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Bilingualism is more than just the sum of two parts : the family context of language development in ethnic minority children

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Chapter

1

General introduction

GENERAL INTRODUCTION

All over the world, many children with an immigrant background grow up bilingually, because their ethnic or first language (L1) is different from the language of their host country, their second language (L2). The ethnic language is important for ethnic identity formation and interacting with family members (Oh & Fuligni, 2010), whereas the host language is the language of education for most bilingual children with an immigrant background and is thus important for a successful school career (Davison, Hammer, & Lawrence, 2011; Verhoeven, 2007). Although bilingualism can have certain cognitive advantages (Adesope, Lavin, Thompson, & Ungerleider, 2010), many bilingual children with an immigrant background show less favorable school outcomes compared to their monolingual peers (e.g. Aud et al., 2012; Fleischman, Hopstock, Pelczar, & Shelley, 2010), which may be due to disadvantages in proficiency in the language of education.

Family SES, ethnic constellation of the neighborhood, and the use of child care facilities can directly and indirectly influence language use and development. Bilingual children with an immigrant background are more likely to live in families with a lower socioeconomic status (SES) in which the host language is used less (L. Q. Dixon, Wu, & Daraghmeh, 2012), and home literacy activities are less common (Hindman & Morrison, 2012). In addition, certain language-stimulating activities that are common in Western-European cultures, may be exhibited to a lesser extent or in a different way in immigrant-background families (Bus, Leseman, & Keultjes, 2000; Scheele, Leseman, & Mayo, 2010). These bilingual children are also more likely to live in neighborhoods with higher percentages of immigrants, where they use the ethnic language more (Arriagada, 2005). When children are introduced into childcare services such as playgroups and daycare centers, they start using the host language more (Leseman, 2000), which might also impact the family language use pattern.

The contrasting findings regarding the cognitive advantages of bilingualism and less favorable school outcomes of bilingual children with an immigrant background raise questions about the importance of language proficiency in both languages for school outcomes. Also, the previous findings about the differential language stimulation in immigrant-background families and the effects of family- and community-level factors on language outcomes raise questions about the strength, direction and interconnection of relations between

these contextual factors, language use within these families, and children's language proficiency. The current dissertation aims to answer these questions.

Bilingualism

Over the years, many theories have been proposed and studies have been conducted on the development of bilingual children's two languages. Children infer meaning and language rules from the language input that they are exposed to and build their knowledge of the language on previous and current exposure (Ellis, 2002; Hoff, 2006; Hoff & Naigles, 2002). The relation between input and proficiency is cyclic, with more input leading to increased proficiency and more proficient children in turn inviting more language input (Huttenlocher, Waterfall, Vasilyeva, Vevea, & Hedges, 2010; Pearson, Fernández, Lewedeg, & Oller, 1997; Yeung, Marsh, & Suliman, 2000). However, after a certain *critical mass* of input, more input does not seem to add anything (Pearson et al., 1997; Thordardottir, 2011). The *revised hierarchical model* assumes that children make use of a translational route of language processing in the early phases of L2 development, but that the influence of L1 translation diminishes with increasing L2 proficiency (Sunderman & Kroll, 2006).

The *interdependence hypothesis* (Cummins, 1979) assumes that the development of L2 skills is partly based on the skills already developed in L1. The *interdependence continuum* adds to this hypothesis that interdependence is likely to be stronger for language skills that require less learning challenge (Proctor, August, Snow, & Barr, 2010). Evidence for linguistic interdependence has been shown by several previous studies (e.g., Ordóñez, Carlo, Snow, & McLaughlin, 2002; Proctor et al., 2010; Uccelli & Páez, 2007; Verhoeven, 2007). Neuroimaging studies also confirm this view. The same neural structures are active in language tasks in L1 and L2 for both low and high proficient bilinguals, although low proficient bilinguals show additional brain activity in the prefrontal areas and basal ganglia that are involved in controlling the languages (Abutalebi, 2008; Buchweitz & Prat, 2013). Regarding the neural representation of concepts, some concepts may be culture-bound and therefore differ in their neural representation in each of the two languages (Buchweitz & Prat, 2013). This is in line with the idea that vocabulary can vary with context (Hoff, 2006; Oller & Eilers, 2002).

Transfer between L1 and L2 can also take the form of the wrongful application of certain language rules or constructions from L1, which will happen

more if languages are typologically more similar and leads to errors in L2 (Kellerman, 1995). As L2 develops further, cross-linguistic influence can become bidirectional (Pavlenko & Jarvis, 2002). According to the *threshold hypothesis* (Cummins, 1979), a certain proficiency level is necessary to avoid negative effects and experience positive effects of bilingualism. In line with this hypothesis, previous research found that cross-language effects occurred only after children had developed sufficient proficiency in both languages (Yeung et al., 2000).

The balance between two languages is not stable over time. If both languages are supported and children acquire proficiency in each of them, this leads to *additive bilingualism*, whereas insufficient attention for ethnic language proficiency and replacement of the ethnic language with the host language is referred to as *subtractive bilingualism* (McCabe et al., 2013). Some bilingual learners will learn both of their languages only to a limited amount and end up in a situation of *semilingualism* (MacSwan, 2000). Many studies have shown that in L2-dominant societies, L1 is the language most at risk for insufficient development (e.g., August et al., 2006; De Houwer, 2007; Mancilla-Martinez & Vagh, 2013). Despite the importance of the ethnic language for parent-child relationships and ethnic identity (Oh & Fuligni, 2010; Phinney, Romero, Nava, & Huang, 2001; Tseng & Fuligni, 2000), internal forces, such as the desire for social inclusion, and external forces, such as sociopolitical forces operating against outsiders, emphasize the importance of the host language for being successful in the host country, and can eventually lead to loss of the ethnic language (Fillmore, 1991, 2000). This loss is generally stronger for younger children and for children whose parents are both born outside the host country (Hakuta & D'Andrea, 1992; Hammer et al., 2012). In line with this shift in proficiency, an increase in their use of the host language over the course of their children's school career can be seen in most bilingual families (Mancilla-Martinez & Kieffer, 2010). The shift towards increased preference of the host language progresses within and across immigrant generations, and is stronger in case of more native peers and a weaker orientation towards the heritage culture (Hakuta & D'Andrea, 1992; Michel, Titzmann, & Silbereisen, 2012).

Proficiency in two languages can have several cognitive advantages. The control of two languages required in bilingualism, enhances the development of more general cognitive skills outside of the language domain (Adesope et al., 2010; Carlson & Meltzoff, 2008). Bilinguals generally show increased attentional

control, inhibition, shifting, flexibility, working memory, and metalinguistic awareness (Adesope et al., 2010; Barac & Bialystok, 2011; Bialystok & Martin, 2004; Bialystok & Viswanathan, 2009; Carlson & Meltzoff, 2008). These cognitive advantages are more likely to occur for early than for late bilinguals (Adesope et al., 2010; Carlson & Meltzoff, 2008) and can, for example, be of advantage in solving mathematical word problems (Kempert, Saalbach, & Hardy, 2011). In addition, neuroimaging studies show that bilinguals have an increased density of grey matter in the left inferior parietal cortex compared to monolinguals, which is related to increased L2 proficiency (Mechelli et al., 2004).

Social-contextual correlates of language proficiency in bilingual children

Several social-contextual factors that can contribute or hinder use and proficiency in the ethnic and the host language have been identified by previous studies. On the level of the family, SES is an important factor that influences children's language proficiency both directly and indirectly. Children from families with a higher SES are generally more proficient in the host language than children from low-SES families (e.g., Bohman, Bedore, Peña, Mendez-Perez, & Gillam, 2010; L. Q. Dixon, 2011; Golberg, Paradis, & Crago, 2008). The achievement gap between SES groups increases over time (Kloosterman, Notten, Tolsma, & Kraaykamp, 2011). High-SES families use the host language more than the ethnic language, whereas the opposite is true for low-SES families (Pearson, 2007). Language-stimulating activities are conducted more in high-SES families (e.g., Conger & Donnellan, 2007; Crosnoe et al., 2010; Jäkel, Schölmerich, Kassis, & Leyendecker, 2011), and high-SES mothers speak in longer utterances with a richer vocabulary (Hoff, 2003). The financial, human, and social capital available in high-SES families, and the stressors present in low-SES families can explain these SES-based differences in child-directed speech and stimulating activities, and in turn also the differences in child language outcomes (Conger & Donnellan, 2007; Farver, Xu, Eppe, & Lonigan, 2006; Guo & Harris, 2000; Mistry, Biesanz, Chien, Howes, & Benner, 2008).

Another important family-level factor is the language use in the home. Both the quantity and quality of ethnic language use of family members in the home can facilitate children's ethnic language proficiency and development (e.g., Duursma et al., 2007; Hoff & Core, 2013; Mancilla-Martinez & Lesaux, 2011; McCabe et al., 2013). The picture is less clear for host language use and

proficiency, for which some studies found positive relations, provided that parents have sufficient proficiency in the host language (e.g., Becker, 2010; Byers-Heinlein, 2013; Duursma et al., 2007; Mancilla-Martinez & Lesaux, 2011), whereas others found that home exposure to the host language was not related to host language proficiency (Gutiérrez-Clellen & Kreiter, 2003; Hammer, Davison, Lawrence, & Miccio, 2009). If only one parent speaks the ethnic language or both parents are fluent bilinguals, chances decrease that the child receives sufficient ethnic language input from the home environment for proper development of the language (Pearson, 2007). Parents can support their children's language development best when they speak in a language in which they are proficient and talk about objects or topics of interest to the child (McCabe et al., 2013). Language mixing – switching between L1 and L2 or using words from one language when speaking in the other language – is a specific pattern of parental language input that results in smaller vocabularies of the children (Byers-Heinlein, 2013). Furthermore, the amount of language output that a child produces in a certain language is important for proficiency in that language, because a child can practice a language when using it and speaking in the language requires more profound processing than only hearing it (Bohman et al., 2010; Hammer et al., 2012).

Other family-level factors that may be beneficial to children's language development are high parental responsiveness and acceptance, high availability of well-organized and varying learning materials in the home, parents' communication with their children about school-related activities, and personal literacy support (Arriagada, 2005; C.-J. Chen, Hsu, Chu, Han, & Chien, 2012; Duursma et al., 2007). Cognitive stimulation in the home is an essential form of language stimulation that serves as a base for other sources of stimulation to produce an effect (Crosnoe et al., 2010). Home reading is a characteristic of the home environment that is particularly beneficial for monolingual as well as bilingual children's language development within and across languages (e.g., Bus, Van IJzendoorn, & Pellegrini, 1995; Collins, 2010; Farver et al., 2006; Kalia, 2007; Mol & Bus, 2011; Roberts, 2008). Book reading in L2 by parents can compensate for low levels of host language use in the home and parents can use this as a means to prepare their children for schooling in L2 (Kalia & Reese, 2009). Furthermore, parental school involvement, library use and exposure to the host language via TV programs also positively influence host language development (L. Q. Dixon, 2011; Gonzalez & Uhing, 2008; Kloosterman et al., 2011). Besides the

parents, extended family members and other interaction partners can also make valuable contributions to children's ethnic language development (Gonzalez & Uhing, 2008; Place & Hoff, 2011).

On the level of the community, the ethnic language is used more in neighborhoods with higher numbers of immigrants (Arriagada, 2005). The limited host language exposure in such communities is a possible reason for the sharp loss of vocabulary over the summer that language minority students tend to experience (Lawrence, 2012). The SES of the people in the neighborhood can also affect children's expectations and motivation and eventually their educational achievement (Ainsworth, 2002). Also, positive effects of preschool or kindergarten enrollment on host language proficiency have been reported by several previous studies (Silvén & Rubinov, 2010; Uchikoshi, 2006).

Regarding outcomes of language proficiency, within- and cross-language relations between L1 or L2 proficiency and early literacy and reading skills have been found in several previous studies (e.g., Davison et al., 2011; Kalia & Reese, 2009; Proctor, August, Carlo, & Snow, 2006; Verhoeven, 2007). The relation between language proficiency and reading comprehension is mediated by listening comprehension (August et al., 2006). Furthermore, the relation between L1 vocabulary and L2 reading comprehension is stronger for fluent readers, which suggests that L1 skills can be used as a resource in L2 reading comprehension once the reading itself does not require too much cognitive energy (Proctor et al., 2006). L2 proficiency is also related to other school outcomes, such as spelling, math, science, and history (August et al., 2006; Strand & Demie, 2005; Yeung et al., 2000), whereas L1 proficiency is unrelated to these school outcomes (Yeung et al., 2000).

Turkish-Dutch bilingual children in the Netherlands

In the Netherlands, people with a Turkish background form the largest ethnic minority (Central Bureau of Statistics, 2013), and most of them grow up bilingually. In comparison to monolingual Dutch children, Turkish children show delays in language development (Cornips, Van der Hoek, & Verwer, 2006; Verspoor & Cremer, 2008), and a lag in school outcomes that starts in primary school and continues into secondary and later education (Hartgers, 2012). Turkish-background parents might experience difficulties in supporting their children's school careers because of language difficulties or unfamiliarity with the

school system in the host culture (Extra & Yağmur, 2010). Although the gap with native peers is decreasing, Turkish-background children still belong to the ethnic minority groups that are furthest behind in educational level (Hartgers, 2012).

The Turkish language in the Netherlands has a remarkably high vitality (Extra & Yağmur, 2004, 2006). The importance of the Turkish language in ethnic identity contributes to this strong language maintenance (Extra & Yağmur, 2010). However, Turkish language proficiency does not add to psychological adaptation in the Netherlands and use of the Turkish language, even in combination with a high Dutch proficiency, is not widely accepted by the general public in the Dutch society (Vedder & Virta, 2005). The introduction into preschool can propel Dutch vocabulary development of children with a Turkish background, but the early introduction into this all-Dutch environment can at the same time jeopardize the development of the Turkish language (Leseman, 2000).

Turkish-background parents generally read less frequently to their children and interact differently with their children during joint book reading than native mothers, because joint book reading is not part of their traditional cultural repertoire (Bus et al., 2000; Jäkel et al., 2011; Leseman & De Jong, 1998; Scheele et al., 2010). Other oral language activities such as personal conversations, oral storytelling, or undertaking activities outside the home are also less common in Turkish families than in native families (Becker, 2010; Scheele et al., 2010). During joint book reading Turkish mothers are more likely than Dutch mothers to ask their children to repeat or complete sentences, or to focus on the procedure, and less likely to evaluate or extend the narrative, to talk about own experiences, to use the pictures in the book as a support, or to make textual changes (Bus et al., 2000; Leseman & De Jong, 1998). Still, Turkish parents may gradually adopt book reading practices that are common in Western-European cultures (Jäkel et al., 2011). Book reading is less important in the explanation of language and literacy outcomes for bilingual Turkish than for native children (Becker, 2010; Netten, Droop, & Verhoeven, 2011). Besides book reading, there are several other sources of interaction through which parental input in Dutch and Turkish explains differences in Dutch and Turkish proficiency (Scheele et al., 2010).

Both monolinguals and bilinguals are often unaware of the possible advantages of bilingualism and perceive monolingualism as advantageous above bilingualism, which leads to monolingualism being implicitly and explicitly

promoted by society (Agirdag, 2010). Regarding the Dutch situation, a shift in the education for bilingual children can be seen. From 1970, ethnic language instruction was supported in line with the idea that Turkish immigrants would eventually return to their home country, and later on also with goals related to ethnic identity, cognitive heritage, family contacts, and host language learning (Driessen & Van der Grinten, 1994; Extra & Vallen, 1997; Vedder & Virta, 2005). However, in the early 2000s the Dutch political discourse started to change and became more antipluralist, and since 2004 home language instruction is no longer supported by the government (Extra & Yağmur, 2004, 2006; Verspoor & Cremer, 2008). Currently, most schools have an educational model that focuses only on learning Dutch (Extra & Yağmur, 2004, 2006; Vedder & Virta, 2005).

Aim and outline of the dissertation

The overall aim of this dissertation is to unravel the interrelations between social-contextual factors at the family and community level, home language use, bilingual children's language proficiency and their school outcomes. Insight into the relation between language proficiency and school outcomes of bilingual immigrant-background children can provide support as to whether promoting language proficiency can be the key to closing the achievement gap between immigrant-background and native children, and insight into home language use, home literacy environment, and language proficiency in both languages can in turn yield important information on how the language development of these children can be supported and how this support can be tailored to the needs of this specific group. To reach this aim, the following research questions are investigated in this dissertation:

1. How strong and robust are the relations between the oral language proficiency of bilingual children with an immigrant background in both L1 and L2 and the school outcomes of early literacy, reading, spelling, mathematics, and general academic achievement?
2. To what extent is the amount of Dutch and Turkish that mothers use when communicating with their toddlers and the stability or change of that language use over time related to mothers' ethnic identity, the start of child care use, and the ethnic constellation of the neighborhood?

3. To what extent is the relation between SES and vocabulary in both Dutch and Turkish mediated by the language and reading input in the home in each of the languages?
4. To what extent does the interdependence between Turkish vocabulary and Dutch vocabulary growth vary as a result of the contextual factors language use with others and family SES?

To examine the strength, direction and robustness of relations between language proficiency and school outcomes in both L1 and L2 for bilingual children with an immigrant background, a meta-analytical approach is particularly powerful. Our studies with Turkish-Dutch samples can add to the knowledge about language use and proficiency in this ethnic minority group, which is still limited despite the fact that they form the largest ethnic minority in the Netherlands. In addition, the investigation of cross-language relations between oral language proficiency and school outcomes and of the hypothesis of context-dependent linguistic interdependence can add to the theoretical knowledge base in the ongoing discussion and specification of the linguistic interdependence hypothesis (Cummins, 1979).

In Chapter 2, the results of a meta-analytical study on within- and cross-language relations between oral language proficiency and the school outcomes of early literacy, reading, spelling, mathematics, and general academic achievement are presented. In Chapters 3 to 5, factors related to language use and proficiency are further explored in a specific group of immigrant-background children, namely Turkish-Dutch bilingual children in the Netherlands. In Chapter 3, a longitudinal study on maternal language use patterns in Turkish-Dutch families during early childhood and the role of the ethnic constellation of the neighborhood and the use of child care facilities in the change or stability of these patterns is described. For the studies in Chapters 4 and 5, potential predictors of children's vocabulary outcomes in Turkish and Dutch were studied before, during and after the children's transition to formal education. Chapter 4 focuses on the differential pathways from SES to vocabulary in Dutch and Turkish, with maternal language input and home reading input as possible mediating variables. In Chapter 5 the linguistic interdependence between Turkish vocabulary and Dutch vocabulary growth is studied from a context-dependent perspective. Finally, Chapter 6 provides an integration and discussion of the results from the previous

chapters, and an overview of limitations, suggestions for future research, and implications.