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Aging in multilingual Netherlands

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CHAPTER 7

Discussion

The Netherlands is a multilingual society *par excellence*, where different languages and dialects are used and where everyone, to some degree, speaks, knows or is surrounded by and exposed to (see Bice and Kroll, prep) multiple languages, dialects or accents. When multilingualism is omnipresent and embedded in the social environment, it forms the ideal test bed for studies examining the influence of multilingualism on broader processes, such as aging, which can be characterised as a complex interaction of physical, psychological and social factors. The chapters in this thesis have explored *aging in multilingual Netherlands*; how the (multi-faceted) multilingual environment shapes the aging process (cognition, wellbeing and health status) of various older individuals.

In line with the majority of the research conducted on this topic, multilingualism can be regarded not only as a communicative asset, but also a mechanism/tool that positively influences cognitive performance. Contrary to the everyday multilingual reality of Dutch society, the language of administration and of healthcare in the Netherlands is still predominantly monolingual Dutch. As such, the language environment may actually impose language barriers, linguistic anxiety and social drawbacks for those individuals in society who age in an environment where the dominant language differs from their mother tongue.

The studies in this dissertation have offered a reflection on how the concept of multilingualism in research on aging is approached. The presented findings

from the two approaches, one looking at multilingualism as an asset in cognitive aging, and the other considering the influence of language on the wellbeing and health status of older migrants, demonstrate that multilingualism is always rooted in a social context. This discussion, therefore, argues for more individual differentiation in studies on (cognitive, social or other) aspects of the multilingual experience.

7.1 Short summary of studies and findings

The first part of this thesis examined the (beneficial) role of multilingualism on cognition. By examining a large cohort of multilingual seniors (65+) from the three northern provinces of the Netherlands, it was assessed which aspects of multilingualism, and – crucially – under which circumstances multilingualism could contribute to enhanced cognitive performance. By employing a large study sample, collecting a wide variety of background information of the participants, and by employing the relatively novel PLS statistical approach it was determined that the study of language and cognitive control cannot and should not isolate language from its interactional context.

Rather, it is precisely when considering the usage context of multilingualism that cognitive advantages may be observed in some individuals. More specifically, individuals who (have the opportunity to) use different languages in different social domains show enhanced cognitive attention, but only in relation to certain personality characteristics, education, and quality of life criteria. Moreover, when examining the social use of language and examining the linguistic details of individuals' close personal relationships, it was observed that a more linguistically diverse network interacts with the age of onset of acquisition of different languages, as well as with personality characteristics.

The second part of this thesis subsequently examined the often anecdotally observed 'language barrier' in migrant aging. Chapters 4, 5 and 6 dealt with the question of how language may put up a barrier to healthy aging (i.e., access to and use of care, information and services) for individuals who age in an environment where they have limited proficiency in the dominant language. By means of a series of tasks (language, literacy and cognition) and in-depth interviews with a group of older, female Turkish first-generation adults aging in the Netherlands,

it appeared that a low command of their L2 (Dutch) may fuel feelings of L2 insecurity, but especially in cases where social support is absent.

The second section of this thesis revealed the close link between language usage, feelings of L2 insecurity, mindset and the mediating role of social support. The majority of the older adults reported a limited L2 proficiency, which may culminate in linguistic insecurity and a language barrier when they are not firmly embedded in a support network, either in their L1 or L2. Without any means to either organise care within the L1 environment or reliance on proficient L2 speakers to allow communication in L1 dominant settings, wellbeing levels for these older adults are compromised.

Crucially, the perception of wellbeing in relation to language is highly individually distinct. It results from an interaction of health status, migration histories, formation of social networks, communicative opportunities in the environment and perceptions of norm-induced language behaviour and aging behaviour. (By this the stereotypical notion of a native speaker norm for language, as well a view on aging as a gradual process of decline are meant). These two norm-based concepts are recurrent themes in both sections of this dissertation.

7.2 Aging and decline

Aging is often regarded as a gradual process of decline. With increasing age, physical and psychological abilities decrease and induce late-life dependence. Indeed, biological aging can generally be regarded as system failure: a system, although built from non-aging parts, may deteriorate with age as a result of the system's redundancy for irreplaceable elements (Gavrilov and Gavrilova, 2003). Humans have high system redundancy (i.e. many cells), through which they have a high damage tolerance (i.e., longevity). Over time, however, damage accumulates, resulting in system failure, and thus aging. Although this explains the biological deterioration in aging, it also makes it easy to assume a deficit perspective on the entire aging process (psychological and social aging), which perhaps is not entirely accurate.

A staircase view of the lifespan, which ascends until young adulthood – when physical and psychological abilities are at their peak – and descends after that, gained popularity in the post-renaissance world (Johnson, 2005). As highlighted

in the introduction, increased longevity posed an economic burden on society, through which old age came to be regarded as a social problem. This problematic, dependency-based view of old age led to stereotypical notions of older adults, known as 'ageism' (Butler, 1969).

One of the manifestations of ageism in language is through the notion of elderspeak. As mentioned in the introduction, elderspeak is an adapted form of language (register) that can often be observed in interactions between caring staff and clients in caring homes. The use of this adapted form of speech may be beneficial to communication (slower speech rate, simpler sentences) but may also reinforce old age stereotypes of decline, with the consequence that some older adults experience a decreasing sense of wellbeing (Kemper and Harden, 1999).

It is a product of the decline perspective on aging, fuelled in part by observations that older adults generally experience cognitive slowing (Wingfield and Grossman, 2006). A theory proposed in the introduction of this dissertation challenges this view by postulating that aging is rather an accumulation of experiences, and that the slower processing speed derives from longer or heavier search demands through all these experiences to reach the correct information (Ramscar et al., 2014).

This theory is reminiscent of lexical processing accounts in bilinguals, whereby some studies find bilingual disadvantages in verbal fluency tasks. This is a result of bilinguals using each of their languages less frequently or of having more lexical competitors to choose from, which makes the search to reach the target lexical item take longer than for their monolingual peers (cf. Ivanova and Costa, 2008). Part of the results in this dissertation shows support for such experience-related or knowledge-accumulated slowing, in the data of the older Turkish females. In chapter 5, some older adults note that the large cognitive load associated with learning and processing new information prevents them from taking up language learning. This aligns in part with the accumulation of life-experiences and slower cognitive processing account of Ramscar and colleagues above, but couples this to a 'fixed' mindset in which the accumulation of knowledge and experience wears individuals down and hampers the acquisition of new knowledge (also see the section below).

In other cases, however, enhanced cognitive processing is coupled with personality traits relating to being open to new experiences (cf. chapters 2 and 3).

For those multilinguals, the ability to attend quickly to the relevant information, reflecting enhanced cognitive performance, might ‘undo’ some of the age-related slowing effects as a result of increased life-experiences. It is crucial then to see multilingualism as truly a part of a cluster of factors that shape the aging process of individuals.

Notably in this light, too, is that although younger adults consistently outperform older adults on speed in cognitive processing tasks (Rabbitt, 2005), older adults are upon closer inspection often more accurate than their younger counterparts. This is especially prevalent in lexical processing tasks, where Ramscar et al. (2013) show that performance on paired associative learning tasks changes as a result of an accumulation of lexical knowledge with age and experience. When controlling for learning (in models on lexical learning and cognitive performance), the authors demonstrate that there is very little variance in the results left that can be attributed to ‘decline’.

This view reiterates that the brain is plastic and the ability to learn does not wither with age. When individuals adopt a positive mindset to aging (Dweck and Molden, 2017, see also the introduction to this thesis) as a process of enrichment or growth, they may experience positive outcomes when it comes to late-life learning and sense of wellbeing, as has been demonstrated in chapters 2 and 3.

7.3 Effects of a positive mindset to aging

The positive influence of late-life language learning may both be observed in enhanced communication in the dominant language, lower L2 anxiety and a heightened sense of wellbeing for older migrants, as well as cognitive stimulation through sustained brain effort. The findings in this dissertation can be linked to this deficit perspective on aging and learning and prompt a couple of interesting avenues for further research.

The older migrants discussed in this dissertation typically hold a deficit perspective (or in the psychological terminology of Dweck and Molden (2017) a fixed mindset) towards the multilingual environment and their language learning abilities, as mentioned above. For some, language (the L2) even induces anxiety in communicative settings, prompting stress, withdrawal and feelings of loneliness. This is especially true for the older migrants. It seems that multilingualism in

fact induces a growth or open mindset in the group of multilingual older adults, evidenced from the fact that multilingualism clustered together with openness to new experiences. This fixed view on language learning, and aging in general, may stem on the one hand from individual language experiences and histories, poor health and wellbeing or indeed both being intricately linked. On the other hand, this fixed view may be perpetuated by the L2-dominant environment, whereby a monolingual and native-like Dutch norm continues to set the standard for communication. Attaining full proficiency in Dutch to adhere to this norm is far beyond the reach of an individual's capabilities. Some of the older migrants noted in chapter 5 that the fear of being judged by Dutch native speakers prevented them from engaging in L2 communicative situations.

This view of impossible L2 attainment is further supported by a general lack of suitable educational material for low-literate adult learners (see chapter 6), through which also low-threshold language learning opportunities are limited. The absence of language material and courses reinforces the aging stereotypes of decline, in which learning new things is futile.

A worthwhile avenue for future research is to examine whether a change in mindset from a deficit/fixed view on abilities to a growth perspective on cognition may lower the language barrier for older migrants. Changing this mindset begins by society taking a more open stance towards speakers of other languages and low-literate groups in healthcare settings.

Recently, some steps have been taken towards a more culturally/linguistically sensitive communicative approach in the healthcare sector. A cross-cultural screening tool for dementia, for example, marked a break away from language-dependent cognitive measures by being the first, well-studied and documented screening tool that allowed an accurate non-verbal screening of dementia across different language and cultural backgrounds (Uysal-Bozkir, 2016). Not only does this make the diagnosis for dementia for these groups less prone to errors, it also signals that the healthcare sector is becoming aware of the growing group of older adults with diverse linguistic backgrounds and does not solely focus on Dutch-proficient older adults.

Similarly, research has raised awareness of the limited health literacy among some L1 speakers. By applying a different communicative approach in the form of, for instance, photo novellas, the quality of doctor-patient interactions and health

behaviour significantly increased for native older adults with limited health literacy (Jagt et al., 2015). Extending these photo-novellas to cater for other languages may lower the language barrier in healthcare communication, or at least provide an extra tool to better understand the healthcare practices, which may decrease vulnerability in a linguistically diverse group.

A growth mindset to aging and learning is further supported by suitable approaches to language learning. Chapter 6 suggests that language needs to be viewed as a tool to accomplish something meaningful or as enabling active social participation, whereby the effects need to be immediate. This echoes the approach to language learning that is advocated by CLIL (Content and Language Integrated Learning), in which language is a medium to learn content, e.g. history or physics. It will be intriguing to explore to what extent an activity (e.g., a cooking class) could embed language learning strategies, through which older migrants both engage in social participation, do something meaningful and simultaneously trigger their brain to pick up language cues.

An interesting approach in this regard is the concept of ‘*linguaging*’ that was put forward in chapter 5. In ‘*linguaging*’, older adults are engaged in activities that go beyond simple communication but are more effortful and engage their learning abilities to promote cognitive functioning (Swain and Lapkin, 2011). These activities stimulate the brain, e.g., in the form of solving crossword puzzles, composing a poem or discussing an article. For the older migrants these activities could be integrated into language learning, by using linguistic scaffolding techniques and perhaps also by engaging their L1.

Alternatively, rather than language boosting cognitive functioning and general health, could a change in cognitive stance trickle down on the language domain and boost language learning? This question flips the dominating hypothesis in multilingualism and cognition research that language control may impact domain-general cognitive control. When examining this alternative view, a change in mindset (from a deficit view on abilities to a growth perspective) functions as a catalyst for a change in cognitive stance. As the studies in chapters 2 and 3 demonstrated that personality traits relating to openness to new experiences contributed to enhanced cognitive performance, a positive and open mindset towards learning could not only boost domain-general cognitive functioning, but also enhance those cognitive functions pertaining directly to language. This idea

is in line with the notion of neural multi-functionality; a concept that argues for a constant and dynamic interaction of cognitive domain-general neural networks and networks specialised for sentence processing and lexical retrieval. This non-selectivity of the brain has been demonstrated in language recovery from aphasia, where executive functions impact aspects of semantic processing and reshape the neural circuitry (Cahana-Amitay and Albert, 2014). Future research could establish whether stimulation of a positive mindset to aging, cognition and learning (not language specific) spills over into enhanced language-specific functions.

For now it is interesting, perhaps, to see how languaging can be inserted into enhancing language learning and cognition for all older adults, and thus to let the two separate studies reported on in this dissertation come full circle.

7.3.1 Implications

There might be a way in which languaging may bring the two groups this dissertation has reported on together. Taking the example of a cooking class mentioned above, older migrant women could cook together with older Dutch women. In setting up an activity in which these two groups interact, older migrants benefit in terms of language learning and native, multilingual older adults may benefit in terms of cognitive engagement. They not only exchange recipes and learn from each other in a cultural sense (promoting social participation from both ends), all participants also have to negotiate language.

For the older Dutch adults, the activity is an excellent opportunity to be immersed in a different linguistic setting and may trigger their language skills. At the same time, they have to adapt their Dutch language use to make their meaning come across and can forward the Dutch proficiency of the older migrants through scaffolding techniques in a safe setting, which requires the Dutch elders to 'language'.

The older migrants, in turn, may experience a safe environment to practise the language by means of a meaningful activity in which they can be the teachers regarding 'content'. Their self-esteem will increase as the positive attitude to Turkish of their Dutch peers gives a sense of equality in terms of languages (there is no dominant language). At the same time, they will be able to teach the Dutch adults to cook a recipe that these Dutch adults are unfamiliar with.

Indeed, studies have started to investigate the benefits of late-life language learning for cognition (Antoniou et al., 2013; Kliesch et al., 2018). Short experiences with another language, e.g. in the form of a language course, already have been found to hold beneficial cognitive effects. The idea of language learning as healthy behaviour is even being popularised through a website and campaign advocating for a ‘healthy linguistic diet’ (Mehmedbegovic and Bak, 2018).

Not always do positive cognitive changes occur after language learning, however (see Ramos et al., 2017), and more research is needed to uncover precisely how late-life language learning may benefit cognition (upcoming research projects on late-life language learning include a number of current and upcoming (PhD) projects from the University of Groningen). Yet, there is certainly no harm in taking up language learning, if only as it enables social participation and aids communication.

As we know that the brain retains much of its plasticity in old age, seeing and acting on opportunities to use different languages in different domains, together with personality traits relating to openness to new experiences and feeling well – as has been demonstrated in chapters 2 and 3 – creates conditions that are beneficial to cognitive attention orienting processes and aid mental flexibility. The next section examines how this mental flexibility may be aided by multilingualism.

7.4 Language control

In an overview article on bilingual language processing, Fricke et al. (2018) argue that bilinguals use a multitude of regulatory strategies to manage their languages. The fundamental differences observed between individuals in language processing may be an effect of a speaker’s language regulation history. This signifies how an individual adapts his or her language use to the linguistic contexts in which the languages are used. This notion lines up with the findings in chapters 2 and 3 of this thesis that the interactional context of multilingual language use and experience with this context is imperative to domain-general cognitive performance.

Indeed, a recent study assessed the flexibility of bilingual language control in a naming task for 45 Dutch-English bilinguals (young adults) in different language contexts (dominant L1 Dutch or non-dominant L2 English). It was found that naming overall was slower for the language (L1 or L2) that matched the language

context. In other words, switching in the dominant L1 context is symmetric and reflects a global slowing of the L1. For switching in an L2 context, bilinguals depend on local control, whereby the L2 is inhibited more strongly than the L1, resulting in asymmetric switch costs (Timmer et al., 2018). The authors argue that bilinguals adjust their control mechanisms according to the language context to allow for equal access to both languages. Hence, the bilingual language control system is flexible and adapts to the context.

When applying this to the adaptive control hypothesis by Green and Abutalebi (2013) and our results, the findings from Timmer et al. (2018) may complement the evidence for the observation that especially in a dual-language context, whereby both languages are present and individuals need to switch frequently but in a controlled way, the greatest cognitive benefits may be observed. The continuous adjustment of the control mechanisms could train the brain to become more attentive and efficient in switching between languages.

The results in chapter 3 assert that the sustained use of different languages with social relationships modulates cognitive control. However, as having diverse social relationships only marginally contributed to enhanced cognitive performance, it is not merely experience, but rather usage, independent of the length with which individuals have been able to practice the language, and also partly independent of proficiency. All in all, it is thus perhaps more by virtue of the linguistic context, rather than the type of bilingualism in individuals that cognitive differences may be observed.

7.4.1 A multilingual experience

Taking this further, it could even be questioned whether multilingualism should be operationalised according to what inherently exists in individual minds, or whether it is rather more productive, in this case, to consider multilingualism as a contextual variable, a process, and hence a ‘life-experience’ (cf. Bialystok and Sullivan, 2017). This would infer that for linking multilingualism to cognitive performance, it should not be considered an individual trait – something that an individual possesses – but a feature that may be intensified by, or may or may not arise from the language environment.

This suggests a view of multilingualism in which an individual does not hold

two separate language systems in one mind, but a more holistic view (cf. Grosjean, 1998) of unique individual lexicons in which words are activated to a stronger or weaker degree depending on the context in which the language user finds him or herself. This view is very much in line with bilingual lexical access models such as BIA+ (cf. Dijkstra and Heuven, 2002).

Grosjean (1989) famously observed that a bilingual is not two monolinguals in one; i.e. a bilingual does not typically hold two equally proficient separate language systems in one mind. In fact, bilinguals are typically ‘unbalanced’ in their linguistic knowledge. For example, their vocabularies in each language will be strongly tied to the domain in which this language is mostly used. Therefore, they typically know words in one language that they do not know in the other. As bilinguals have specified vocabularies for specific domains, the context may already trigger the activation and subsequent selection of the right linguistic form.

Part of the enhanced attention control observed in the studies in this thesis, therefore, may stem from an efficient regulatory mechanism whereby the multilingual individual uses the cues of the context to activate the correct linguistic system. This will be relatively fast, as vocabularies may overlap, but also show distinctions when they are typically used in specific domains. In a context where both languages may be spoken to an equal degree, a multilingual will probably have a larger vocabulary in one language compared to the other, and will be extra attentive to contextual language cues to modify language behaviour, especially when speaking the ‘weaker’ language, to prevent interference from concepts in the stronger language.

This idea ties in with the observation on the differential language control mechanisms engaged in minimizing interference from the weaker or stronger language as observed by Timmer et al. (2018). It also relates to the findings in the present thesis, where cognitive effects are observed for those multilinguals who use their different languages across different social domains. The use of the L2 across social domains interacted with degree of proficiency in the L1, suggesting that multilinguals need to focus their attention more carefully on actively selecting words from the L2 in contexts for which they also hold a strong L1 vocabulary. It also demonstrates that a balanced use does not necessarily also entail a balanced proficiency.

In her study on bilingual advantages in a group of older bilinguals (Dutch-

Frisian), Houtzager (2015) found that, in her population of Frisian-Dutch older adults, more balanced bilinguals in terms of use and proficiency, performed better on measures of executive function. This relates to the findings in the present thesis whereby, irrespective of language proficiency, a more balanced use of different languages induces cognitive benefits. Indeed, Treffers-Daller (2016) points out that language balance and language dominance are two different concepts. Balance may refer to the degree of *proficiency* in both languages or degree of *usage*, in which language A may be used in context A and language B in context B, or languages A and B are equally used across contexts. An individual may be strongly dominant in one language, but still be balanced in his or her use of different languages. Therefore, to obtain a more fine-grained picture of multilingual differentiation, language should both be assessed on the traditional dimension of competence (language proficiency) as well as communication (language usage) (Treffers-Daller, 2016).

7.4.2 The monolingual myth

An imbalance in language proficiency is, in much of the research on bilingualism, still often interpreted as a deficit or disadvantage, relative to a monolingual norm. The language of linguistic competence leads to disadvantages in, for example, word processing efficiency (Ivanova and Costa, 2008). However, given the observations above, it can be questioned how legitimate or real a comparison between monolinguals and bilinguals is. Bonfieni (2018) notes that both the bilingual advantage in relation to cognition, as well as the reported disadvantage for bilingual word processing are in fact artificial constructs that emerge from the circumstances under which language processing and control are measured (2018, p. 152).

Moreover, also monolinguals will have different linguistic repertoires for specific interactional contexts. Indeed, even within a language, there is stylistic variation and use of different registers. Monolinguals, too, need to continuously monitor their environment for linguistic cues and select the socially appropriate form of language for a specific context. As it has become evident in the present thesis that in a diverse sample of multilingual older adults the use of different languages across different social domains (in combination with individual and

environmental factors) confers cognitive benefits, should we not dispose of these dichotomous concepts and assess bilingualism along a continuum, thereby also including monolinguals? This reiterates a reconsideration of operationalising language knowledge; not only in terms of proficiency, but also in terms of usage, and perhaps not even referring to distinct ‘languages’.

One theory that does away with all language boundaries, but from which we can learn how to rethink our view of bilingualism is translanguaging. In translanguaging, there are no separate linguistic systems and individuals have a single linguistic repertoire (Otheguy et al., 2018). This is reminiscent of Grosjean’s holistic bilingualism, in which an individual is a contextually situated language user with differential linguistic experiences. Indeed, when we know that languages are jointly active (cf. Kroll et al., 2012), can we actually speak of separate language systems? The individual linguistic repertoires and linguistic practices constitute individual idiolects that, in fact, can be considered qualitatively monolingual in the sense that there are no distinctions based on language.

7.4.3 Linguistic implications

This brings us back to our implication in section 7.3.1, regarding the mental stimulation of learning and integrating new language concepts into one’s linguistic repertoire. Translanguaging may be an effective concept to illustrate the linguistic implications of the activity of a cooking lesson.

Both groups of older adults (the Dutch and Turkish elders) add new language concepts to their linguistic repertoire, which are meaningful in the context of the activity in which they are used and learned. Negotiating language from a translanguaging perspective in this way allows individuals to internalise and identify with these language concepts and make them inherently part of their linguistic repertoire. Notably, individuals are not condemned for using the L1 within this activity, as they will crucially need this to scaffold and understand the L2 concepts (cf. the *Themis* method in chapter 6, where the L1 is an important part in slowly developing L2 proficiency). In this way, both groups of older adults extend their language knowledge and, perhaps more importantly, embed this knowledge in social practice immediately, which may have positive repercussions for social integration and wellbeing.

7.5 Study improvements and avenues for future research

This thesis has offered a perspective on multilingualism and aging, whereby the focus has not been solely on cognitive effects, but also examined an aging group for whom language may be an obstacle rather than an asset in healthy aging. Although the strength of this thesis lies precisely in the novelty of how these two complementary perspectives may forward our understanding of the role of language in aging, they are nonetheless rather specific in participant focus, methodology and the extent to which results are interpretable beyond the context of the Netherlands.

The ideas and arguments put forward in this thesis, therefore, should prompt further research into aging and multilingualism of different societal groups. Departing from the conclusions in this thesis regarding the operationalisation of multilingualism as a dynamic, continuous and socially embedded variable, the following paragraphs offer some hints to improve upon and/or extend the research in this thesis.

The Dutch aging demographics prompted the selection of participants for both studies. Without being aware of much prior research beyond anecdotal observations of a language barrier for migrants in caring institutions, the practical choice for the selection of participants for the second study was made to focus on the first largest aging migrant group in the Netherlands, Turkish older adults. It soon turned out that these migrants constitute a rather special group in society, as they maintain strong ties to and a strong focus on their country of origin, stronger than other migrant groups. They, moreover, form a well-organised group in society.

Access to the community proved challenging without command of the Turkish language, resulting in the participant sample for the study in this thesis being relatively small. Notably, we refer to 'the older migrants' although data is based on one specific group. To what extent the linguistic situation of our Turkish migrants is also applicable to other migrant groups in society is worthwhile to investigate further.

Future interviews can be more focused towards individual language histories and usage, and, as it was found in this thesis that social embedding seemed to be an important predictor in language behaviour, tailor questions more specifically

towards social language usage. The language measure should be extended with longer production data to create a more accurate picture of L2 proficiency, but it should be kept in mind that this measure should reflect context-specific language use if the intention is to assess a language barrier in relation to receiving appropriate care and assistance. Also, measures of L1 proficiency may be insightful when considering language maintenance or shift to the host language.

The multilingual northerners tested in the first part of this thesis are a much more heterogeneous group in terms of languages, proficiencies and demographics. For examining the multidimensionality of multilingualism this heterogeneity was ideal, although there is a bias towards the number of older adults speaking a regional dialect, or Frisian in comparison to older adults with different language combinations. The current study did not take language typography/(dis)similarity into account, whereas especially for dialectal variation, different languages may overlap to considerable degrees (see for example Perdue (1993) on typological proximity effects in L2 acquisition). Although, as argued in this discussion chapter, different linguistic varieties are difficult to separate into different language systems and is a practice that we should perhaps abandon, it is still insightful to explore whether language typology will affect the extent to which individuals switch less or more controlled, and whether this has repercussions for cognitive performance.

Language usage data in this study relied on self-reports on the frequency with and domains in which individuals use each of their languages. However, as others point out, self-reports have inherent shortcomings, especially when measuring language ability and proficiency (Treffers-Daller, 2016). A recent study examined differences in self-ratings of proficiency of different bilingual groups, and attested that self-ratings are highly unstable across different bilingual groups, especially when these groups have different acquisition histories and language combinations (Tomoschuk et al., 2018). Although self-reports allowed us to obtain a large participant sample due to the quickness with which proficiency is assessed, a future study would want to use a more objective measure of (productive and receptive) proficiency, e.g. in the form of a picture naming task, in addition to a self-report.

Moreover, as language usage changes over time, an ideal study should follow a group of multilinguals for an extended period of time and have them log their language usage, learning, and social activity. This would provide valuable data to

gain insight into how multilingualism fluctuates, the importance of context and the environment, and perhaps how differences in multilingualism reflect differences in cognitive performance within (rather than between) individuals.

Many studies on bilingual populations select a sample from a bilingual group and generalise to a wider population, thereby perhaps overlooking important differences *within* bilingual populations. The studies reported on in this thesis also selected a particular group of older multilinguals, such as northern older adults or Turkish older migrants. However, the mixed-method approach of the studies on the Turkish migrant group allows to differentiate among individuals within this group. The interview data provides a unique insight into how different individuals manage their (limited) L2 proficiency in relation to wellbeing and health status and care. Similarly, the extensive pool of data that was collected from the sample of multilingual older adults in the northern Netherlands allows for fine-grained differentiation among individuals. In this way, it is possible to get an insight into the variability within a group of multilinguals, which provides an argument for future studies to take this inter-individual variability into account more.

7.6 Conclusion

The insights gained from the studies reported on in this thesis highlight the variation of the multilingual environment and the different consequences it has on an individual's (perceptions of) cognitive health and wellbeing. It also provides some insight into the framing of multilingualism and the perception of the multilingual environment as a rich source for language practice and development or as a judgemental (monolingual norm-based) environment in which the individual does not belong and there is no room for growth. The multilingual experience extends therefore beyond simple language knowledge and includes opportunities for individuals to interact and develop language abilities. These abilities may be enhanced or restricted based on perceptions/attitudes towards languages/dialects/accents/registers employed by members in the environment, mindset of individuals and society, but also very practical matters such as health status (mobility) and wellbeing. As such, the multilingual experience is an in-

tegrated experience of social and cognitive factors, and under specific usage circumstances may promote mental flexibility.

Regarding cognitive performance, it is likely that it is through the combination of an individual's experiences and environmental factors that effects of multilingualism on cognitive control may or may not be singled out (in line with Valian, 2016). In operationalising multilingualism for cognitive performance, therefore, the findings in this thesis prompt the argument for a linguistic continuum, in line with Bonfieni (2018). Ideally, this continuum involves a time dimension (assessing language development over time), as language is a dynamic concept that develops over time with changes in input, exposure and the environment of individuals. Following individuals over time would also allow the investigation of the possible temporality of cognitive benefits, or whether sustained usage equals sustained cognitive control. A multilingual continuum also means that across-group comparisons are futile (see also Luk and Bialystok, 2013), as it is meaningless and impossible to capture bilingualism in one single factor and attest that *sec* bilingualism leads to cognitive enhancement.

The two different perspectives taken in this dissertation complement each other and forward our understanding of the multilingual experience as an individually differing (and malleable) variable. This places the outcomes of the studies in the longer tradition of research that advocates for a view of multilingualism in terms of individual differences and along a continuum (Cooper, 1969; Grosjean, 1998; Bonfieni, 2018). Viewing multilingualism as a multidimensional variable, which should be differentially operationalised when studying different phenomena relating to language use, development and impact, opens up the field of multilingualism and aging towards more fine-grained analyses and descriptions of an individual's language abilities in specific contexts.

