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Aging in multilingual Netherlands

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CHAPTER 1

Introduction

In the coming decades, the population in the western world will grow increasingly older as a result of increased life-expectancies and dropping fertility rates (Kalache et al., 2005). In the Netherlands alone, the proportion of older adults will rise from 18% in 2017 to 26% in 2060, with the increase being especially noticeable in the proportion of oldest adults (i.e. individuals over the age of 80) (CBS, 2017). At the same time, global migration over the course of the twentieth century has resulted in increased ethnic and cultural diversity, which will be increasingly reflected in the older population in the coming decades (Longino et al., 2005; Torres-Gil and Moga, 2002). In the Netherlands, 28% of the older population in 2060 will be comprised of older migrants (CBS, 2017). As a result of this diversity, society will become increasingly multicultural and multilingual.

Optimal aging will be high on the agenda of aging societies in the coming decades. The European Commission has identified aging as one of the greatest social and economical challenges for the 21st century (EC, 2015). Indeed, as the costs and needs of caring for the expanding older population will rise, insights into how society may promote the aging of individuals in the most optimal way become increasingly important. Recently, research on aging has become increasingly attentive to the idea that cognitive enrichment – boosting cognitive abilities – is an effective strategy to facilitate optimal aging for healthy individuals (Ienca et al., 2018). Speaking multiple languages has been put forward as one such cognitively effortful event that enhances overall cognitive abilities. In a globalising

environment, the ability to speak multiple languages obviously holds communicative advantages. However, if multilingualism is indeed a cognitively beneficial life-experience, it may inform programmes and schemes to promote multilingualism across the lifespan as a tool to ward off or delay the onset of cognitive decline (cf. Bialystok et al., 2016).

But far from only advantageous, an increasing multilingual society also poses challenges for older adults for whom the main language is different from the dominant language in the environment. This has been vastly underresearched. This is especially the case if their command of this language is limited (Meuter et al., 2015). Whereas multilingualism may on the one hand boost brain functioning, it can impede the maintenance of a high sense of wellbeing when a lack of language knowledge prevents participation in social activities and access to society's aging provisions. Moreover, such a decline in wellbeing may trickle down on cognitive functioning (cf. Shankar et al., 2013). A full account of multilingualism and aging should take both facets into account. This thesis presents such a complementary perspective: the chapters explore multilingual experiences in relation to cognitive aging processes in a group of older multilingual adults, as well as in relation to health and wellbeing outcomes in a group of older migrant adults.

Indeed, up until now, multilingualism and cognitive aging have been studied in relative isolation from the multilingual society in which this aging takes place. Moreover, studies on multilingual populations often include a very specific subset of language users, through which positive results are not always replicated in other studies, using other multilingual populations. In recent years, this has led to a heated discussion on the existence of the so-called bilingual advantage (Antoniou, 2019). In contrast to monolinguals, the continuous monitoring and inhibiting of one of the languages in the bilingual mind is suggested to allow bilinguals to train their domain-general cognitive control mechanism. This enhanced cognitive control would in turn facilitate faster performance on tasks measuring certain aspects of executive functions, most notably inhibitory or attentional control. Studies on between-group comparisons, however, do not consistently reveal that bilinguals outperform monolinguals on these cognitive control tasks, because of the many confounding variables involved (e.g., Paap et al., 2015). In addition, much is still unknown about the mechanisms underlying bilingual language control (see for example Hartsuiker, 2015).

As a contrast, it is very rare for studies on the health status of older migrants to systematically investigate the influence of language on the migrants' aging processes. This is striking, as studies do reveal that a low proficiency in the host language is often a limiting factor in communicating about health and emotions (e.g., De Maesschalck et al., 2011). Healthcare provisions in western societies are typically geared towards highly proficient users of the dominant language. Even for native speakers with low-literacy abilities in the L1, health status may be impaired through insufficient ability to clearly communicate their healthcare needs (Jagt et al., 2015). Without linguistic assistance or society's awareness of their language backgrounds and linguistic abilities, vulnerable groups such as low-literate and low-proficient speakers are at risk of disappearing under the healthcare radar.

On a policy level, the expanding and diversifying aging population goes hand in hand with an increase in multilingual health care and information practices (Rechel et al., 2013). This implies that society needs to develop a stronger multilingual healthcare policy. This policy should, on the one hand, embrace multilingualism and promote its beneficial communicative and cognitive effects and stimulate language learning. On the other hand, however, this policy should safeguard the inclusion in health provisions of minority groups with restricted proficiencies in the dominant language. This requires more awareness of language barriers on the side of care professionals, and the development of relevant strategies and instruments to circumvent or lower these barriers (Harmsen et al., 2008). By gaining more insight into the linguistic practices of older adult migrants, policy can be better tailored towards preventive strategies to ward off a decreasing sense of wellbeing, loneliness and mental health problems, before they culminate in physical incapacibilities and more severe mental problems.

In general, it should be noted here that aging policies often depart from the notion of aging as a problem or challenge (cf. EC, 2015). The restrictions of old age are put at the center: the growing group of older adults pose an economic burden on the working population, and in relation to that the focus is often on increasing disabling conditions (e.g. Alzheimer's disease). The 'problem' of old age has arisen over the course of a century, when advances in healthcare and living conditions boosted life-expectancies. Increased longevity meant that provisions needed to be created for the growing group of older adults: pension schemes and the welfare state emerged (Johnson, 2005). It also put an unprecedented demand

on the healthcare system, with more hospitalisation and more use of (expensive) drugs and therapies.

This restrictive view on old age derives from the notion that aging is a gradual process of physical and mental decline. Much of this deficit view on aging stems from research observing a decrease in processing speed of individuals over time (Salthouse, 2000). However, the general slowing of processing capacities often observed in older individuals may not stem from a decline in abilities, but may rather be a result of an accumulation of experiences (Ramscar et al., 2014). When experiences grow with age, older adults have larger memory search demands, leading to them taking longer to reach the target information. This idea of aging as an accumulation of experiences allows for a more positive view on aging and denounces the stereotypical notion of decreasing capabilities and loss of functionality (Ramscar et al., 2013).

It is precisely this stereotypical notion of aging as a process of decline that is also reflected in language use. A view of society that problematises aging can trigger behaviour that is geared towards this negative belief. A case in point is a form of communication known as ‘elderspeak’: a way of talking to older adults that reinforces this stereotypical notion of loss of functionality. A slow speech rate, loud tone of voice and often a simpler register and short sentences are characteristics of this communication style (Kemper and Harden, 1999). Elderspeak may reinforce the detrimental view on aging and induce a mindset in older individuals and those around them whereby the belief that their brains and body remain capable of change and improvement (plasticity) is abandoned.

However, when adopting a positive view on aging, this stereotype may be circumvented and older adults may adopt a positive (or ‘growth’) mindset towards aging, in which they still believe that their brains are capable of change (Dweck and Molden, 2017). This ‘growth’ view on aging lines up with the concept of critical geragogy, an educational framework that aims to empower older adults to engage in education and learning by promoting a positive view on aging and a tailored learning experience for older adults (Formosa, 2012). Preventative (health-related or cognitive) strategies could crucially benefit from such a positive perception of the aging process. Cognitive enrichment, perhaps through language training (see Antoniou et al., 2013) at a later age, could be a viable way to promote optimal aging behaviour.

The main aim of the combined chapters that make up this dissertation is to promote our understanding of the context in which multilingual aging takes place and gain insight into in what form multilingualism may contribute to optimal aging for various social groups. This is done by investigating the two sides of the multilingual aging coin outlined above. In this way, multilingualism is approached as a life-experience that is rooted in a social context.

To sum up, in the literature on cognitive aging, life-experiences such as musical training or enduring physical activity have shown to promote brain flexibility or plasticity and induce cognitive reserve; the brain's ability to compensate for or circumvent neural damage by calling upon alternate brain areas for processing (cf. Stern, 2002; Fauvel et al., 2013; Scarmeas and Stern, 2003). Researchers propose that a lifetime of juggling multiple languages in one mind can equally be regarded as such a stimulating life-experience (Bialystok, 2017; Dash et al., 2017).

However, the information above shows that this multilingual life-experience stretches beyond cognition and is indicative for larger societal processes. For many older adults, the multilingual life-experience is about dealing with two languages not in one's mind, but in the daily social environment. A mismatch between their home language and the language of the environment may make the multilingual experience not an asset in healthy aging, but actually a restricting experience, as has become apparent here. When proficiency in the dominant environment language is low, anxiety to communicate in L2 situations induces language barriers that confine social participation and limit access to health (care) facilities.

Combined, these two perspectives can shed more light on role of language in the aging process and its influence on cognition, wellbeing and health behaviour. The results from the various studies can inform multilingual aging policies to direct more attention to the growing linguistic diversity in the older population. In this way, multilingualism may become an asset in aging: as a cognitively enriching tool and as a means to stimulate innovative practices in health care and information to include all older adults from a variety of language backgrounds.

The focus of the studies in this dissertation is on the multilingual context of the Netherlands. The Netherlands is a highly multilingually diverse country; different L1s are spoken and the country is officially Dutch-Frisian bilingual, but there is also a substantial dialectal diversity. At the same time, Dutch society is

a fitting context to examine the links between language and aging as it is one of the contexts in which a high proportion of older adults is expected in the coming years, including older migrants from various backgrounds (CBS, 2017). As highlighted in the first paragraph of this introduction, Dutch society will become increasingly multilingual and multicultural (cf. KNAW, 2018), and provides the ideal testing ground to examine the relations between language and aging.

1.1 Outline of chapters

The dissertation is divided into two sections that each have their own research questions and can be read as separate studies in their own right. The first section deals with the cognitive side of multilingual aging. **Chapters 2 and 3** report on a large epidemiological study ($n = 387$) towards the cognitive consequences of multilingualism in a highly diverse, older multilingual population sample in the Netherlands. In **chapter 2**, we review the literature on the bilingual advantage, and highlight the inconsistencies that have been observed regarding cognitive benefits in older populations in previous studies. The main research question that is answered in this chapter is under which circumstances multilingualism may be an asset in observing enhanced cognitive performance. The study is unique in embedding multilingualism in a broader social context and examines different aspects of the multilingual experience along a continuum, rather than dividing participants into distinct mono and bilingual groups.

It therefore builds on models like the Adaptive Control Hypothesis by Green and Abutalebi (2013). This model postulates that the intensity of switching between languages that a particular interactional context requires is indicative for observing cognitive effects. A communicative context that relies most on controlled language usage, whereby switching occurs but needs to be continuously monitored, would induce the greatest cognitive benefits. This relates to the observation that rather than simply knowing different languages, cognitive effects can be observed depending on the frequency and context of usage.

Moreover, recent work has argued for the approach of bilingualism as a continuum, rather than a dichotomous variable, that is shaped by individual factors such as acquisition onset, language proficiency and language exposure (Bonfieni, 2018). Along this continuum, all of these factors interact and shape the bilingual

experience. This makes every individual a unique bilingual language user who likely also differentially utilises language control mechanisms. The studies in this dissertation fit in with this newly started tradition of a continuum. Moreover, the studies aim to extend beyond it, by providing new insights gained through investigating precisely the two sides of the multilingual aging coin. Ultimately, the aim is to arrive at an integrative account of how multilingual aging shapes cognition, wellbeing and health outcomes.

A broad and continuous view on multilingualism, whereby in this dissertation also dialect usage is regarded as a form of multilingualism, helps to detail the role of multilingualism as a social construct, and how it interacts with other life experiences in observing cognitive effects. In investigating this issue, a relatively uncommon statistical technique is used: Partial Least Squares Regression modeling (PLS). This technique allows one to view which factors, such as multilingualism, education, socio-economic status and so forth co-vary and together explain a proportion of the observed cognitive effects (a part of the model's variance).

In **chapter 3**, the research on the diverse multilingual population is subsequently extended and details the social language usage of the multilingual cohort included in this study. Using a subset of the dataset from chapter 2 and the same statistical technique, the influence of linguistically more or less diverse close social relationships on language usage and cognitive control is reviewed, and linked to how this may promote brain plasticity. The rationale behind this study is that engaging in diverse social relationships has been shown to promote the formation of a cognitive reserve (Fratiglioni et al., 2004). As language is first and foremost a social phenomenon, the social environment of multilingual individuals impacts on the type of language that they use. The same holds true for monolinguals, who might vary their language use stylistically according to the setting and their interlocutor.

This is all the more reason to investigate whether multilingualism, along a continuum, triggers the formation of linguistically diverse close social relationships and whether this helps, through a more intensive use of different languages across various social domains, in explaining enhanced cognitive performance (see the discussion between Ikizer and Ramírez-Esparza, 2017; Vives et al., 2018, for a more detailed account). If this is the case, then it is more by virtue of using

multiple languages, and having the social opportunities to do so, that cognition may be enhanced. This has repercussions for the relation of multilingualism to cognitive reserve.

The second section of this thesis deals with the other side of multilingual aging. A multilingual context may hold certain cognitive advantages and contributes to healthy aging. Sometimes, however, multilingualism may be detrimental to optimal aging. In **chapters 4, 5 and 6** it is investigated how aging in an environment where the dominant language differs from one's mother tongue may put up linguistic barriers that can have detrimental consequences for optimal aging. In doing so, the focus is on the group of older, female Turkish migrants in the Netherlands.

Data from 2013 indicates that around 11 % of the Dutch population is comprised of non-western migrants. The largest migrant group are the Turkish, followed by Moroccans and Surinamese migrants (Mulder, 2013). Given that the Turkish individuals were, after the Italian and Spanish labour migrants, the first large group that was recruited as migrant workers by the Dutch government in the 1950s and '60s, they now form the first large-scale group of aging migrants in Dutch society. For this reason they are the focus of the investigation in the current chapters.

It is interesting in this respect that Turkish and Moroccan migrants generally demonstrate worse health conditions in comparison to other migrant groups, as well as to their native Dutch age-peers (Schellingerhout, 2004). At the same time, the Turkish migrant group may be a relatively special one. Level of education is generally low – especially female older Turks are oftentimes illiterate, and 60% lack proficiency in Dutch (Dagevos and Gijsberts, 2007). Overall, older Turks have few native Dutch contacts and often hold somewhat traditional views regarding family relations, culture and care (Schellingerhout, 2004). This may be especially the case for females, as they generally will have had limited opportunities to venture out of the house and interact in a Dutch-dominant environment. Because of this minimal contact, command of the Dutch language is typically low for first-generation Turkish adults. most notably women (Yagmur, 2011).

Chapter 4 examines the linguistic situation of older Turkish migrants in the Netherlands, by obtaining information from healthcare professionals with a relatively large Turkish clientèle. Through interviews based on an extensive ques-

tionnaire, the chapter provides an initial framework for a closer investigation of the presence or absence of a language barrier for older, female Turkish adults. The main question to be answered here concerns gaining insight into the linguistic situation of older Turkish migrants. How do they organise their day-to-day activities and how do they obtain the necessary (health) care, information and support?

As with the discussion of the role of the social context in multilingualism and cognitive aging in section one above, the investigation in the second section, too, examines the social context in which multilingualism is placed. It highlights that possibly detrimental effects of language or a language barrier stem from individual parameters in the social environment of individuals. These include, for example, the presence or absence of (L2 proficient) family members, social relations in the neighbourhood, level of education, literacy, the presence of facilities in the Turkish language, and so forth.

In essence, the variation in aging trajectories for these older adults reflects the variation in cognitive effects in the previous part: given the same language combinations and proficiency levels, some individuals show a cognitive advantage and others do not, depending on individual contextual parameters. As language is always rooted in a social context, it is crucial to observe its effects in advantageous (cognitive) situations, as well as disadvantageous situations. **Chapter 4** therefore provides the foundation for a more in-depth exploration of the individual linguistic situations in relation to health status and wellbeing of the older migrants in the next chapter.

In **chapter 5**, the effect of the linguistic environment on the aging process of a group of older, female Turkish adults across the Netherlands ($n = 39$) is assessed. With the input from the previous chapter, an extensive questionnaire was drafted and administered in an interview with these female Turkish informants. In addition, a crude measure of their proficiency in Dutch was obtained, as well as an indication of their L2 literacy abilities. Moreover, a cognitive measure was obtained in the form of a working memory test and the older adults' wellbeing levels were measured.

The main question that is asked in this chapter is how the individual older adults age (successfully or unsuccessfully) when their command of the dominant language is low. Under which circumstances does a low proficiency impede the ag-

ing process and which strategies do the older adults employ to successfully maintain a sense of wellbeing, quality of life and independence, and when is this compromised? The chapter demonstrates that – in line with the overall argument of this dissertation – detrimental effects of a language barrier on the aging process arise from the social context of individuals, most notably the presence or absence of a social network. This underscores the assertion that language is a social variable, and always rooted in a broader interactional context.

The final chapter in section two (**chapter 6**) investigates the language learning materials and provisions that exist in the Netherlands to help (older), low-literate adults to learn the Dutch language. As it has become evident that the brain retains much of its plasticity well into old age (cf. Li et al., 2014), language learning at a later age is certainly not a futile endeavour. It may boost cognition, as has been argued (cf. Antoniou et al., 2013), but for this group it more importantly boosts L2 proficiency, and in turn unlocks opportunities to age more optimally. To boost L2 proficiency, especially for low-literate adults, language learning materials need to be specifically tailored for this group.

In **chapter 6**, it becomes clear that there is a very limited set of educational materials for this group. This suggests that within Dutch society, the ability to improve L2 proficiency for older migrants is not actively encouraged, especially at an older age. The limited available and suitable material stands in stark contrast to the call that learning something new, especially at an older age, is beneficial. For the group of low-proficient and low-literate older adults that form the basis of this study, a positive view on third age language learning, both by the older adults themselves as well as by Dutch society and policy makers, would be an important first step in enhancing wellbeing and independence.

The last chapter of this thesis, **chapter 7**, provides an overall discussion of the findings put forward in the different studies. This chapter ties the two sections together by uncovering common themes and shows how the two aspects of multilingual aging connect with each other through the investigation of multilingualism as a dynamic, contextually (socially) embedded experience. Together, the two parts of this dissertation open up the field of multilingualism and aging and call for a reflection of how we approach the concept of multilingualism in aging. Language may be a proxy towards increased wellbeing and optimal health for some older individuals, as well as a life-experience that may itself - in interaction

with other life experiences - shape cognition and promote healthy aging. After all, the rapidly aging population and increasing international migration are two themes dominating societies all over the world today. Together, they underscore the need for studies looking into the effect of language on the aging processes of individuals in different multilingual environments.

PART I

**Multilingualism and cognitive
aging in the Netherlands**

