Differences in language development among young children in Northeast Netherlands
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Chapter 1

General introduction
Introduction

The countryside of Northeast Netherlands has been linked to educational disadvantages for many decades. In 1992, Van Oosterhout already published an article with the illustrative title Nattigheid voor Baflo [Damp for Baflo] (Van Oosterhout, 1992), to stress that many students in the northern parts of the Netherlands perform badly at school. Afterwards, publications appeared regularly with word painting titles like Nieuwe kansen voor het onderwijs in Drenthe [New opportunities for education in Drenthe] (Mulder & Kloprogge, 2001), Dilemma’s in het groen [Dilemmas in the green] (Van der Vegt & Van Velzen, 2002), and Kansen in het graan [Opportunities in the grain] (Stellingwerf, Pulles, & Dusseljee, 2004). In these publications educational disadvantages of children in this region were explored and attempts were made to explain the origin and persistence of these disadvantages. The common focus of these studies is that they all explained the educational disadvantages by referring to socioeconomic and cultural backgrounds of families in the northeastern part of the Netherlands.

Since 2007 the Dutch National Ministry of Education, Cultural Affairs and Sciences launched two projects in Northeast Netherlands, namely in East Groningen (Spraakmakend) and Southeast Drenthe (Vanzelfsprekend) respectively, to foster the language development of young children in these areas by - for example - involving parents in preschool activities and professionalizing Early Childhood Education and Care (ECEC) teachers. The assumption in both projects was that many children in the northeastern countryside enter primary school with language delays (Spraakmakend, 2007). In 2009, the Dutch Inspectorate of Education reported that students achieved below the national average level at 11 percent of the schools in the northern provinces (Inspectie van het Onderwijs, 2009). More recently, Driessen (2013b), in a study on the position of target groups of national Educational Priority Policy (EPP), argued that the autochthonous group in the north of the country still needs permanent support. Apparently, the educational disadvantages of students in the northeast of the Netherlands are very persistent. Besides, intensive attempts to alter this unfortunate situation did not seem to have the desired effect (Driessen, 2013a).

Despite the apparent consensus, not all studies confirmed the assumption that, on average, young children enter primary schools with language delays and catch up these delays. The evaluation study of the already mentioned project Spraakmakend, assessing the receptive vocabulary skills of three-year-olds in East Groningen in three successive years, showed that, on average, these toddlers are not delayed (Beekhoven, Jepma, Swart, Duursma, & De Glopper, 2011). Remarkably, however, was the larger distribution of the vocabulary scores in their sample, compared to the national reference group,
indicating a large variability. Likewise, annual measurements by CITO on language and math scores in primary schools in the Netherlands (JPON) (Van Weerden, Hemker, Straat, & Mulder, 2013) show that variables like region and urbanity hardly have an effect on language and math scores and that pupils in North Netherlands do not perform significantly worse on language and math tests than their peers in other regions of the Netherlands.

So, although national and local educational priority policy focused on leveling the playing field for children with educational disadvantages in the northeast of the Netherlands, based on the assumption that these children enter primary school with language delays and that these delays are persistent, unequivocal evidence that demonstrate the number of young children with language delays and the magnitude of these delays in this specific region, is lacking. The first aim of this dissertation, therefore, is to examine whether children in Northeast Netherlands enter primary school with language delays and, in case they do, what the magnitude of these delays are. A second aim is to examine the role of socioeconomic and cultural determinants of language development in young children at the beginning stages of primary education in this specific region.

In this first chapter, a general introduction to the relevant literature on language differences among young children in this specific area is given. First, theories about the origin of educational disadvantages will be briefly discussed. Next, this specific region will be described from three different viewpoints. The first perspective concerns the structure of the region, which discusses the demographic and economic characteristics of the northeast part of the Netherlands. The second scope targets the resources within the region, dealing with the development of rural areas in general and with the development of the northeastern countryside in particular. The last point of view concerns relevant socioeconomic and cultural determinants on the language development of young children in this area, which are supposed to be influenced by the structural aspects and the availability of resources in this region. After the description of the research questions and the aims of this dissertation, an overview of the chapters will be given.

**Origin of educational disadvantages in rural areas**

With regards to persistent educational disadvantages of specific populations, the classical viewpoint is that environmental factors and hereditary genetic factors are additive: the phenotype $P = G + E + C$. According to this vision, the variance in a population of a phenotypical feature like educational success is determined by summing the variances of the genetic ($G$), unique ($E$) and common ($C$) environment factors respectively (Doolaard & Leseman, 2008). Policy to prevent or to compensate educational disadvantages was based on the axiom that hidden ‘talent’, based in individuals’ genotype ($G$), is being covered by hindering socioeconomic and cultural
environmental factors (E), like poverty, or lacking literacy opportunities (Van Heek, 1972). The aim of education, addressed to specific minority groups, like in the EPP in de 70’s and 80’s of the last century, was therefore to compensate for the lack of enriching home literacy in socioeconomic or culturally deprived families, in order to actualize the genetic potential.

Numerous studies have shown that this vision was no longer tenable (Dickens, 2005; Rowe, Jacobson, & Van den Oord, 1999). A first axiom of more recent models is that genetic endowment and environment are interacting and are therefore correlated (Dickens & Flynn, 2001). Second, this interaction between genetic endowment and environment is a continuous and life-long dynamic developmental process (Van Geert, 1998). The phenotype, which is the result of the first interaction between G and E, can be regarded as the point of departure for the next interaction, et cetera (Doolaard & Leseman, 2008; Leseman, 2005). A third axiom is that proximal environments, seen as the environments near the child, for example interactions in the families, are being influenced by systems in the wider environment. The latter affects the child through the proximal environment (see Dickens and Flynn (2001) and Leseman (2005) for a more detailed description of this mechanism).

In order to understand the presumed educational disadvantages in the northeastern countryside, it is therefore not only important to identify the proximal processes in the families but also to examine the wider environment and to identify specific regional differences (Vogels, 2006). Various studies about educational disadvantages in general and about educational disadvantages in rural areas in particular have identified proximal and more distal factors that affect the achievement of children in socioeconomic and culturally deprived situations, like exhausting of talent, low expectations by parents and teachers or a gap between the culture in families and the culture in schools (Mulder & Meijnen, 2013; Van der Vegt & Van Velzen, 2002). These factors have never been examined together, specifically for the autochthonous children in the countryside of Northeast Netherlands. Specific region-based research is therefore requested to identify which factors and to what degree they affect the educational achievement of children in the northeast of the Netherlands. In this dissertation, we will focus on the development of language proficiency, as language is undoubtedly regarded as an important tool for educational success (Hoff, 2006).

Vogels (2006) divided these region-specific factors in three components: (1) components that affect the structure of the region, (2) components that affect the resources in the region and (3) socioeconomic and cultural components. In the next three sections, the northeastern region of the Netherlands will be described according to these three components.
Structure of the region

The northeastern part of the Netherlands, the provinces Groningen and Drenthe, is a rural region with about one million residents (CBS, 2014). More than a third of these residents lives in the city Groningen, whereas forty percent of the other residents live in a non-urban area (18.7% nationwide). The average amount of residents per square kilometer is 217 (489 nationwide). The region faces many social and economic problems, such as high unemployment rates (Thissen, Fortuijn, Strijker, & Haartsen, 2010). In addition, the average disposable income of the citizens in the northern region is lagging behind the national average.

Ever since the fifties of the previous century, mechanization and expansion led to a decline in employment opportunities and an economic shift from primary and secondary production toward tertiary and quaternary sector production, and an increasing scaling of the economy (Thissen, 2015). Most employment in this area is nowadays mainly in industry, trade, and care (Gardenier, 2012), requiring mostly lower (34%) and intermediate (42%) occupations (CBS, 2006). This resulted into an overrepresentation of lower and middle educated people in the northern countryside (CBS, 2014). This area has become less attractive for young people on their way to adulthood. Because of the lack of opportunities, many talented young people move to the city of Groningen, from where they move on to other urban regions, mostly in the western part of the country, where they can lift their economic situation. Therefore, the city of Groningen is being regarded as ‘the escalator’ of North Netherlands (Latten, Das, & Chkalova, 2008).

Resources

Like in many other rural areas, much employment and many services disappeared in the latter half of the previous century in the northeast of the Netherlands. Basic services and resources like, for example, a grocery shop, a primary school, and a library do not seem to be viable anymore (Thissen, 2015). This process of restructuring is still ongoing. At the same time, the residential function became more and more important locally. Instead of living in the village where citizens were born and grew up, living in a village became a matter of choice for a growing number of rural households. Thissen (2013; 2015) described the changes of villages as a transition from relatively autonomous villages towards more or less residential villages. The result of this regionalization was that villagers are less attached to their villages, both functionally and socially. Villagers work, shop and go out mainly outside their village. Almost all inhabitants leave the village at least weekly, and a large minority (42 percent) do so almost daily (Vermeij, 2015). The importance of the outside world is also influencing the social attachment of villagers. Most villagers have more friends and acquaintances living outside than within the village and a third of all Dutch villagers have no friends at all in their own village.

Another consequence of this regionalization process is that the number of children in schools reduced, so that schools had to merge or even to close. A primary school
in a small village has no viability anymore. Furthermore, the quality of small schools became an issue, as many small schools are judged as ‘weak’ by the Dutch Inspectorate of Education (Onderwijsraad, 2013). In order to serve all pupils, small schools have to arrange so-called multigrade classes, in which students of two or more adjacent grade levels are taught in one classroom by one teacher for most, if not all of the day (Russell, Rowe, & Hill, 1998). Multigrade teaching is demanding for teachers. It requires effective grouping strategies and reduces the instruction time per grade level group. This also means less time for the teacher to assist individual students and meet their needs (Faber, Van der Horst, & Visscher, 2013; Russell et al., 1998). The Dutch Inspectorate of Education partially attributes educational disadvantages in the northern rural areas partially to small schools, and, as a consequence, to multigrade classes (Inspectie van het Onderwijs, 2009).

**Social and cultural determinants**

Sociological research has shown that the social structure of a community can influence behaviors, norms, and attitudes since such outcomes may be related to population composition or its characteristics (Blau, 1960; Durham & Smith, 2006). This mechanism can be best understood by Bronfenbrenner's bio-ecological theory (Bronfenbrenner & Evans, 2000), which describes four interrelated systems. The first system, the micro-system, consist of systems closest to the child (e.g., the home). The second system, the meso-system, are the interrelations between the microsystems (e.g., between home and school). Third, the exo-system, consists of the micro-systems in which the child is not directly situated, but which have an influence on the child’s development (e.g., parental working environment). The fourth system, the macro-system, can be thought of as the larger (cultural) context encompassing different systems (e.g., shared belief systems). The assumption is, that the effect of the exo-system (e.g., parental educational attainment or income) on outcome measures (e.g., language proficiency of young children) are being mediated by proximal processes in the micro-system (Bronfenbrenner & Ceci, 1994; Leventhal & Brooks-Gunn, 2003), such as, for example, parental beliefs concerning education and school (Chan & Moore, 2006; DeBaryshe, 1995; Duren, 2006), expectations (Baroody & Dobbs-Oates, 2011; Phillipson & Phillipson, 2012) and home literacy practices (Leseman & De Jong, 1998; Leseman & Van Tuijl, 2006; Raikes et al., 2006; Snow & Beals, 2006). This mediation can occur on different levels, namely on the family level as well as on the community level (Durham & Smith, 2006).

In the next sections we will further examine the proximal processes that are expected to mediate between parental background characteristics and language outcomes of young children, namely parental beliefs about child rearing and education, their expectations about children’s academic achievement and home literacy practices.
Parental beliefs and expectations

According to Van der Vegt and Van Velzen (2002), parents in rural areas value academic success less than parents in suburban or urban areas. They suggest that these parents not always regard education as a key factor to social mobility. The way parents value education, however, is part of a broader cognitive-emotional framework of beliefs and expectations, the so-called parental belief system (Doolaard & Leseman, 2008; Sigel, McGillicuddy-De Lisi, & Goodnow, 1992). Harkness (2007; 2010) calls these parental ethnotheories. Understanding parents’ ethnotheories about their children is key to understanding the strategies parents use to help their children grow up to become successful members of their communities. Therefore, it is important to understand parents’ beliefs about child rearing, the role of education and school and their expectations about their children’s academic achievement. Child-rearing beliefs and practices, or parental ethnotheories, are considered as aspects of the so-called developmental niche (Harkness & Super, 2006). These ethnotheories are part of general cultural models, seen as sets of ideas organized and shared by the members of a cultural group (e.g. rural community), generally implicit, taken for granted, and translated into practices (Cole, 1998; Harkness, 2007; Suizzo, 2002). Empirical studies have shown that parental beliefs about child development have significant effects on children’s cognitive, emotional, and social competence (Rowe & Casillas, 2011). The developmental outcomes of children, however, are not only affected by parental beliefs, but also by parental behaviors. As a consequence, parental beliefs and values are also reflected in the ways in which parents rear their children.

The effect of parental educational expectations on academic achievement has been widely documented (Baroody & Dobbs-Oates, 2011; Flouri & Hawkes, 2008; Phillipson & Phillipson, 2012). Low academic expectations by parents have a negative influence on academic achievement. There is evidence that low expectations by parents on academic achievement in rural areas are linked with the available jobs, which mostly requires low or middle education. After all, to get a job within the region, a middle education is generally sufficient. De Boer (2009) concluded that the ambitions of parents in a comparable northern rural area (Province Fryslân) were lower than in other regions within the Netherlands. Parents of above-average achieving students in Fryslân aspired to Havo (senior general secondary education), whereas other parents aspired to Vwo (pre-university education).

So, we can assume that beliefs about childrearing and education of parents and their expectations of their children’s achievement in school, affects the way parents rear their children. It is also a long-standing hypothesis that the nature and quality of parenting are intergenerationally transmitted. Many parents in one generation rear their children in a manner similar to that which they themselves experienced while growing up (Serbin & Karp, 2003). That, however, does not mean that parenting in one generation does predict parenting in another (Belsky, Fish, & Isabella, 1991). Various physical, social and genetic mechanisms are involved in transmitting parenting style from one generation to another.
(De Roos & Bucx, 2010). In sum, there is no shortage of evidence that parenting is indeed transmitted across generations, although little is known about the factors that determine whether parents continue the parenting style of their parents.

*Home literacy practices*

Numerous studies have shown significant relationships between home language, literacy practices at home, and children’s language and pre-literacy development (e.g. Bennett, Weigel, & Martin, 2002; Pan, Rowe, Singer, & Snow, 2005; Snow & Beals, 2006). Home literacy can be regarded as a multifaceted phenomenon (Leseman & De Jong, 1998). The *first* facet is literacy opportunity (Hart & Risley, 2003; Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991; Leseman & De Jong, 1998; Snow, 2000), referring to the amount of exposure to literacy products, activities and oral language by parents (frequency facet). This can be *informal* experiences that expose children to language, like storybook reading (Bus, IJzendoorn, & Pellegrini, 1995; Senechal, 2006). These experiences are very important as differences in opportunities at home with everyday printed materials as a consequence of cultural diversity leads to different outcomes (Heath, 1983; Leseman & Van Tuijl, 2006; Neuman & Celano, 2012). Exposure to print and oral language by parents can also be *formal* by nature, indicating that the focus of the activity is on the structure of the language, like rhyming (Senechal, 2006; Teale & Sulzby, 1986). During these literacy-related social interactions children learn phonological skills, letter knowledge, and complex cognitive skills. The *second* facet of home literacy concerns the quality of interactions between parents and their children. Interactions differ, for example, in the level of abstraction, defined as the extent to which the content of the interactions abstracts from the directly visible here-and-now (Blank, Rose, & Berlin, 1978; Henrichs, 2010; Schleppegrell, 2004). This so-called exposure to academic language provides young children with important linguistic tools, like syntactic, semantic, and conceptual knowledge which are important prerequisites for higher order academic skills like reading comprehension (Leseman, Mayo, Messer, Scheele, & Vander Heyden, 2009; Oakhill & Cain, 2012). A study by Scheele, Leseman, Mayo, and Elbers (2012) showed that the quality of home language and literacy environment of three-year-old toddlers predicted children’s ability to use academic language in the impersonal and personal narrative genres. These findings stress the importance, not only of sufficient exposure to, but also of the quality of early parent-child interactions for oral language skills later on. There is consensus that the way parents interact with their children depends on socioeconomic factors like parental education and the degree in which parents use symbolic content in their jobs and cultural factors like literacy use at home (Heath, 1986b). A study by Leseman and Van Tuijl (2006) has shown that the higher educated have more often occupations with a higher degree of symbolic job content and use language and literacy more often for epistemic and informational purposes than lower educated. Informational or epistemic use of literacy is focused on gathering new information and knowledge (Wells, 1987). The function of reading herein is
reading to learn rather than learning to read (Heath, 1986a). Lower educated, in contrast, generally use language and literacy for recreational and instrumental purposes (Heath, 1986b). Instrumental literacy refers to the use of literacy to accomplish practical goals or to gain information for the practical needs of daily life (Heath, 1983; Heath, 1986a). Wells (1987) calls this functional use of literacy. Within this use, reading is highly contextualized.

Adjusted to the northeastern region, where lower and middle educated are overrepresented, we presuppose that in many families in this specific region parents use literacy for instrumental, rather than informational purposes and are less focused on gaining information.

Research questions

Although several studies in the past focused on educational disadvantages in the northeastern part of the Netherlands, and many large-scale projects were executed to improve the language skills of young children in this area, unequivocal evidence that demonstrate the number of children with language delays and the magnitude of these delays in this specific region, is lacking. Studies, focusing on the origin of language delays in rural areas, have already shown the importance of the child’s early environment and have offered mediational explanations for the variety in language and literacy skills both by family-level socioeconomic characteristics like parental education as by cultural characteristics like literacy use of parents, literacy practices at home and parental beliefs and expectations. In order to understand the language development of young children in the northeastern part of the Netherlands, it is important to examine the joint relationship of these socioeconomic and cultural factors in this specific region. Therefore, this dissertation has two main objectives. The first aim is to examine whether young children in the northeast part of the Netherlands enter primary school with a language delay. The second aim is to examine the joint role of important socioeconomic and cultural determinants of language development of young children in this region. This leads to the following research questions:

1. Do young children in the northeast of the Netherlands enter primary school with language delays? If so, how many children lag behind and how severe is their delay?
2. What are important socioeconomic and cultural determinants of language development of young children in the northeast of the Netherlands?
   a. Does parental education predicts language and literacy skill of toddlers, controlled for general cognitive abilities?
   b. Does literacy use by parents predicts language and literacy skills of children at the beginning stage of primary school, controlled for general cognitive abilities?
   c. What are the beliefs about child rearing and education and the expectations of educational achievement of parents in the northeast of the Netherlands?
   d. Do these beliefs and expectations of parents in the northeast of the Netherlands mediate between socioeconomic background characteristics, home literacy, and language and literacy development, controlled for general cognitive abilities?
This dissertation

This dissertation is structured as following: Chapter 2 reports on a study into the language development of two- and three-year-old toddlers. The first question is whether toddlers in the northeastern part of the Netherlands have a language proficiency delay in vocabulary and grammar as compared to same-aged children in other parts of the Netherlands (Research Question 1). A second question is what the influence is of maternal education on the development of two language skills: vocabulary and grammar (Research Question 2a). We presuppose that in other regions, with more higher educated, parents use more decontextualized language and, as a consequence, the vocabulary and grammar score of their children will be higher. To test this hypothesis, Structural Equation Modeling (SEM) is used to estimate the unique influence of maternal education on grammar and vocabulary of 3-year-old toddlers, controlling for general cognitive abilities. Data to be used stem from the national pre-COOL study.

In the study reported in Chapter 3, the influence of literacy use by parents on language and literacy proficiency at the beginning stage of primary school is examined (Research Question 2b). Literacy use is being regarded as a more proximal factor than educational attainment. Using SEM, the unique effects of literacy use by parents on both code-related skills as on oral language skills are being estimated. Thereby we controlled for important general cognitive abilities like fluid intelligence and working memory. We assumed that the effect of parental literacy use on oral language skills use increases between K-1 and Grade 1. This would be an important finding as oral language skills predicts for example reading comprehension, which is regarded as an important academic skill.

In the study reported in Chapter 4, the effects of both the socioeconomic and cultural determinants of language proficiency are being examined. Besides parental education and literacy use, the effects of parental beliefs regarding childrearing and education, and expectations on language and literacy skills of K-1 children are being examined (Research Question 2d). Using SEM, we tested the model whereby parental beliefs and expectations are being dependent on parental background characteristics (educational attainment and parental literacy use) and whereby beliefs and expectations mediated both the effect of these background characteristics and home literacy, and the effect between background characteristics and language outcomes. Finally, we expected that home literacy mediated the effect of background characteristics and language proficiency.

The study in Chapter 5 is qualitative by nature and is regarded as an in-depth study of the previous chapter. In this study, the main aim was to unfold parental beliefs regarding childrearing and education and expectations of children’s academic skills by interviewing thirteen mothers from the northeastern part of Groningen (Research Question 2c). These mothers vary in educational attainment, origin, and place of residence. In trying to understand the beliefs and expectations of the mothers, we examined whether their beliefs and expectations can be linked to their own history as a child.
Finally, in Chapter 6, we recapitulate and reflect upon the findings of the four empirical studies. We return to the main issues concerning whether children in the northeast of the Netherlands have language delays and which socioeconomic and cultural factors affect the language proficiency of young children in this region. Furthermore, implications for (educational) policy and practice will be discussed, along with suggestions for future research.