld, zijn er maar weinig geëvalueerd. En als ze zijn geëvalueerd, zijn ze vaak niet succesvol bevonden om verschillende redenen. Door de diversiteit van de populatie en de diversiteit van sociale behoeften matchen de interventies niet altijd met de behoeften van ouderen. Ook bereiken de interventies soms niet de ouderen die er het meest profijt van zouden kunnen hebben. Soms is het zelfs zo dat deelnemen aan een interventie gevoelens van eenzaamheid verhoogt, omdat ouderen, als ze weer alleen thuis zijn, zich dan extra

eenzaam voelen. Een interventie die voor iedereen werkt bestaat simpelweg niet. Er zijn echter enkele interventies die veelbelovend lijken, vooral die met een educatief karakter. Deze interventies focussen op het behouden en stimuleren van sociale netwerken. Voorbeelden van zulke interventies zijn lessen in gezondheidsbevordering en het faciliteren van de ontwikkeling van een ondersteunend sociaal netwerk.

Sociale technologie kan een middel zijn om in sociale behoeften te voorzien en technologische interventies kunnen dus veelbelovend zijn. Studies die de relatie tussen sociale technologie en het sociale leven van ouderen onderzoeken komen tot diverse, soms zelfs tegenstrijdige conclusies. In sommige onderzoeken wordt geen verband gevonden tussen het gebruik van sociale technologie en sociaal welbevinden. Andere studies zien een positief verband tussen ouderen van boven de 55 jaar die het internet gebruiken en verminderde sociale eenzaamheid als het werd gebruikt bij vrienden en familie. Als het internet gebruikt werd om nieuwe vrienden te maken resulteerde het in een verhoogde emotionele eenzaamheid. Systematische reviews die technologische interventies voor ouderen en hun effectiviteit evalueren laten zien dat sommige interventies effectief zijn en anderen niet. Technologische educatieve programma's die computertraining aanbieden en op deze manier bijvoorbeeld videogesprekken met vrienden en familie faciliteren zijn effectief bewezen. De bevindingen van deze studies suggereren dat, alhoewel het gebruik van sociale technologie om sociale behoeften van ouderen te ondersteunen veelbelovend is, de relatie tussen technologie en kwaliteit van sociaal leven complex is en meerdere facetten heeft.

Doel, design en opzet van het onderzoek

De doelgroep van dit proefschrift bestaat uit ouderen van boven de 70, omdat bij hen bronnen zoals gezondheid en mobiliteit vaak verminderen, en op die manier het vervullen van sociale behoeften minder makkelijk wordt. We kijken naar welke ondersteuners en barrières ouderen hebben om in hun sociale behoeften te voorzien. We willen ook weten wat de rol van sociale technologie is in het vervullen van sociale behoeften. We hebben ervoor gekozen om niet op eenzaamheid of sociale isolatie te focussen, maar op sociale behoeften om op deze manier een bredere en positieve focus te hebben en tot mogelijke nieuwe inzichten te komen. In hoofdstuk 3 hebben we ouderen geïnterviewd die risico lopen op eenzaamheid of sociale isolatie, maar in het algemeen hebben we ons ook in dit hoofdstuk gericht op de positieve aspecten van hun sociale leven; op hun sociale behoeften. Door het focussen op de meer positieve aspecten en op minder kwetsbare ouderen, verwachten we dat we nieuwe inzichten en een bredere scope kunnen geven op de ontwikkeling van succesvolle interventies.

De hoofdvraag van dit proefschrift is:

“Hoe kunnen ouderen ondersteund worden in het vervullen van hun sociale behoeften?”

Met de volgende deelvragen: 1) Wat zijn sociale behoeften van ouderen? 2) Hoe vervullen ouderen hun sociale behoeften? 3) Wat is de rol van sociale technologie in het vervullen van sociale behoeften? 4) Wat zijn implicaties voor interventies?

Dit proefschrift heeft twee onderdelen: deel I) Sociale behoeften en deel II) Sociale behoeften en sociale technologie.

In deel I focussen we op sociale behoeften van ouderen. Om de hoofdvraag te beantwoorden ‘Hoe kunnen ouderen ondersteund worden in het vervullen van hun sociale behoeften?’ moeten we eerst weten wat de sociale behoeften van ouderen zijn, hoe ze deze vervullen en welke belemmeringen ze hierin ondervinden. Op basis van deze informatie worden concrete aanbevelingen gedaan voor de ontwikkeling van interventies. We bespreken ook de ontwikkeling, implementatie en evaluatie van een interventie die ontwikkeld is op basis van onze onderzoeken.

In hoofdstuk twee van dit proefschrift hebben we een systematisch literatuuroverzicht uitgevoerd, om meer te weten te komen over wat er al bekend is over sociale behoeften van ouderen in de bestaande literatuur. De onderzoeksvraag is: *“Wat zijn sociale behoeften van ouderen en wat zijn implicaties voor interventies om sociale behoeften te vervullen?”*

Dit tweede hoofdstuk biedt inzichten in bestaande wetenschappelijke literatuur over de sociale behoeften van ouderen en is de basis waarop in de volgende hoofdstukken meer informatie wordt verzameld. Door inzicht te geven in de sociale behoeften van ouderen worden implicaties voor interventies gegenereerd. We voeren een systematisch literatuuronderzoek uit, welke resulteert in de analyse van veertien artikelen over de sociale behoeften van ouderen. We vinden dat de groep ouderen en hun sociale behoeften divers zijn. Ouderen hebben zowel behoefte aan intieme als aan meer perifere relaties. Ouderen willen verbonden zijn en hechten aan wederkerige relaties; ze willen graag iets bijdragen.

In hoofdstuk drie gaan we nog dieper in op de sociale behoeften van ouderen die risico lopen op sociale isolatie of eenzaamheid. We verwachten dat deze populatie het meest profijt heeft van interventies. De resultaten van hoofdstuk twee dienden als basis voor dit kwalitatief onderzoek. We onderzoeken welke sociale behoeften belangrijk zijn als je ouder wordt, hoe ouderen hun sociale behoeften vervullen en welke barrières ze tegenkomen. Alhoewel deze groep risico loopt op sociale isolatie of eenzaamheid, hebben we gefocust op hun sociale behoeften. We hebben ook gekeken naar de welke rol sociale technologie speelt in het vervullen van de sociale behoeften. De volgende vraag staat centraal:

“Hoe vervullen ouderen met een risico op eenzaamheid of sociale isolatie hun sociale behoeften?”

In deze studie hebben we negentien ouderen geïnterviewd over hun sociale behoeften, de barrières die ze ervaren en de rol die sociale technologie speelt. We vinden dat ouderen sociale behoeften hebben als affectie, gedragsconfirmatie en status, welke gebaseerd zijn op het eerder genoemde SPF-SA model. Alle drie de behoeften blijven belangrijk voor de ouderen, maar door verlies van bronnen (bijvoorbeeld gezondheid, mobiliteit en netwerkleden) worden gedragsconfirmatie en vooral status lastig te vervullen. De buurt en de burens worden als belangrijke bronnen gezien om sociale behoeften te vervullen. Sociale technologie speelt een bescheiden rol in het leven van deze ouderen, de meesten gebruiken het zelden of niet.

In hoofdstuk vier bespreken we een interventie die gebaseerd is op de onderzoeken uit hoofdstuk twee, drie en zes. De interventie heet Samsam en is een taalcafé waarin oudere vrijwilligers de Nederlandse taal leren aan expats, migranten en vluchtelingen. Elk week staat een ander thema centraal zoals bijvoorbeeld ‘Lente’ of ‘Eten’. De onderzoeksvraag is:

“Wat zijn de ervaringen van de oudere vrijwilligers met hun deelname aan Samsam en hoe beïnvloedt dit hun sociale behoeften?”

We vroegen zeven deelnemers van Samsam naar hun ervaringen en we beschrijven de implementatie, ontwikkeling en evaluatie van Samsam. De deelnemers geven aan dat Samsam bijdraagt aan een gevoel van verbondenheid, zowel met de anderstaligen als met de andere vrijwilligers. Ook voelen de ouderen zich betekenisvol door hun bijdrage aan Samsam. Ze vinden de organisatie van Samsam over het algemeen prettig, alhoewel ze niet elk wekelijks thema even goed vinden.

Deel 2: sociale behoeften en sociale technologie

Om de vraag te beantwoorden over hoe ouderen ondersteund kunnen worden in het vervullen van hun sociale behoeften, moeten we ook weten welke rol sociale technologie hierin kan spelen. Daarom zoomen we in het tweede deel van dit proefschrift in op de rol die sociale technologie speelt in het vervullen van sociale behoeften van ouderen. Op basis van context mapping sessies en bestaande literatuur over sociale technologie en sociale behoeften genereren we implicaties voor technologische interventies.

In hoofdstuk vijf beschrijven we de rol die sociale technologie speelt in het vervullen van sociale behoeften van ouderen. Dit hoofdstuk geeft inzichten in de mogelijkheden, maar ook de beperkingen voor dit middel om in sociale behoefte te voorzien. De onderzoeksvraag is:

“Wat is de rol van sociale technologie in het sociale leven van ouderen, die sociale technologie gebruiken en in het vervullen van hun sociale behoeften?”

We hebben vijftien interviews gehouden met ouderen die een vorm of meerdere vormen van sociale technologie gebruiken en we hebben gekeken op welke manier de sociale technologie helpt om sociale behoeften te vervullen. We vinden dat sociale technologie de bestaande sociale relaties van de deelnemers versterkt en verrijkt. Het zorgt ook voor een gevoel van veiligheid bij de deelnemers en hun familie, doordat ouderen altijd bereikbaar zijn met hun smartphone. Sociale technologie kan echter ook frustreren, doordat de deelnemers worstelen met het gebruik. Ook vinden ze dat sociale technologie soms in de weg staat van face-to-face contact. Om succesvolle interventies en producten te ontwikkelen die echt aansluiten bij de behoeften van ouderen is het essentieel om ouderen en stakeholders zelf te betrekken in het ontwikkelproces. In hoofdstuk zes presenteren we ontwerpmogelijkheden voor technologische interventies om sociale behoeften te vervullen. Dit op basis van context mapping sessies. Context mapping is een vorm van onderzoek doen waarbij de eindgebruiker actief wordt betrokken bij de ontwikkeling van producten en interventies, dit vaak met een aantal creatieve en interactieve sessies. De onderzoeksvraag is:

“Wat zijn ontwerpmogelijkheden voor technologische interventies om sociale behoeften te vervullen volgens ouderen zelf en sociaal werkers?”

Gebaseerd op context mapping sessies met 20 ouderen en verzorgers, biedt hoofdstuk zes concrete implicaties voor technologische interventies. We vonden dat ouderen vooral behoefte hebben aan verbondenheid, betekenisvolheid en onafhankelijkheid. Sociale technologie kan een rol spelen om in deze behoeften te voorzien. Het moet echter nooit het doel op zich zijn, maar een middel.

Algemene bevindingen

Zoals de resultaten van onze onderzoeken aangeven, hebben ouderen een sterke wens om verbonden te zijn, om onafhankelijk te zijn en om betekenisvol te zijn: om nodig te zijn. Ouderen willen verbonden zijn met intieme netwerkleden, maar ook met perifere netwerkleden.

Ouderen vervullen hun sociale behoeften door hun sociale relaties. Om behoeften te vervullen ondernemen ouderen allerlei sociale activiteiten. Persoonlijke omstandigheden zoals hun huis, hun buurt, hun financiële situatie en soms sociale technologie faciliteren het vervullen van sociale behoeften. De rol van sociale technologie in het vervullen van de sociale behoeften van ouderen is dat het bestaande contacten versterkt en verrijkt, sociale technologie stelt ook de ouderen

en hun netwerkleden gerust; het is een veilig gevoel om altijd bereikbaar te zijn met een smartphone. Sommige ouderen hebben problemen in het gebruik van sociale technologie en hebben een ambivalente houding ten opzichte van sociale technologie. Op basis van resultaten van onze onderzoeken komen we met implicaties voor zowel technologische als niet-technologise interventies.

Het vervullen van sociale behoeften

Onze onderzoeken tonen aan dat zowel intieme en perifere relaties de sociale behoeften van ouderen vervullen en belangrijk blijven, ook op latere leeftijd. De intieme relaties die de ouderen in onze onderzoeken hebben, zijn met familie en vrienden. De perifere relaties zijn vrienden van sport of vrije tijdclubs, vrijwilligerswerk, de kerk en bijvoorbeeld de aardige dame bij de drogist. Terwijl de meer intieme relaties liefde en geborgenheid brengen in het leven van ouderen, zorgen de perifere relaties voor gezelligheid, vriendschap en gelijkheid. Het contact met buren, wat intiem en perifeer kan zijn, zijn belangrijk voor ouderen. Buren bieden vriendschap, maar buren geven ook een gevoel van veiligheid; er is altijd iemand in de buurt als hulp nodig is. Een fijne en comfortabele buurt met sterke sociale structuren kan daarom een bron zijn voor het vervullen van sociale behoeften. De ouderen in ons onderzoek laten zien dat hun wereld vaak kleiner wordt, bijvoorbeeld door het verlies van mobiliteit. De wereld dichtbij, zoals een buurt, wordt daarom belangrijker.

Een belangrijk middel om sociale behoeften te vervullen zijn de sociale relaties en sociale netwerken die mensen hebben. Er zijn drie theorieën die verklaren hoe en waarom sociale netwerken veranderen als mensen ouder worden: het SCM, de SST en de SPF-SA. De ouderen in onze onderzoeken hebben hun sociale convoys en deze convoys veranderen omdat de sociale rollen van ouderen veranderen, bijvoorbeeld doordat ze met pensioen gaan (SCM), alsook hun kijk op het leven en hun prioriteiten (SST). Beide modellen passen gedeeltelijk bij de resultaten van onze onderzoeken. Als je kijkt naar het onderscheid tussen perifere en intieme netwerkleden, dan verklaren de SCM en SST dat ouderen zich meer focussen op intieme netwerkleden door selectiviteit (SST) of veranderende sociale rollen (SCM). In onze onderzoeken wordt duidelijk dat je het belang van perifere relaties niet moet onderschatten. Bijvoorbeeld het dagelijkse praatje met de buurman over het weer is belangrijk voor ouderen om zich verbonden te voelen. De SPF-SA verklaart dat de behoefte aan status en gedragsconfirmatie, welke vooral vervuld worden door perifere relaties, nog steeds belangrijk zijn voor ouderen. Ze zijn echter moeilijker te vervullen door verlies van bronnen, bijvoorbeeld gezondheid of mobiliteit. Onze resultaten komen het meest overeen met de SPF-SA, omdat ouderen hun perifere netwerkleden

blijven waarderen, maar door verlies van bronnen het aantal perifere netwerkleden kan dalen. De drie sociale behoeften die de SPF-SA identificeert, namelijk status, gedragsconfirmatie en affectie, corresponderen grotendeels met onze bevindingen. De behoefte voor status en gedragsconfirmatie correspondeert grotendeels met de behoefte aan betekenisvolheid en onafhankelijkheid. De behoefte aan affectie komt grotendeels overeen met de behoefte aan verbondenheid.

Onze onderzoeken tonen het -wellicht voor de hand liggende, maar belangrijke - feit dat de populatie ouderen erg heterogeen is. Hun sociale behoeften en de manier waarop ze deze vervullen zijn divers. Sommige deelnemers van onze onderzoeken hebben vrij kleine sociale behoeften die makkelijk te vervullen zijn, bijvoorbeeld het wekelijkse praatje met de buurman of buurvrouw. Andere deelnemers hebben een actief sociaal leven nodig met een variëteit aan netwerkleden en aan activiteiten. Bijvoorbeeld een van de meer actieve deelnemers die voorzitter is van de postzegelverzamelaars en betrokken is bij het organiseren van carnaval; hij past ook wekelijks op zijn kleinzoon. De sociale behoeften van de deelnemers lijken congruent te zijn gedurende hun leven en veranderen niet veel als men ouder wordt. De actieve deelnemer had altijd al een actief sociaal leven; als zijn gezondheid of mobiliteit in de toekomst wellicht zal veranderen, zal hij meer moeite hebben zijn sociale behoeften te vervullen. Sociale behoeften veranderen niet veel, alleen de bronnen die iemand heeft veranderen, wat correspondeert met de SPF-SA. Voor ouderen kan dit betekenen dat als bronnen verminderen, sociale behoeften moeilijker worden te vervullen. De bronnen die het meest afnemen zijn gezondheid en netwerkleden (omdat ze overlijden). Het wordt bijvoorbeeld moeilijker om je sociale behoeften te vervullen als je moeilijker het huis uitkomt. Wat ook duidelijk wordt, is dat als er een discrepantie is tussen het vervullen van sociale behoeften in het verleden en heden, eenzaamheid of sociale isolatie kan optreden. Een van de deelnemers van onze onderzoeken had altijd een actief sociaal leven. Ze had een eigen zaak en veel vrienden. Toen haar man ziek werd en zij voor hem ging zorgen, verloor ze een heel aantal van deze vrienden. Na een lang ziekbed overleed haar man. Ze verloor niet alleen haar man, maar ook een deel van haar vrienden. Deze deelnemer voelde zich eenzaam, omdat er een grote discrepantie was tussen haar sociale leven in het verleden en het heden waar ze gezelschap mist en iemand om mee te praten.

Het belang van wederkerigheid

Wederkerigheid is een belangrijk concept gebleken in al onze onderzoeken. Onze onderzoeken tonen aan dat wederkerigheid de lijm is die mensen met elkaar, met een buurt en met een maatschappij verbindt. Wederkerigheid wordt erg gewaardeerd

door de deelnemers van onze onderzoeken. Ouderen willen niet alleen vriendschap, gezelschap en liefde ontvangen, maar ook geven. Ze hebben het nodig om nodig te zijn. Wederkerigheid zorgt ervoor dat een persoon zich minder afhankelijk voelt en draagt daarmee bij aan een gevoel van onafhankelijkheid. Veel deelnemers geven aan dat ze een doel en betekenis vinden in het helpen van anderen, bijvoorbeeld hun vrienden, familie of in het doen van vrijwilligerswerk. Voor toekomstig onderzoek en voor het ontwerpen en implementeren van succesvolle interventies is wederkerigheid een concept om rekening mee te houden.

Participatie van ouderen

Onze onderzoeken tonen aan dat niet zozeer sociale behoeften veranderen, maar wel de bronnen om in deze behoeften te voorzien. Ondanks de soms negatieve perceptie van een maatschappij ten opzichte van haar ouderen, wordt het uit onze onderzoeken duidelijk dat ouderen graag hun steentje willen en kunnen bijdragen. Met hun levenservaring en wijsheid is het wonderlijk dat de talenten van ouderen niet vaker en effectiever worden ingezet. In bijna al onze onderzoeken wordt de (politieke) engagement van de ouderen duidelijk, met name in hoofdstuk vier. In dit hoofdstuk bespreken we de ontwikkeling, implementatie en evaluatie van een interventie om sociale behoeften te vervullen. De ouderen voelen een sterke drang om verbonden te zijn met wat er gebeurt in de wereld. Helaas worden ouderen op bijvoorbeeld politiek gebied nog niet altijd actief betrokken. Men kan leren van de geschiedenis en van het verleden, en wat is dan beter dan mensen te betrekken die in dat verleden hebben geleefd en ons erover kunnen vertellen en ons erover onderwijzen? We kunnen de talenten van ouderen veel effectiever inzetten, zoals bijvoorbeeld gemeenschappen in de blue zones doen. Blue zones zijn gebieden in de wereld, waar mensen significant langer leven, dit door een gezonde en actieve levensstijl, maar ook door de sociale rol die ouderen vervullen. Voorbeelden van blue zones zijn bijvoorbeeld Okinawa in Japan en een deel van Sardinië. Een belangrijke reden voor de vele gelukkige mensen in de blue zones is de manier waarop ze behandeld worden. Hoe ouder men daar wordt, hoe meer gerespecteerd ze worden, en dat heeft positieve gevolgen voor het welbevinden van deze ouderen.

Sociale technologie

In de onderzoeken die kijken naar de rol van sociale technologie, zien we dat dit over het algemeen een bescheiden rol is, als het gaat om het vervullen van sociale behoeften. De deelnemers die een computer hebben gebruikt deze vooral om infor-

matie op te zoeken en minder voor sociale doeleinden. De voornaamste reden dat ouderen de technologie niet gebruiken is dat er simpelweg geen directe noodzaak toe is. De ouderen die wel sociale technologie gebruiken ervaren barrières in het gebruik en de bruikbaarheid. Ze hebben soms ook het gevoel dat sociale technologie ervoor zorgt dat ze achterlopen bij de rest. Dit zorgt niet altijd dat ze het dan wel gaan gebruiken, maar vaak voor een gevoel van frustratie

In het onderzoek wat specifiek ingaat op de rol die sociale technologie speelt in het leven van ouderen die het gebruiken, wordt duidelijk dat sociale technologie sociale relaties kan versterken en faciliteren. Sociale technologie versterkt bestaande sociale relaties, door de contacten frequenter en makkelijker te maken. Het verrijkt ook de sociale contacten, doordat het visueel materiaal toevoegt, bijvoorbeeld foto's en video's kunnen makkelijk gedeeld worden. Sociale technologie stelt ouderen en hun familieleden gerust doordat het makkelijk is om contact te maken, wanneer hulp nodig is. Sociale technologie heeft een positief effect op sociale steun en sociale verbondenheid en kan soms sociale isolatie voorkomen. Technologie kan van waarde zijn, maar er zijn ook negatieve aspecten. De meeste ouderen geven aan dat ze soms het idee hebben dat sociale technologie in de weg staat van echt menselijk contact. Speciaal op sociaal gebied draagt technologie niet altijd bij aan een beter sociaal leven. Sociale technologie brengt een risico van ongewenst sociaal gedrag online met zich mee, zoals bijvoorbeeld digitaal pesten, en ook is er kans op bijvoorbeeld phishing en online fraude. Sociale technologie kan een krachtig middel zijn voor sociale interventies, maar het moet bijvoorbeeld niet face-to-face contact vervangen, zoals ook enkele deelnemers uit onze onderzoeken aangaven. We stelden vast dat de ouderen een bedachtzame houding hebben ten opzichte van sociale technologie. Ze gebruiken het om bestaande sociale contacten te versterken en verrijken. Ze laten sociale technologie niet het face-to-face contact vervangen en raken geïrriteerd als hun (klein) kinderen de hele tijd op hun smartphone zitten, wanneer ze op bezoek zijn.

Implicaties voor interventies

Om de hoofdvraag te beantwoorden: "Hoe kunnen oudere mensen ondersteund worden in het vervullen van hun sociale behoeften?" eindigen we deze samenvatting met het beschrijven van enkele implicaties voor interventies. In tabel 1 staan de praktische implicaties gebaseerd op alle onderzoeken in dit proefschrift. In het algemeen kunnen interventies het beste focussen op het vervullen van de sociale behoeften van verbondenheid, betekenisvolheid en onafhankelijkheid. Ook wederkerigheid is een belangrijk concept om in acht te nemen e zorgt dat de drie sociale behoeften vervuld kunnen worden. De onderzoeken tonen aan dat het helpen van

anderen, door bijvoorbeeld het doen van vrijwilligerswerk de behoefte aan betekenisvolheid kan vervullen, maar ook die van verbondenheid en onafhankelijkheid. Als men interventies ontwikkelt dient men altijd de heterogeniteit van de populatie in acht te nemen en de individuele verschillen te respecteren. Een belangrijke overweging is dat de rol in de samenleving van mensen verandert als ze ouder worden. Onze resultaten geven aan dat ouderen in het algemeen profiteren van actieve deelname in het leven van anderen, in een buurt of gemeenschap. Een van de deelnemers zei: *“Ik ben erg dankbaar dat ik zoveel mensen kan helpen”*

Er zijn verschillende perspectieven op de rol die ouderen spelen in een maatschappij en of ze actief betrokken moeten blijven en moeten bijdragen aan een samenleving. Sommigen zeggen dat ouderen niet deze actieve rol dienen te vervullen. Deze onderzoekers geven aan dat er nooit een economisch of politiek gewin mag zijn in het betrekken van ouderen en dat ouderen niet mogen worden gebruikt. Ook geven zij aan dat als je alleen op de positieve aspecten van ouder worden focust, dat ouderen die niet aan deze standaard kunnen voldoen zich miskend of genegeerd voelen. We zijn het hier mee eens, maar onze onderzoeken geven aan dat het voor een grote groep ouderen wel degelijk belangrijk is om betekenisvolle levens te hebben en dat bijdragen aan het leven van anderen of aan een gemeenschap deze behoefte kan vervullen. De meeste deelnemers van onze onderzoeken waren redelijk actief en geëngageerd en dit kan invloed hebben gehad op de resultaten. Elke oudere moet vrij zijn om het leven te leven wat hij/zij wil, dus interventies zullen op de persoon afgestemd moeten zijn. We zullen de mogelijkheden van elke oudere in overweging moeten nemen en een balans zoeken, waarbij we ouderen vragen te participeren, maar ze niet onder druk zetten dit te doen. In onze onderzoeken is het stimuleren van ouderen om betekenisvolle activiteiten te gaan ondernemen een veelbelovende interventie volgens henzelf. Succesvolle activiteiten waarin ouderen hun talenten kunnen inzetten zijn bijvoorbeeld naaien en breien, een repair café en ook het deelnemen aan raadsvergaderingen en gemeentepolitiek. Samsam, het taalcafé is natuurlijk ook een goed voorbeeld van een plek waar ouderen hun talenten kunnen inzetten. Het verbindt ouderen met de andere vrijwilligers en met de studenten. De ouderen in onze onderzoeken willen liefst niet behandeld worden als een aparte of kwetsbare groep; ze genieten van de intergenerationele contacten met hun (klein)kinderen en bijvoorbeeld met de studenten van Samsam. Initiatieven waar sociale cohesie in een buurt of gemeenschap worden gestimuleerd lijken daarom ook veelbelovend.

Technologie in interventies moet altijd een middel zijn en geen doel op zich. Het kan een middel zijn om ouderen te verbinden met anderen, of met een gemeenschap. Het kan helpen om ouderen zich onafhankelijk, autonoom en betekenisvol te laten voelen. Maar ouderen ervaren ook nadelen aan het gebruik van sociale technologie,

zeker in het gebruikersgemak. Technologische interventies kunnen zich bijvoorbeeld focussen op het helpen van ouderen in het gebruik van de hardware en software.

Tabel 1: implicaties voor interventies voor ouderen

Focus op verbondenheid, onafhankelijkheid en betekenisvolheid

Stimuleren van actieve betrokkenheid

- ouderen zelf betrekken bij creëren en implementeren interventies
- focus op vrijwilligerswerk; ouderen willen bijdragen
- focus op vrije tijdsactiviteiten: ouderen willen actief blijven en lol hebben
- focus op buurt- of gemeenschapsactiviteiten
- maak wederkerigheid mogelijk: ouderen prefereren wederkerige relaties

Respect

- respecteer individuele verschillen
- spreek de talenten en vaardigheden van ouderen aan
- creëer intergenerationale initiatieven: ouderen worden liever niet als aparte groep behandeld
- focus op onafhankelijkheid: ouderen willen zo actief en onafhankelijk blijven zo lang mogelijk is
- ben alert op en voorkom roddelen op plaatsen waar ouderen samen komen en samen leven

Stimuleer sociale contacten

- focus op het creëren van zowel intieme als perifere relaties
- stimuleer buurtinitiatieven: contacten met burens worden zeer gewaardeerd en zijn goed voor het welbevinden
- faciliteer bijeenkomsten op plekken zoals cafés en kerken

Gebruik van technologie

- Focus op het versterken en verrijken van bestaande contacten
- ondersteun de eerste stap richting sociale technologie
- zorg voor ICT ondersteuning in zorg- en buurtcentrums
- besteed aandacht aan vertrouwen en veiligheid: bijvoorbeeld informeer ouderen in veiligstellen van hun privacy en het gevaar van phishing
- betrek ouderen in de ontwikkeling en implementatie van technologische interventies
- respecteer individuele verschillen en attitudes

Nawoord en dankwoord

Sociale behoeften en sociale technologie in tijden van de Corona crisis

De onderwerpen van mijn proefschrift kwamen de afgelopen maanden, tijdens de Corona crisis in een nieuw daglicht te staan. De begrippen verbondenheid, sociale relaties en sociale behoeften, maar ook sociale technologie kregen een nieuwe lading en een nieuwe noodzaak. Benadrukt werd hoe verbonden we zijn zowel offline als online. En hoe belangrijk deze verbondenheid is voor ons allemaal. Maar er bleek ook hoe gevaarlijk onze fysieke verbondenheid is, in plaats van sociale verbondenheid werd social distancing, oftewel sociale afstand, de norm. Een duivels dilemma volgde: gezondheid of verbondenheid.

Vooralsouders werden geraakt door de crisis en vooral zij werden geïsoleerd van hun vrienden en familie. Oudere mensen gaven soms aan liever aan Corona te sterven dan eenzaam te sterven, dus liever verbondenheid dan gezondheid. Dit geeft het belang aan van menselijk contact, aan liefde, vriendschap en verbondenheid, maar ook aan het belang van het dagelijkse praatje over het weer of over politiek. Het dagelijkse menselijk contact wat ervoor zorgt dat je gezien wordt en gewaardeerd wordt, dat je nodig bent voor de mensen in je omgeving. Als je niet in relatie staat tot anderen brokkelt je identiteit langzaam af. Ouders zijn niet alleen ouders, maar ook partner, moeder, vader, broer, zus en vriend of vriendin, buurvrouw of buurman. Anderen bepalen wie je bent, hoe jij jezelf ziet. Als dit wegvalt blijft er niet veel over. Verzorgers gaven aan hoe essentieel bezoek is voor de ouders, juist om te zijn wie je bent, of dat nu moeder, zus of vriendin is. Ouders gaven aan “ik vind er niks meer aan nu” en sommigen zeiden “overlijden is niet erg, eenzaamheid is erg”.

Toen mensen van elkaar werden geïsoleerd bleek sociale technologie een grote rol te spelen om mensen met elkaar te blijven verbinden. Sociale technologie werd een belangrijk middel om te blijven communiceren en in contact te blijven met vrienden en familie. Het zou interessant zijn om te kijken hoe de rol van sociale technologie is veranderd na de Corona crisis. Ik denk dat het voor ouders die het gebruiken een belangrijk en onmisbaar middel werd om in hun sociale behoeften te voorzien.

Tijdens de crisis kwamen de ouders noodgedwongen achter de geraniums te zitten, dit terwijl de resultaten uit mijn onderzoek aantonen dat dit waarschijnlijk niet de beste manier is om je oude dag door te brengen. De geraniums zijn gebruikt voor de opmaak van dit proefschrift om deze reden; ouders kunnen beter voor (niet achter) de geraniums plaatsnemen en midden in de maatschappij staan. De keuze

voor geraniums heeft ook te maken met hoe kleurrijk en divers ouderen zijn. Ouderen worden nu vaak genoemd als één groep en dan vaak in de termen 'oud en kwetsbaar' terwijl juist ouderen dankzij hun persoonlijke ervaringen veel van elkaar verschillen. Ouderen hebben natuurlijk hun kwetsbaarheden, maar ze zijn vooral erg krachtig en ze willen ertoe doen. Op televisie heb ik een oudere vrouw horen zeggen in de Corona crisis: "Ik leef, lees, kijk naar Netflix, ik FaceTime. Ik wil niet neergezet worden als dor oud hout". De emancipatie van ouderen is de laatste jaren wel ingezet, maar heeft nog een lange weg te gaan. De corona crisis doet deze emancipatie geen goed; ouderen worden weer als één groep weggezet en gestigmatiseerd. Een lichtpuntje hierin is dat de Britse actrice Judi Dench deze maand (mei 2020) op de cover van de Britse Voque staat. Judi Dench is 85 jaar oud.

Pride and Prejudice

Ongeveer 6 jaar geleden begon ik met dit onderzoek naar sociale behoeften, sociale technologie en interventies. De begrippen klinken vrij abstract, maar werden gedurende mijn promotie traject erg concreet. Mensen zijn sociale wezens en niet gemaakt om geïsoleerd te zijn. Onze identiteit wordt bepaald door de relatie die we hebben met anderen, door de manier waarop andere mensen ons zien en ons waarderen. Onze diepste wens is gezien te worden, nodig te zijn.

Het omzetten van abstracte wetenschappelijk termen naar concrete gedragingen en resultaten is iets wat ik belangrijk vind en wat ik mijn studenten ook meegeef, vooral tijdens het afstuderen. Ga niet te abstract denken en rapporteren, dan weet je op een gegeven moment niet meer waar je het over hebt. Onderzoek gaat over echte mensen, echte situaties en echte gedragingen; maak het concreet! Het fijne aan dit promotieonderzoek vind ik juist het concrete; het gaat over het echte leven. Dat er geen abstract model of theorie uit mijn onderzoek komt heeft ook daarmee te maken. Ik raak zelf altijd een beetje de draad kwijt als ik een ingewikkeld model zie met verschillende factoren en pijlen in allerlei richtingen. Dus gelukkig komt er geen ingewikkeld model uit dit onderzoek, maar wel concrete resultaten en conclusies en praktische aanbevelingen, hopelijk direct toepasbaar in de dagelijkse praktijk.

In de afgelopen jaren heb ik veel geleerd over het onderwerp van mijn proefschrift, over onderzoek doen, maar ook over mezelf. Ik heb geleerd dat ik het fantastisch vind om onderzoek te doen, om te analyseren, te puzzelen en mijn gegevens te vertalen naar een bredere context. Om te filosoferen en verbanden te leggen. Onderzoek doen is gewoon heel erg leuk en past goed bij mij. Maar zoals wellicht vele promovendi kunnen beamen, is het promoveren niet altijd makkelijk, zowel inhoudelijk niet als procesmatig. Je komt jezelf nogal eens tegen. Ook kom je

mensen tegen die anders in het leven staan dan jij. Wat ik heb geleerd over mezelf is dat ik een beetje lucht, warmte en humor nodig heb om me heen. Ik heb het nodig om mezelf en anderen niet altijd te serieus te nemen. Onderzoek doen is een serieuze zaak, maar ik denk dat onderzoeken en onderzoekers gebaat zijn bij een beetje humor en relativiseringsvermogen.

De afgelopen jaren heb ik wat lopen mopperen over wat ik 'het academische wereldje' noem. De eerste jaren van mijn promotie zat ik één dag per week in Tilburg op de universiteit (Tranzo). Ik voelde me anders, voelde me er niet altijd thuis. Ik kon niet goed tegen de stilte en de serieuzeheid (als dat een woord is). Ik miste wat kleur, levendigheid en vooral het vermogen tot zelfrelativering. Ik had de stiekeme wens om de gang op te gaan en een bepaald woord te roepen (wat bekend is bij een klein aantal van jullie) om de boel wakker te schudden, maar ook mijn eigen frustratie kenbaar te maken. Achteraf besef ik dat ik me ook meer open had kunnen stellen en zelf ook met een aantal vooroordelen zit. Ik kan wat dat betreft een voorbeeld nemen aan de ouderen die ik heb gesproken en die juist openstaan voor anderen en zich op die manier verbinden.

Ik ben sowieso erg dankbaar dat ik onderzoek mag doen bij Fontys (HRM en P) en bij het lectoraat Mens en Technologie. Er is ruimte om onderzoek te doen naar wat er leeft in de maatschappij, ik voel me er thuis en kan er groeien zowel als onderzoeker als persoon. De waardering die ik daar krijg van collega's en studenten heeft me vaak door moeilijke momenten gesleept.

Het dieptepunt in mijn promotietraject was vorig jaar toen ik hoorde dat mijn artikel (hoofdstuk 4) over Samsam niet ingediend mocht worden. Niet indienen en publiceren zou betekenen dat ik feitelijk helemaal opnieuw zou moeten beginnen. Zonder dit artikel, deze interventie zit er namelijk geen logica meer in mijn onderzoeken en in het proefschrift. Ik ben toen bijna gestopt met het hele promotie traject. Ik zag het niet zitten om helemaal opnieuw te beginnen. Na een nachtje piekeren besloot ik dat ik zelf genoeg in het artikel en onderzoek geloofde om het bij een *journal* in te dienen. Mocht het niet geaccepteerd worden had ik vrede met het besluit van mijn begeleiders. Gelukkig mocht ik het artikel indienen van mijn begeleiders. Het artikel werd geaccepteerd met *minor revisions* in een gerenommeerd *journal* en stond een paar weken later online. Dat gaf me een enorme boost in mijn zelfvertrouwen en weer genoeg energie om door te gaan. Eerlijk gezegd gaf het me ook een heerlijke genoegdoening en het fijne gevoel dat je soms krijgt als je gelijk hebt/krijgt. Ik zou iedereen, maar vooral elke onderzoeker willen meegeven dat het in orde is om een beetje eigenwijs te zijn en ook dat je in jezelf moet blijven geloven, ook al doen anderen dat om je heen niet altijd.

Wie wil ik graag bedanken

Allereerst wil ik natuurlijk de ouderen en deelnemers aan mijn onderzoeken noemen. Bedankt lieve en sprankelende ouderen, bedankt voor jullie humor, liefde en levenslust. Bedankt voor de mooie gesprekken, die mij hebben geraakt en geïnspireerd.

Katrien en Janienke wil ik bedanken voor hun sterke inhoudelijke feedback. Hun feedback heeft ervoor gezorgd dat elke keer net de laatste puzzelstukjes op hun plaats vielen. Hun feedback heeft in grote mate bijgedragen aan de kwaliteit van de artikelen en het proefschrift. Janienke wil ik bedanken voor de vrijheid en het vertrouwen wat ze me geeft bij het lectoraat. Ook voor het feit dat ze me er af en toe aan herinnert dat het lectoraat Mens EN Technologie is, en niet alleen het lectoraat Mens.

Het werken met studenten is naast onderzoek doen een van de mooiste aspecten aan mijn werk als docent/onderzoeker. Het is ontzettend leuk om samen met studenten onderzoek te doen. Ik heb genoten van de samenwerking met Danielle, Marieke en Jimmy. Bedankt voor jullie waardevolle bijdrage aan mijn proefschrift. Ook de andere studenten waarvan ik opdrachtgever mocht zijn, wil ik graag bedanken voor hun leergierigheid en hun enthousiasme.

Ik wil heel graag Lotte de Haan bedanken voor de vertaling van mijn resultaten in de mooie interventie van Samsam. Lotte wat ben je toch een sprankelende en creatieve persoonlijkheid. Je hebt echt iets relevants en waardevols neergezet met Samsam. De studenten en docenten van het SIC Zorg en Welzijn houden al een aantal jaren Samsam met enthousiasme draaiende. Bedankt hiervoor.

Bedankt, Mariëlle, voor je praktische, inhoudelijke en morele steun. Jij helpt me altijd als ik weer een rare tabel heb die niet doet wat ik wil of allerlei andere technologische mysteries waar ik geen wijs uit kan. Je bent een multitalent en ook nog eens ontzettend aardig en lief.

Bedankt lieve Oikos Ouzo&Sirtaki vriendinnen en collega's, Liesbeth, Esther, Martje en Ellen. Bij jullie kon ik mijn hart luchten over moeilijke momenten en moeilijke mensen (en daar reken ik mezelf soms ook toe). Laten we nog veel witte wijn drinken en heerlijk kletsen over belangrijke en minder belangrijke zaken des levens.

Bedankt lieve vriendinnen, die ik al bijna mijn hele leven ken, en paranimfen, Marije (mijn mede boerenhippie) en Marysia. Bedankt ook leuke en lieve collega en speciale (reserve) paranimf Muriel. Ik hoop dat we elkaar allemaal snel weer face-to-face kunnen ontmoeten. Ilse, jij bedankt dat je zo'n fijne collega bent en goede onderzoeker, je hebt altijd tijd en interesse, ongeacht hoe druk en zwaar je het zelf hebt.

Mijn moeder en schoonmoeder heb ik vaak in gedachten gehad bij het doen van mijn onderzoek, omdat ze online (schoonmoeder) en offline (moeder en schoon-

moeder) sociaal verbonden zijn en hun leven actief, onafhankelijk en betekenisvol leiden. Bedankt voor het geven van deze inzichten.

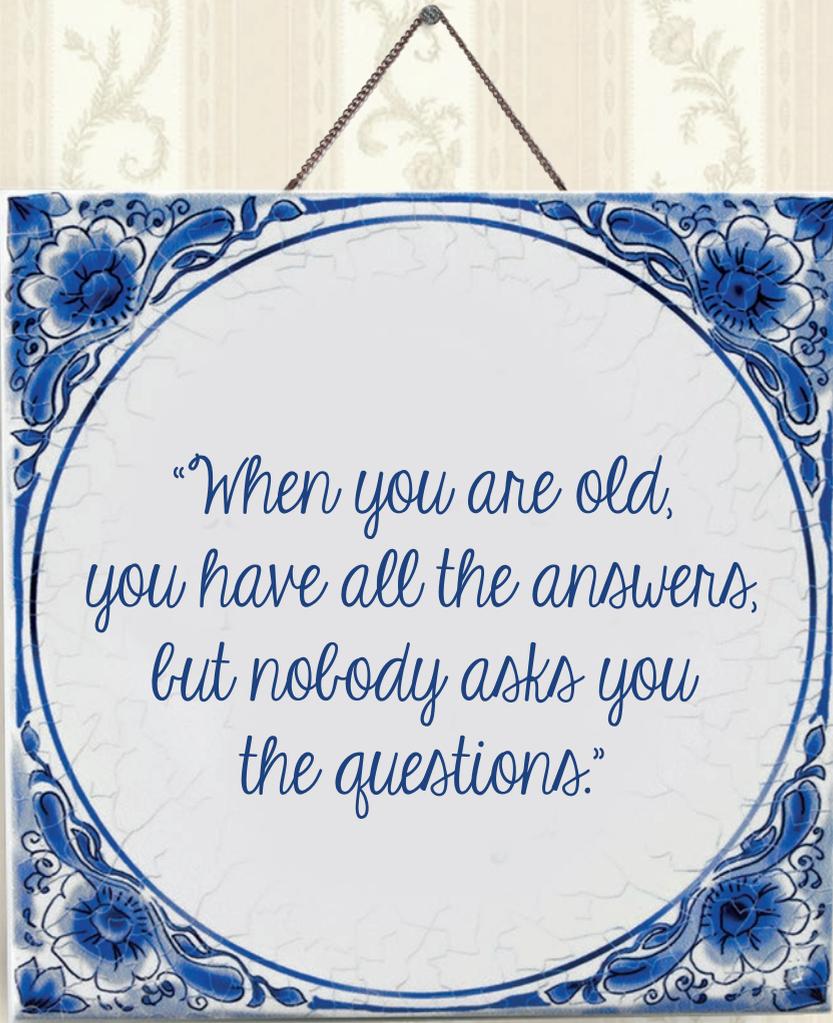
Piet, we kennen elkaar al ons halve leven en we hebben een goed leven opgebouwd samen. We genieten van dezelfde dingen en jij brengt rust in mijn soms wat turbulente karakter. We hebben een mooi (t)huis en de drie meest geweldige kinderen die er bestaan.

De grote liefdes van mijn leven, Teun, Gijs en Puck. Jullie zijn zo lief en geweldig en zorgen dat ik me elke dag verbonden en betekenisvol voel. Ik hoop dat jullie goed voor me willen zorgen als ik een oud dametje ben!

Curriculum Vitae

Tina ten Bruggencate

Tina ten Bruggencate was born on the 21st of November 1973 in Sint Oedenrode. She graduated in 1992 from pre-university education at the Eemland college in Amersfoort. In 1994 she started the master Clinical Neuropsychology at Tilburg University, where she graduated in 1998. After that she worked on different locations and in different functions. Among others she worked in Lyon (France) for the ANWB. In 2004 she started to work as a publisher of neuropsychological and clinical tests for Pearson in Amsterdam. In 2008 she moved to Eindhoven and started to work as a professor at the bachelor of applied psychology at the institute for HRM and Psychology at the Fontys university in Eindhoven. In 2012 she, alongside her work as a professor, started as a researcher at the Research Group People & Technology. She began her research about social technology and social needs of older people. In 2014 she began her PhD on this subject in collaboration with the Department of Tranzo, School of Social and Behavioral Sciences at the Tilburg University. Tina still combines her work as a professor with doing research at the Research Group People & Technology.



*“When you are old,
you have all the answers,
but nobody asks you
the questions.”*