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Home Language and Language Proficiency: A Large-scale Longitudinal Study in Dutch Primary Schools¹

Geert Driessen

ITS – Institute for Applied Social Sciences, University of Nijmegen, PO Box 9048, 6500KJ Nijmegen, The Netherlands

Frans Van der Slik and Kees De Bot

Department of Applied Linguistics, University of Nijmegen

This article reports on a large-scale longitudinal study into the development of language proficiency of Dutch primary school pupils aged 7–10. Data on language proficiency and a range of background variables (home language, level of education and occupational status of parents, language background, migrants' length of residence) from 4419 pupils were analysed. The main outcomes of the study are that, although children with an immigrant language background (Turkish/Moroccan) develop their skills in Dutch considerably over two years, they are nonetheless lagging behind compared to the Dutch reference group. As other groups with a home language other than standard Dutch (Frisian, Limburgish, dialects) do not show a similar trend, it is concluded that the use of the Dutch language in itself is not a crucial factor in the development of language proficiency in primary school. With respect to the background variables, one interesting finding was that the same structural equation model applies to all linguistic groups. The outcomes are discussed in the light of the current debate on school performance of children with migrant backgrounds.

Introduction

Like most Western European countries, the Netherlands has seen a large influx of migrants since the second half of the previous century. These were citizens from former colonies, guest workers from the Mediterranean and refugees, especially from Asia, Africa, Central and Eastern Europe.² Ethnic minorities are regularly subject to critical attention in the media and politics. The debate reached a new high at the beginning of 2000, as a result of an essay by Scheffer (2000) published in *NRC Handelsblad*, an influential Dutch newspaper. In this essay, entitled *A Multicultural Tragedy*, Scheffer comes to the sobering conclusion that, despite all measures taken, unemployment, poverty, early-school-leaving and crime rates are increasing among ethnic minorities. Their current position is very problematic and the outlook is rather bleak, despite individual success stories. The Dutch situation, however, is not unique; the same debate is taking place in other Western countries as well (Gamoran, 2001; Tomlinson, 2001).

As far as education is concerned, immigrant children – especially those with a Turkish or Moroccan background – achieve poorer results in the core subjects of the national curriculum. They transfer predominantly to lower types of secondary education, repeat years more often, display more behavioural problems, more often leave school prematurely and more often fail their final exams. They can be found in higher and university education only to a limited extent

(Driessen & Jungbluth, 1994). Apparently, their disadvantaged position has not improved, despite all policy efforts made in this area (Mulder & Van der Werf, 1997). Neither did the many pre-school and early school compensatory and stimulation programmes lead to the desired results (Eldering & Vedder, 1993). Crucial in this respect is the fact that, in the absolute sense, the educational position of immigrant children in terms of achievement and attainment has improved considerably over the last 10 to 20 years. However, that also holds true for native Dutch children. In fact, the relative position of immigrant children has remained the same as 20 years ago (cf. Driessen, 2000).

One aspect that prevails in the disadvantaged position of immigrants is the level of language proficiency. From the very moment that they are born, children are exposed to language in various situations. The immediate environment, including family, relatives and the neighbourhood in which the children live strongly determines their language development. A number of factors seem to explain why, compared to their native Dutch classmates, immigrant children begin with a substantial disadvantage when they enter primary education. A major factor is the language spoke at home, which is not the one spoken at school. Another factor is that they grow up in an environment in which their peers do not speak Dutch (Broeder & Extra, 1999; Pels, 2000).

For educational policy and research, the key question is whether the use of Dutch at home contributes to children's Dutch language proficiency at school. This means that it is only useful to examine to what extent this factor is subject to outside influence, when the differences between the linguistic groups can be traced back to differences in the use of Dutch at home. If it turns out that this factor has no clear effect, we will have to look for other factors that might explain the differences between the linguistic groups. Studies that related several different indicators of ethnicity to the language proficiency of children in primary education showed that the language spoken at home or the language that parents speak among themselves had the strongest correlation with language proficiency (Aarts, 1994; Driessen, 1997; Narain, 1995; Klatter-Folmer, 1996; Leseman & de Jong, 1998; Leseman, 2000). In addition, following the theoretical notions of Cummins (1979), home language rather than country of origin may be regarded as a more relevant indicator for studying the process of second language acquisition and L1-L2 transfer.

Correspondingly, the preliminary hypothesis of the present study is that there is a direct relation between the use of Dutch at home and in the immediate environment of the child, and the child's scores on language tests. Of course, we did expect that the effect of speaking Dutch at home would be larger among immigrant children than among indigenous children. Previous studies have shown that, at the very start of their school careers, Dutch language development of Turkish and Moroccan children already lags behind by six months to more than a year. This lag does not disappear during primary education. On the contrary, the so-called Matthew effect (Stanovich, 1986) seems to occur: children of highly educated parents (usually Dutch) benefit more from education and therefore make more progress than children of poorly educated immigrant parents. The result is that Turkish and Moroccan children are approximately two years behind in their language development at the end of primary education, compared to children of highly educated (Dutch) parents (Driessen, 1996; Tesser

et al., 1999). However, effects may differ even among the various linguistic subgroups. Previous research has shown that Turkish children's school performances lag behind those of Moroccan children (Mulder, 1996). This may reflect pre-existing cultural differences among various groups whose mother tongues are not Dutch. One important goal of this study is to test whether these differences can be explained by the use of Dutch at home.

As far as the home language is concerned, the position of immigrant *and* native Dutch pupils is relevant. Differences may exist not just among various immigrant groups, differences in home language may be present among various indigenous subgroups as well. In the present study, a distinction was made between children speaking standard Dutch, Frisian, Limburgish and dialect.³ (For the sake of readability, we will use the term 'Dutch' for 'standard Dutch' and 'dialect' for 'Dutch dialects' below.) Although most people who speak Dutch do not understand Frisian or Limburgish, it may be argued that the linguistic distance between Frisian or Limburgish on the one hand and Dutch on the other is smaller than the linguistic distance between Turkish or Moroccan and Dutch. In addition, unlike parents from immigrant children, parents from Frisian, Limburgish and dialect-speaking children are usually 'bilingual'; they have a sufficient command of Dutch. The Dutch language proficiency of Dutch, Frisian, Limburgish and dialect-speaking children nevertheless varies considerably. Boves and Vousten (1996) concluded that dialect- or Frisian-speaking pupils achieve poorer results than Dutch-speaking pupils. Driessen and Withagen (1999) found differences among different regions as well. The Dutch proficiency level of children in Friesland was the lowest, but, interestingly, children from Limburg performed better than Dutch-speaking pupils. Finally, and particularly relevant for the present study, Jansen Heijtmajer and Cremers (1993) found that, in terms of test results and achievement levels, Dutch pupils who speak a dialect or Frisian at home perform not just worse than standard Dutch-speaking pupils, but also worse than immigrant pupils from comparable social backgrounds.

Research Questions

Concerning the Western European situation, there has been no large-scale longitudinal research into language proficiency in which pupils with different home languages from immigrant and native linguistic groups have been compared. This article is intended as a first step in that direction. Moreover, we want to analyse the relationships between the various characteristics from a causal perspective. Using recently collected secondary data, we will try to answer the following questions:

- (1) To what extent do primary school pupils from various linguistic backgrounds differ in terms of family, sociolinguistic and language proficiency characteristics?
- (2) Are there differences in the development of language proficiency of children from various linguistic backgrounds?

Given the differences that may exist between various language groups, it seems advisable to study the relationships of home language and language proficiency per linguistic minority group as well. In doing so, we do justice to the nature of

the specific characteristics of minority language groups and their effects, compared to the characteristics of the majority that uses standard Dutch. We will therefore explore the following question:

- (3) To what extent does one explanatory model suffice for groups with different home languages, as far as the development of language proficiency is concerned?

A Causal Model

The first research question involved describing the position of different groups of pupils. The second and third research questions aim at an explanation of the differences. To answer these questions, we used a causal model that includes the language proficiency of pupils. This model is represented in Figure 1. It should be noted that the data included the language proficiency scores of pupils from Form 4 (7–8-year-olds) and their scores when they were in Form 6. This enabled us to study the development of the pupils' language proficiency and the various factors that may explain differences in development, in particular their use of Dutch in different domains. Furthermore, we included a number of background characteristics of the pupils' parents in the model: their levels of education, lengths of residence, paid work, their command of Dutch and home languages (Turkish, Moroccan, Frisian, Limburgish or dialects).

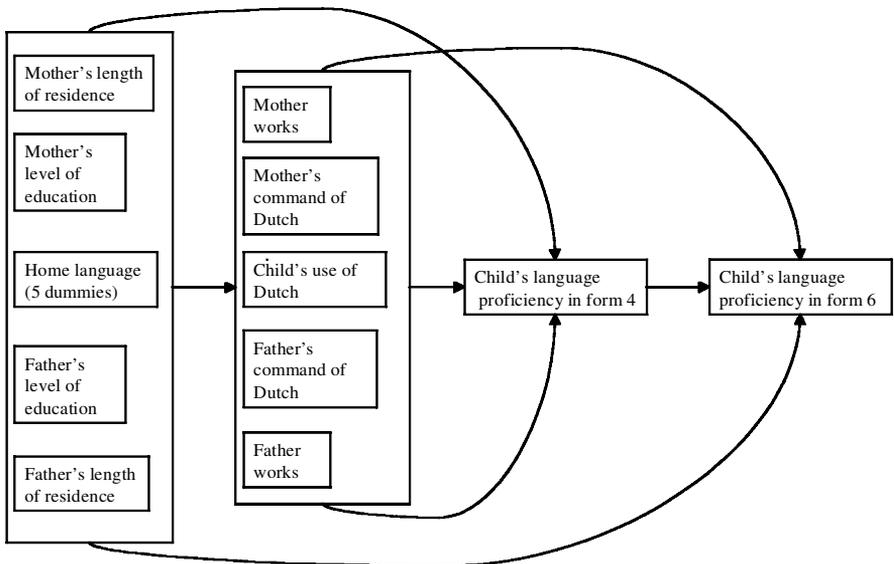


Figure 1 A theoretical model for the development of language proficiency

We assumed that the independent variables, parents' level of education, their lengths of residence⁴ and their home languages, would influence their command of the Dutch language⁴, the likelihood that the parents had paid work and the

extent to which the children used Dutch (e.g. Tesser *et al.*, 1999) (for the sake of readability, we did not include causal effects of the home languages to all the dependent variables in Figure 1, but these effects will nevertheless be estimated). Finally, we expected all the aforementioned characteristics of the parents' and the children's use of Dutch to affect the children's language proficiency. In this respect, we considered two possibilities. The first was that these characteristics would exclusively affect their children's starting levels of language proficiency in Form 4, but would not affect the further development of this proficiency. In other words, given their background, children start primary education either with a lead or with a deficit. Once they have entered primary education, they develop their language proficiency independently of the parental sphere. In this case, we would only observe the direct effects of the parents' characteristics and the children's use of Dutch on the language proficiency of children in Form 4, but not on the proficiency in Form 6. The second possibility was that these characteristics would not just have an apparent effect on the language proficiency of pupils in Form 4, but also on the language proficiency in Form 6. In this case, the aforementioned Matthew effect seems to occur.

Method

Sample

The data for this article come from the cohort study – Primary Education ('PRIMA'). This is a longitudinal study based on the biannual collection of information from school management teams, teachers, pupils and parents. This study began in the school year 1994/95 with an assessment involving 692 primary schools (almost 10% of the total number of primary schools in the Netherlands) and some 57,000 pupils from Forms 2, 4, 6 and 8. A second assessment took place during the school year 1996/97, which involved 622 schools and, again, some 57,000 pupils from the same forms. For an extensive account and description of PRIMA, see Driessen *et al.* (1998) and Driessen and Vierke (1999).

In the present study we did secondary analyses on the (longitudinal) data of pupils enrolled in Form 4 in 1994 and enrolled in Form 6 in 1996. In 1994, 14,898 Form 4 pupils were tested. In addition, via their children's teachers, parents were asked to fill in a written questionnaire (in Dutch, with an introduction in Turkish and Arabic). The questions related to various background variables, such as education, income, and home language. In total, 10,064 parents actually completed the questionnaire.⁵

As already noted, we used data of pupils who were in Form 4 in 1994, and in Form 6 in 1996. This restricted the sample to 5867 students. The main reason for this massive reduction was a refusal of schools to participate in the 1996 study. As a result, 2645 pupils did not participate. Another reason was that the 1996 study excluded 1552 pupils who changed schools or who resat a class in Forms 4 or 5.

In the nation-wide representative sample, several home language groups proved too small for separate analysis. These ($N = 355$) were therefore removed. Furthermore, we selected exclusively two-parent families because we wanted valid information on fathers *and* mothers. This reduced the sample to $N = 4858$. Due to missing scores, the remaining sample consisted of 4419 pupils.

Measures

Language tests

The administered language tests were specially developed for PRIMA by CITO (National Institute for Educational Measurement). The tests give an indication of the general proficiency level in Dutch. The test for Form 4 consisted of 60 two-choice items and that for Form 6 of 65 items, testing three types of linguistic skills (morphological, syntactical and semantic). Reliability ($K-R 20$) of the tests was 0.85 and 0.88, respectively. Sample items of these tests are (in translation):

- Is the following statement correct? 'My father brought himself a new car'. YES OR NO?
- Is this sentence correct? 'There goes he on his bicycle'. YES OR NO?
- Does this sentence make sense? 'Pleasure is another word for fun'. YES OR NO?
- Does the section in italics make sense? '*It is very important for a dog to get the right kind of food. A dog can get healthy as a result of eating the wrong kind of food.*'. YES OR NO?

Because the content of tests for grades 4 and 6 differ, they could not be compared in a straightforward manner. This was accomplished by applying an on Item-Response-Theory based 'One-Parameter Logistic Model' analysis (Verhelst *et al.*, 1995). Using a calibration procedure, the items of the different tests were re-scaled in such a way that they constituted a one-dimensional, metric proficiency scale. As a result, it was possible to measure the pupils' progress in language proficiency.

Parents' questionnaire

The pupils' parents completed an extensive questionnaire. Except for home language, all relevant questions were posed separately to the mothers and fathers.

- *Home language of parents.* This is the language that parents usually speak among themselves. Categories used were Dutch, Turkish (Turkish or Kurdish), Moroccan (Moroccan-Arabic or Berber), Frisian, Limburgish, and Dutch dialects.
- *Length of residence of the mother and father.* The number of years that parents who speak Turkish or Moroccan have lived in the Netherlands. It seems plausible that the effect of length of residence on the language proficiency of children would decrease according to how long the parents have lived in the Netherlands. To trace such curvilinear relations, we also included the square of length of residence: *length of residence**2 mother* and *length of residence**2 father*. Since 'length of residence' is only applicable to non-indigenous parents, scores of indigenous parents (including those of Frisian, etc.) on this variable are all missing. These missing scores have been replaced by the mean score on length of residence of the non-indigenous parents. This is because, in this case, the effect of length of residence for the Moroccan and Turkish parents was not affected by the scores of indigenous parents.

- *Levels of education of the mothers and fathers.* The highest level achieved; the categories varied from (1) primary school or less to (7) university education.
- *Command of the Dutch language by the mothers and fathers.* Self-rating scales (4 items) on the basis of Clark's (1981) Can-Do scales with regard to four modalities: comprehension, speaking, reading, and writing. The answer categories were (1) poor, (2) moderate, and (3) good. On the basis of the responses, we calculated a total score for each parent separately, which can be interpreted in terms of the above given answer categories (reliability $\alpha = 0.93$ for mothers; $\alpha = 0.90$ for fathers).⁶
- *Employment of the mothers and fathers.* We asked the parents whether they had paid work.
- *Children's use of Dutch as an informal spoken language.* The parents were asked to indicate the number of areas in which their children normally spoke Dutch. The different areas were (1) with the father, (2) with the mother, (3) with brothers and sisters, and (4) with peers. On this basis, we calculated a scale score (reliability $K-R 20 = 0.91$).

Analytic Strategy

To answer the first research question (Do primary school pupils from various linguistic backgrounds differ in terms of family, sociolinguistic and language proficiency characteristics?) we used *post hoc* tests (ANOVA: TUCKEY'S HSD $\alpha < 0.01$) to examine the differences among the language groups. LISREL analyses (LISREL 8.30) were carried out to answer the two remaining research questions. First, an analysis was performed, using the variables represented in Figure 1. On the basis of the outcomes, the second research question could be answered (Are there differences in the development of language proficiency in these groups?). In these analyses, the parents who spoke Dutch among themselves were taken as a reference group. Finally, a LISREL-analysis was performed, by using the multi-sample option. This approach enabled us to assess whether different explanatory models were needed for the various language groups. This enabled us to answer our third research question (Does one explanatory model suffice for groups with different home languages, as far as the development of language proficiency is concerned?).⁷

If effects were found to be non-significant, we decided to fix them at zero in order to prevent an unnecessary loss of degrees of freedom. On empirical grounds, these fixed effects are marked as '-' in Tables 2 and 3. There is, however, one exception. The effect of 'home language' (Turkish, Moroccan, etc.) was always set free, even when a particular effect did not differ from the reference group, Dutch. Finally, effects which have been fixed at zero on theoretical grounds are marked as '0'. We did not, for example, postulate causal effects between the mother's and father's command of Dutch, and the use of Dutch by their children. Consequently, these effects were fixed at zero. Of course, the mothers' and fathers' command and the use of Dutch by their children might nevertheless be correlated. In that case, the corresponding P-parameters were set free.

Results

Differences among pupils from various sociolinguistic backgrounds

A large majority of the parents (69%) speak Dutch among themselves. It should be noted that 5% of parents who indicated that they speak Dutch among themselves came from foreign (or mixed) backgrounds. Of the total sample, 3% of the parents speak Moroccan at home and 4% Turkish. Given the size of our sample, it is possible to analyse these percentages separately. This also applies to parents who speak Frisian among themselves (3%), Limburgish (8%) or dialects (13%).

Table 1 describes the other relevant variables. The average levels of education of the parents are somewhere between junior general secondary education and senior secondary vocational education. On average, fathers have higher levels of education than mothers. However, there are large differences between parents with different linguistic backgrounds. The average length of residence of the Turkish and Moroccan fathers is nearly 19 years; that of the mothers, 15 years. There are considerable differences between fathers and mothers regarding employment: 90% of the fathers have paid jobs against only 45% of the mothers.

Post hoc tests were performed to examine to what extent the six linguistic groups differed with regard to the variables in this study (see last column of Table 1). The general picture that emerged revealed that speakers of Turkish and Moroccan differ from speakers of Dutch, Frisian, Limburgish and dialects, on practically all variables examined. We found one exception. Children with Dutch-speaking parents use Dutch more often than children whose parents speak dialects. On average, the latter use Dutch in more areas than children of Moroccan-speaking parents, followed by children of Turkish-speaking parents. Frisian and Limburgish-speaking children use Dutch in one area only. They therefore make the least use of Dutch. (This is not particularly surprising since, almost without exception, Turkish- and Moroccan-speaking children are members of local minorities, whereas Frisian and Limburgish are majority languages in their regions.) Language proficiency of children in Form 4 is lowest for children of Turkish-speaking parents, followed by children of Moroccan-speaking parents. Children of native Dutch parents score highest. These differences in language proficiency decrease after two years in primary education, as should become clear from the differences in language proficiency of these children in Form 6.

The answer to our first research question must therefore be that there are considerable differences in Dutch language proficiency among children from different linguistic backgrounds. Turkish children have the lowest language proficiency, immediately followed by children of Moroccan-speaking parents. Children of native Dutch parents score highest.

A Causal Model of Language Proficiency

We analysed the model represented in Figure 1, using LISREL. The measures of goodness-of-fit in the resulting empirical explanatory model indicate that the fit of this model is sufficient ($\chi^2 [df = 35] = 57.60, p = 0.009; NFI = 1.00; CFI = 1.00; RMRS = 0.007; AGFI = 0.99$). The outcomes are presented in Table 2. We will report on the

Table 1 Descriptive statistics for the total sample and various language groups

Variable	Range	Total sample N = 4419		Dutch N = 3046		Turkish N = 161		Moroccan N = 123		Frisian N = 152		Limburgish N = 373		Dialect N = 564		Differences between home languages
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Mother's education	1-7	3.42	1.66	3.66	1.66	1.61	1.15	1.62	1.27	3.63	1.44	3.29	1.55	3.09	1.37	M,T<Di,L≤ F,Du*
Father's education	1-7	3.66	1.87	3.92	1.87	2.12	1.52	1.54	1.24	3.61	1.56	3.70	1.79	3.18	1.55	M<T<Di,F, L ≤F,L,Du
Mother's length of residence	2-46	15.14	6.34	n.a.	n.a.	14.39	5.82	16.11	6.87	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	T=M
Mother's length of residence**2	4-2116	269	240	n.a.	n.a.	241	190	306	290	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	T=M
Father's length of residence	1-65	18.77	8.40	n.a.	n.a.	16.58	6.66	21.64	9.54	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	T<M
Father's length of residence**2	1-4225	423	449	n.a.	n.a.	319	235	559	602	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	T<M
Child uses Dutch	0-4	3.29	1.35	3.86	0.53	1.49	0.96	2.08	0.93	1.01	1.55	1.00	1.52	3.13	1.50	L,F<T<M< Di<Du
Mother's command of Dutch	1-3	2.89	0.33	2.96	0.15	1.98	0.64	1.96	0.67	2.95	0.16	2.93	0.19	2.90	0.21	M,T<Di,L, Du,F
Father's command of Dutch	1-3	2.89	0.30	2.94	0.19	2.17	0.63	2.30	0.55	2.95	0.18	2.92	0.22	2.88	0.24	T<M<Di,L, Du≤Du,F
Mother works	0-1	0.45	0.50	0.49	0.50	0.22	0.41	0.07	0.26	0.41	0.49	0.49	0.50	0.40	0.49	M,T<Di,F,L, Du
Father works	0-1	0.90	0.30	0.93	0.25	0.54	0.50	0.40	0.49	0.93	0.26	0.91	0.28	0.94	0.24	M<T<L,Du, F,Di
Child's language proficiency Form 4	842-1143	1035	36	1038	34	989	28	1004	29	1028	41	1038	37	1034	35	T<M<F,Di, L,D
Child's language proficiency Form 6	976-1197	1083	35	1086	34	1043	26	1057	27	1082	34	1091	36	1081	33	T<M<Di,F, Du,L

Notes: * Speakers of Moroccan and Turkish score significantly ($p < 0.01$) lower (<) than speakers of dialect and Limburgish. In turn, speakers of dialect score significantly lower than speakers of Frisian and Dutch but speakers of dialect do not score significantly lower (\leq) than speakers of Limburgish nor do speakers of Frisian and Dutch deviate from speakers of Limburgish. T = Turkish; M = Moroccan; F = Frisian; L = Limburgish; Di = Dutch dialect; Du = standard Dutch; n.a.: not applicable.

unstandardised effects. Their advantage over standardised effects is that it is immediately apparent what the effect is of a change in one unit of the independent variable on the pupils' average language proficiency score. With Figure 1 in mind, Table 2 can be read as follows. The dependent variables are above the columns; i.e. the variables in Figure 1 to which the arrows are pointing. At the left, above the bold line, the independent variables are presented in rows. These are the variables in Figure 1 away from which the arrows are pointing and to which no arrows are pointing (including: Turkish, Moroccan, etc.). At the left, below the bold line in Table 2, the dependent variables are presented to which not only arrows are pointing, but also from which arrows lead to other variables. From the top-left cell it may be concluded that an increase of one level in the mothers' levels of education results in 0.04 increase in the children's use of Dutch (an increase of two levels results in $2 \times 0.04 = 0.08$). The data presented in the row immediately below the bold line show that an increase of one level in the children's use of Dutch results in an increase of 1.90 in its language proficiency score in Form 4. Finally, the penultimate row shows that children that score one point higher than their peers in Form 4 score 0.37 higher than their peers in Form 6.

It is clear from Table 2 that the level of education of the fathers and mothers has a direct influence on the language proficiency of the children in Form 4 (2.54 for mothers and 2.70 for fathers, respectively) and of the children in Form 6 (3.12 for mothers and 1.99 for fathers, respectively). This means, for example, that children whose mothers have attended higher vocational education (score 6) score on average 13.50 ($= (6 - 1) \times 2.70$) higher on the language proficiency test than children whose mothers have attended only primary education (score 1).

The rather small direct effect of 'length of residence' is not entirely unexpected, since it is unclear how such a direct effect should be interpreted. However, this does not mean that the effect of length of residence may be ignored. Table 2, for example, shows that both fathers' and mothers' lengths of residence have a decreasing positive effect on their command of Dutch, as can be deduced from the positive effect of length of residence (0.39 and 0.79, respectively), and the negative effect of length of residence**2 (-0.04 and -0.14, respectively). Then again, the fathers' command of Dutch has an effect on their children's language proficiency. In short, the influence of length of residence is apparent, but this is primarily an indirect effect.

In addition, compared to that of the fathers, the mothers' characteristics less often affect their children's characteristics. Although this is remarkable because mothers are usually more involved with the upbringing of their children than fathers, the occurrence of such a 'male-dominance' pattern is not uncommon in social stratification research (Van der Slik *et al.*, in press). Table 2, for example, shows that neither the mothers' command of the Dutch language nor working outside the home has a direct effect on their child's language proficiency, whereas these same characteristics of the fathers do reveal significant effects. The children's use of Dutch has a positive effect on their language proficiency in Form 4 (but no longer in Form 6).

It is quite apparent that the parents' linguistic backgrounds have strong significant effects on virtually all variables in the model. Turkish and Moroccan linguistic backgrounds in particular prove to have negative effects as compared to a Dutch linguistic background. The fact that the fathers and mothers are

Table 2 Unstandardised effects (*t*-values in parentheses) for the entire sample (*N* = 4419), with dummies for the language groups (reference category: standard Dutch)

	<i>Child uses Dutch</i>	<i>Mother's command of Dutch</i>	<i>Father's command of Dutch</i>	<i>Mother works</i>	<i>Father works</i>	<i>Child's language proficiency Form 4</i>	<i>Child's language proficiency Form 6</i>
Mother's education	0.04*** (3.63)	0.02*** (11.99)	–	0.07*** (14.85)	–	2.54*** (6.86)	3.12*** (9.48)
Father's education	0.02** (2.73)	–	0.03*** (17.54)	–	0.03** (10.80)	2.70*** (8.21)	1.99*** (6.69)
Mother's length of residence/10	–	0.79** (13.11)	-0.20*** (-9.08)	–	–	–	–
Mother's length of residence**2	–	-0.14* (-8.49)	–	–	–	–	–
Father's length of residence/10	–	-0.47** (-11.37)	0.39*** (8.84)	–	–	–	–
Father's length of residence**2	–	0.06** (7.78)	-0.04** (-5.41)	–	–	–	–
Turkish	-2.25*** (-30.03)	-0.95*** (-47.33)	-0.66*** (-32.17)	-0.13*** (-3.27)	-0.34*** (-14.82)	-32.48*** (-10.42)	-10.27*** (-3.58)
Moroccan	-1.65*** (-19.31)	-0.92*** (-41.64)	-0.57*** (-24.83)	-0.28*** (-6.11)	-0.47*** (-17.81)	-15.91*** (-4.68)	-1.96 (-0.65)
Frisian	-2.84*** (-37.99)	-0.01 (-0.51)	0.01 (0.75)	-0.07* (-1.76)	0.01 (0.42)	-4.18 (-1.30)	0.75 (0.30)
Limburgish	-2.83*** (-57.30)	-0.02* (-1.78)	-0.02 (-1.22)	0.02 (0.88)	-0.01 (-0.56)	6.98** (2.87)	6.95*** (4.25)
Dutch dialect	-0.69*** (-16.59)	-0.04*** (-4.24)	-0.04*** (-3.39)	-0.05* (-2.15)	0.03** (2.55)	0.83 (0.52)	0.35 (0.25)
Child uses Dutch	0	0	0	0	0	1.90** (3.38)	–
Mother's command of Dutch	0	0	0	0	0	–	–
Father's command of Dutch	0	0	0	0	0	–	5.13* (2.71)
Mother works	0	0	0	0	0	0	–
Father works	0	0	0	0	0	6.21** (3.43)	–
Child's language proficiency Form 4	0	0	0	0	0	–	0.37** (27.52)
Intercepts	3.63	2.66	2.55	0.24	0.83	1005	671
Variance explained	56%	58%	41%	8%	16%	14%	29%

Notes: 0 effects fixed at zero beforehand; – effects fixed at zero on empirical grounds; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

speakers of Turkish or Moroccan results in a poorer command of the Dutch language, reduced chances in the labour market and also finds expression in their children's poorer proficiency in Dutch. These effects certainly occur with regard to children in Form 4, but the direct effect of speaking another home language on children of Turkish-speaking parents still shows up in Form 6. For Limburgish-speaking parents, we also found effects on their child's language proficiency. We found that, both in Form 4 and Form 6, children of Limburgish-speaking parents had better language proficiency than children of Dutch-speaking parents. We wish to emphasise that, when interpreting the effects of the linguistic background on the children's and parents' language proficiency, we already took into account the fact that Turkish- and Moroccan-speaking parents usually have lower levels of education than Dutch-speaking parents and often also had been living in the Netherlands for shorter periods of time. Apparently, the variables included in this study, such as parents' command of Dutch, employment status and children's use of Dutch cannot fully account for the differences in children's language proficiency among the different linguistic groups.

Finally, as can be deduced from the bottom row in Table 2, there are considerable differences when it comes to the explanatory power of the independent variables incorporated in the model. Nearly 30% of the language proficiency of children in Form 6 can be explained on the basis of the remaining variables. However, this could be attributed to some extent to these children's language proficiency in Form 4 (14% of this language proficiency is explained by the previous variables). The explanatory power of level of education, length of residence and linguistic background of both parents for their command of Dutch is 41% and 58%, respectively, which is rather high. The parents' background characteristics explain 56 percent of the variance in the children's use of Dutch.

With regard to the second research question, we may now draw the following conclusion. The fact that parents speak Turkish or Moroccan at home – irrespective of the parents' level of education and length of residence – means that their children have poorer Dutch language proficiency in Form 4 than children whose parents speak Dutch. Compared to children from Dutch-speaking families, the differences are considerable. The direct effect of speaking Turkish at home is -32.48. This means that these children achieve an average language proficiency score that lies a standard deviation below the score of children from Dutch-speaking families. For children of Moroccan-speaking parents, this effect is less pronounced, but still not negligible (-15.91). The fact that the parents speak Turkish has a direct effect (-10.27) on the language proficiency of their children in Form 6 as well. This is rather remarkable. It implies that the difference in language proficiency among children from Turkish-speaking families and children from Dutch-speaking families increases over the years in primary education. This does not apply to children of Moroccan-speaking parents, however. Although they also start with a language deficit in Form 4, the development of their Dutch keeps pace with the language development of children from Dutch-speaking families. This can be inferred from the fact that the direct effect of the parents speaking Moroccan among themselves on the children's language proficiency in Form 6 is not significant (-1.96, *ns*).

The differences between the language proficiency of children of Moroccan or Turkish origin and those of Dutch origin are notably large. However, there are also differences among the other groups differentiated according to home language (these differences emerge when parents who speak another language than Dutch or dialect are taken as a reference group in the analysis). Just like the differences previously stated in this section, these may be interpreted in a multivariate way. This means that, with regard to these differences related to home language, the effects of the parents' length of residence, level of education, command of the Dutch language and their occupational status have been taken into account.

With respect to the language proficiency of children in Form 4, we can now conclude the following. Children of Limburgish-speaking parents score significantly higher than children of Frisian, dialect and Dutch-speaking parents. They in turn score higher than children of Moroccan-speaking parents, who subsequently score higher than children of Turkish-speaking parents. Looking at language proficiency in Form 6, it becomes apparent that the lead of children of Limburgish-speaking parents has further increased, while the language deficit of children of Turkish-speaking parents has actually become larger, also in comparison to children of Moroccan-speaking parents. The deficit of children of Moroccan-speaking parents, as compared to children of native Dutch parents in Form 6, has remained the same. Relatively speaking, children of Limburgish-speaking parents therefore make the most progress in terms of language proficiency.

The same causal model for pupils from different language backgrounds?

To answer our third question, we performed a LISREL analysis with the multi-sample option. In this connection, we should point out that we only incorporated length of residence (**2) into the model for the Turkish- and Moroccan-speaking parents. We examined the extent to which the empirical explanatory model described in the previous section is valid for the six groups differentiated according to home language. Although a separate empirical model was tested for each group, the analysis was performed on an integral basis. As a first step, we tested whether the same *pattern* of structural effects was found again for each group. This proved to be the case ($\chi^2 [df = 72] = 80.60, p = 0.23; NFI = 0.99; CFI = 1.00; RMRS = 0.03; GFI = 0.98$). Apparently, the empirical explanatory models for children with divergent linguistic backgrounds do correspond in terms of structure.

However, this does not mean that these models are also exactly similar in terms of *content*, because the effects can still differ considerably per group. Testing whether effects are not just similar across groups but identical in strength across groups leads us to conclude that not all effects are identical ($\chi^2 [df = 292] = 414.39, p = 0.0000; NFI = 0.93; CFI = 0.98; RMRS = 0.10; GFI = 0.87$). In other words, in one or more groups, some of the effects deviate significantly from the general model, expounded in the previous section. On the basis of the outcomes of these analyses and the 'Lagrangian Multiplier Test' (Bollen, 1989), we therefore searched for models that, on the one hand, deviate as little as possible from the

general model (in other words, the most parsimonious ones) but which, on the other hand, justify the differences among the groups differentiated according to home language. Table 3 shows the result of these efforts. The fit of the final multi-sample model is good ($\chi^2 [df = 279] = 230.26, p = 0.98; NFI = 0.96, CFI = 1.00; RMRS = 0.08; GFI = 0.92$).

Table 3 Unstandardised effects (*t*-values in parentheses) for the multi-sample model

	<i>Child uses Dutch</i>	<i>Mother's command of Dutch</i>	<i>Father's command of Dutch</i>	<i>Mother works</i>	<i>Father works</i>	<i>Child's language proficiency Form 4</i>	<i>Child's language proficiency Form 6</i>
Mother's education	0.01* (2.02) 0.24*** Di (5.36)	0.02*** (11.94) 0.17*** T,M (6.04)	–	0.07*** (14.80)	–	2.35*** (6.31)	3.10*** (9.43)
Father's education	0.02** (3.32)	–	0.03*** (17.93) 0.15*** T,M (6.77)	–	0.02*** (11.38)	2.63*** (7.90)	1.97*** (6.66)
Mother's length of residence/10	–	0.85*** T,M (5.25)	-0.18*** T,M (-3.70)	–	–	–	–
Mother's length of residence**2	–	-0.16*** T,M (-3.62)	–	–	–	–	–
Father's length of residence/10	–	-0.40*** T,M (-3.71)	0.42*** T,M (4.26)	–	–	–	–
Father's length of residence**2	–	0.05* T,M (2.30)	-0.05** T,M (2.65)	–	–	–	–
Child uses Dutch	0	0	0	0	0	0.96 (1.35) 3.42*** Di (3.63)	–
Mother's command of Dutch	0	0	0	0	0	11.49*** (3.33) -3.31 T,M (1.27)	–
Father's command of Dutch	0	0	0	0	0	0.22 (0.09) -12.45** M (-2.74)	4.64** (2.69)
Mother works	0	0	0	0	0	–	–
Father works	0	0	0	0	0	5.99*** (3.41)	–
Child's language proficiency Form 4	0	0	0	0	0	–	0.37*** (27.68)

Notes: 0 effects fixed at zero beforehand; – effects fixed at zero on empirical grounds; * $p < 0.05$;

** $p < 0.01$; *** $p < 0.001$. T = Turkish; M = Moroccan; F = Frisian; L = Linburgish; Di = Dutch dialect.

Table 3 reveals that 13 effects deviate significantly from the effects in the general explanatory model. Of this number, 11 can be attributed to the Turkish and Moroccan-speaking group and two to the dialect-speaking group. The differences occur almost exclusively with the effects of both parents' level of education and length of residence or command of Dutch. (Effect differences regarding length of residence are of course expected, since these effects are zero for indigenous Dutch.) Turkish and Moroccan parents' command of the Dutch language depends to a larger degree on level of education than that of Dutch-speaking parents. Evidently, the effects of length of residence deviate from the general model, because we did not model any effects of length of residence for indigenous Dutch parents. As expected, we found decreasing positive effects of length of residence on Turkish and Moroccan parents' command of Dutch. It is remarkable that length of residence has a *negative* effect on the spouses' command of the Dutch language. We will return to this in the discussion section. Also deviating from the general model was the finding that the level of education of dialect-speaking mothers has a stronger influence on the children's use of Dutch than in families in which Dutch is the home language.

It is quite remarkable that – with the exception of the children of dialect-speaking parents – the children's use of Dutch in various areas (with parents, siblings and peers) has *no* significant effect on the child's language proficiency (0.96, *ns*). Only children of dialect-speaking parents achieve higher language proficiency scores in Form 4 when they use Dutch in more areas (3.42, $p < 0.001$). This outcome is contrary to our expectations as formulated in the introduction. For children with a home language other than Dutch, we expected to find a stronger correlation between their use of Dutch and their language proficiency, than for children with a Dutch linguistic background. Furthermore, we found that the command of the Dutch language of Turkish- and Moroccan-speaking parents has no positive effect on the language proficiency of their children in Form 4. In fact, a significant negative effect (-12.45; $p = 0.003$) was found for Moroccan fathers. The command of Dutch of native Dutch parents does have a significant positive effects on the language proficiency of their children in Form 4 (mothers' command) or Form 6 (fathers' command).

The last research question can be answered as follows. Although the aforementioned differences in effect strengths should be taken into account, these differences among the various linguistic groups are not so large that a general explanatory model could not be used to describe the language development of children in primary education. Seven out of 11 effect differences observed for Turkish and Moroccan-speaking families are in fact accounted for by length of residence, which is, of course, far from surprising.

Conclusions and Discussion

In this article, we reported on a large-scale longitudinal study into the development of Dutch language proficiency of pupils from different linguistic backgrounds (Dutch, Turkish, Moroccan, Frisian, Limburgish and Dutch dialects). The research questions focused on the effect of linguistic background and the influence of a number of background characteristics on language development. First, we looked at the differences between the linguistic groups. Subsequently,

we examined the extent to which the model, which represents the influence of the background characteristics for the various linguistic groups, displayed a similar structure.

The results of this study show that, compared to Dutch-speaking children, the language deficit of Moroccan-speaking and particularly in Turkish-speaking pupils, does not decrease between Forms 4 and 6. Compared to Dutch-speaking children, the deficit of Turkish-speaking children tends to increase rather than diminish. Nor does the gap decrease much for Moroccan children. This is bad news for the debate on language deficit reduction through education. Recently, in response to the debate on the 'multicultural tragedy', the Dutch State Secretary of Education said that immigrant pupils have made much progress in the last few years. In absolute terms, this is true. However, the relative difference and thereby the actual competitive position in education has not changed in favour of immigrant groups.

One of the central questions in the debate on education for immigrant children is the role that home language might play in the improvement of educational performance in general and Dutch language proficiency in particular. The data and analyses presented here provide an interesting approach for addressing this question. By comparing Turkish and Moroccan-speaking pupils with other pupils for whom Dutch is not a home language, we may gain a better insight into the influence of home language. In Form 4, Moroccan and Turkish-speaking pupils prove to have lower language proficiency scores than native Dutch pupils. In Form 6, Turkish-speaking children have fallen behind even further, while this cannot be said of Moroccan pupils. In Form 4, children of Limburgish-speaking parents are already ahead of children that speak another language or dialect. This lead has even increased in Form 6.

The data show that the Dutch language proficiency of parents (especially of the mothers) who speak Turkish or Moroccan at home is much lower than that of the other groups that speak different languages or dialects at home. Apparently, the latter find themselves to some extent in a diglossic situation, in which they have mastered both languages but use them in different areas. Immigrant parents do not show this type of bilingualism, or at least not to a similar degree. We found effects of the mothers' command of the Dutch language on the language proficiency of children in Form 4 but, on closer examination, this effect only proved valid for the language proficiency of native Dutch mothers, not for that of immigrant mothers. Furthermore, there is a striking and negative correlation between the command of Dutch by Moroccan fathers and the language development of their children, which cannot be explained very easily. We will not attempt to explain this until more evidence is found for the occurrence of this relationship. Another finding that is contrary to our expectations is that the length of residence has a negative effect on spouses' language proficiency. Part of the explanation might be that first generation immigrants were more traditional, as wives were not allowed to leave their homes, whereas later generations are more emancipated and have more contact with Dutch society. A more comprehensive explanation might be that family reunification or ethnic inter-marriages reduce both spouses' need for a good command of the Dutch language (WRR, 2001).

For the Dutch minority language and dialect-speaking group, we could not confirm the results of Boves and Vousten (1996). Quite the contrary, Frisian-speaking children do not differ from Dutch-speaking children; and Limburgish-speaking children achieve an even higher score in Form 6 than all other groups. For the speakers of Dutch minority languages and dialects, the conclusion must therefore be that the use of these languages and dialects as dominant home language has no negative effect on the children's development of Dutch.

Our analyses also show that the children's use of a language other than Dutch does not need to have any negative consequences for language proficiency. Limburgish-speaking children use Dutch the least, but they have the highest language proficiency score; whereas Turkish and Moroccan-speaking children speak Dutch more often, yet they have a much lower language proficiency score.⁸ For the debate on language acquisition of immigrant children, the distinction made by Cummins (1993) between CALP (Cognitive Academic Language Proficiency) and BICS (Basic Interpersonal Communicative Skills) remains relevant. The former refers to a more abstract and decontextualised language use as is common in school subjects, while the latter relates to everyday language use among people who are familiar with the conversational context. Various studies have proved the relevance of this distinction, although the formal delineation of the two registers is not altogether unproblematic (Verhoeven, 1994). Assuming that our tests do indeed have the decontextualised nature of CALP and that the measurement of language use at home largely involves BICS, we can only conclude that this distinction is relevant here. The transfer from home language to school register is far from self-evident. From this perspective, a direct relation between the use of Dutch at home and Dutch language proficiency at school cannot be expected. This means that the recent proposals of the Dutch Minister for Urban Policy and Integration of Ethnic Minorities, meant to encourage immigrant parents to speak Dutch at home, are based on a simplistic conception of the relationship between languages used at home and at school. Our results only show a positive effect of the use of Dutch by children of dialect-speaking parents on Dutch language proficiency in Form 4. However, more important for the debate is the fact that the effect of the use of Dutch by children who speak Moroccan or Turkish (or Dutch, Frisian and Limburgish, for that matter) is absent. It seems unlikely that the absence of effects is due to a lack of variation in the children's use of Dutch (cf. Table 1). The emphasis on the use of Dutch at home therefore does not seem to provide an immediate remedy for the language deficit of immigrant children. However, this does not rule out that the fact that these groups that do not speak Dutch sufficiently may be part of the explanation. Speaking Dutch might be a necessary – but not a sufficient – condition. Rather than the amount, it might be the *quality* of Dutch that matters. A precondition for that quality might be that parents have a good command of Dutch. In this context, we should bear in mind that the linguistic distance between Dutch and Limburgish/Frisian/dialect is much smaller than that between Dutch and Turkish/Moroccan-Arabic and that, therefore, mutual intelligibility is larger. Of course, this also makes the home language of Dutch groups more employable at school.

Notes

1. The data for this article are from the cohort study Primary Education ('PRIMA'). This study is funded by the Foundation for Behavioural Sciences of the Netherlands Organisation for Scientific Research (NWO).
2. Broadly defined (at least one parent is born abroad), 17% of the Dutch population of approximately 16 million inhabitants were non-native in 1999. The main categories of ethnic minorities are Turks (300,000), Surinamers (297,000), Moroccans (252,000), and Antilleans (99,000). Furthermore, there are now 151,000 refugees residing in the Netherlands (Van den Tillaart *et al.*, 2000).
3. Friesland and Limburg are two Dutch provinces in which a recognised minority language is spoken; for an overview, see Driessen and Withagen (1999).
4. We assumed that the effect of length of residence was non-linear. Whereas this effect may be very positive when parents have immigrated only for a short period of time, it can also be argued that this effect will gradually fade away when parents have lived for years in Dutch society, having more or less acclimatised to their new home country.
5. We tested whether the response rate of approximately 68% affected the representativeness of the sample concerning their children's test results. It showed that the test scores of the pupils whose parents returned the questionnaire were substantial higher than the scores of pupils whose parents failed to return the questionnaire ($t_{4834,10064} = -25.83$). Using information from accompanying data sources (school management teams and classroom teachers), Driessen *et al.* (1998) showed that non-indigenous parents and lower educated parents in general are less likely to return the questionnaires. As a result, effects of, for instance, home language and education may be underestimated.
6. It should be noted that self-reporting behaviour regarding home language, parents' command of Dutch, or the use of Dutch by children, for example, may be distorted by the parents' definition of Dutch and their command of Dutch, respectively. However, recent studies show that self-reported language behaviour has resulted in valid descriptions of the behaviour under study (Hulsen, 2000; Masgoret & Gardner, 1999).
7. Running the multi-sample option is somewhat complicated, as length of residence (and its quadratic form) is not applicable for the indigenous language groups. For all of these groups, we imputed four pseudo variables with unity variance and zero covariance in the corresponding covariance matrices. In addition, for the indigenous groups, all effects of length of residence (**2) were fixed at zero (cf. Bollen, 1989; Jöreskog, 1971).
8. It should be noted, however, that the assessment used in this study only provides information on the *quantity* of Dutch being used by the children, not about its quality. It is possible that this *quality* of Dutch language usage by Turkish and Moroccan children is lower than the quality of standard Dutch, used by Dutch dialect, Frisian and Limburgish-speaking pupils in informal situations.

Correspondence

Any correspondence should be directed to Dr Geert Driessen, ITS – Institute for Applied Social Sciences, University of Nijmegen, PO Box 9048, 6500KJ Nijmegen, The Netherlands (g.driessen@its.kun.nl).

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