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Bilingual toddlers reap the language they sow: ethnic minority toddlers' childcare attendance increases maternal host language use

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This study investigated the development and correlates of language use in bilingual Turkish-Dutch immigrant mothers and their toddlers. In this short-term longitudinal study 87 mothers completed questionnaires on their Dutch and Turkish language use, ethnic identity and use of childcare. Observational data were obtained for maternal supportive presence and observed language use with the child. We found evidence that mothers who felt more strongly connected to the Turkish culture spoke more Turkish and less Dutch with their toddlers. The amount of Dutch that was used in mother–toddler communication increased significantly between the ages of two and three years. Mothers of children who started visiting childcare or who lived in a neighbourhood with a low percentage of non-western immigrants showed a larger increase in use of the Dutch language with their toddlers. Our findings emphasise the importance of contextual factors in determining language use in ethnic minority families.

Keywords: bilingual; toddlers; childcare; maternal language use; neighbourhood; immigrants

Introduction

Children in immigrant families often grow up with two languages: the language of the country of origin, their 'ethnic language', and the language of the country they are living in, their 'host language'. The extent to which children are exposed to these two languages can vary substantially, as well as with whom and in which situations communication in both languages takes place (Hoff 2006). Second-generation immigrant parents can be expected to be the most balanced bilinguals as compared to other immigrant generations, because they are likely to have had an early exposure to both the ethnic and the host language (Hakuta and D'Andrea 1992), and can thus potentially provide exposure to both languages to their own children. The extent to which mothers use the two languages with their children may be influenced by maternal characteristics such as mothers' sensitive responsiveness (Hoff 2006), education level (Van Tubergen and Kalmijn 2009) and ethnic identity (Extra and Yagmur 2010).

Children themselves can also invite more input of a certain language by using this language (Pearson 2007). This in turn can be dependent on the introduction

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into childcare services, such as playgroups and daycare centres (Leseman 2000). In addition, the ethnic constellation of the neighbourhood is an environmental factor that can influence language use (Van Tubergen and Kalmijn 2009). In a sample of second-generation Turkish mothers and their toddlers in The Netherlands, the present study examines (1) the development of ethnic and host language use in mother–toddler interaction between the ages of two and three years, and (2) the role of maternal, child and environmental factors that may explain changes or stability in maternal language use. Insight in the language use in the home situation can facilitate appropriate support of bilingual children’s language development.

Mothers provide opportunities for communication to their children: these opportunities are dependent on mothers’ responsiveness to children’s vocalisations and speech, which in turn influences the children’s language development (Hoff 2006). Children of mothers who are more responsive to their speech and play activities achieve basic language milestones earlier than children of less responsive mothers (Tamis-LeMonda, Bornstein, and Baumwell 2001). This relation between responsiveness and language development is likely to be affected by more engagement in communicative situations of responsive mothers as well as more language input by means of verbal responsiveness to the children’s signals (Hoff 2006). Because of this increased verbal responsiveness bilingual mothers who show high sensitivity to their children’s signals might adapt the language that they use with their children to the language that their children speak to them. In a sample of Turkish immigrant mothers and their toddlers higher maternal sensitivity was found to be related to more use of the Turkish language (Yaman et al. 2010c). It should be noted that this latter paper focused on toddlers with externalising problems (oppositional, aggressive or overactive behaviour), but these were unrelated to mothers’ language use. To our knowledge, there are no studies on the influence of maternal sensitive responsiveness on the language development of bilingual children in a general population sample.

Previous research among Turkish and Moroccan immigrants in The Netherlands showed that a higher educational level of both partners in a relationship increased their mutual use of the Dutch language (Van Tubergen and Kalmijn 2009). Other studies have shown that a higher socio-economic status (SES) is related to a lower proficiency in the ethnic language (Phinney et al. 2001; Oller and Eilers 2002). Immigrants with a higher SES are likely to be more successful in learning the host language and learning this language will in turn provide them with more economic gains (Van Tubergen and Kalmijn 2009). As a result the necessity to retain a high level of the ethnic language is lower for immigrants with a higher SES, at least in terms of economic gains. Furthermore, SES has been found to indirectly influence children’s language growth through maternal speech (Huttenlocher et al. 2010). Differences in ethnic and host language use and proficiency between mothers with different SES backgrounds could result in differences in the language(s) they speak with their children and the skills they have to adapt to the language use pattern of the children.

Ethnic identity has been found to correlate positively with ethnic language proficiency in adolescents from several ethnic backgrounds (Phinney et al. 2001). A stronger ethnic identity is related to more use of the ethnic language and less use of the host language within the Turkish group in the Netherlands as well as in other ethnic groups (Extra and Yagmur 2010; Oh and Fuligni 2010). The ethnic language seems to be an important manifestation of an individual’s ethnic identity (Extra and

Yagmur 2010), and might therefore play an important part in Turkish-Dutch mothers' choice of the language to use with their child.

Looking at the other side of the dyad, children invite more input of a certain language by using this language themselves (Pearson 2007). This suggests that the language environment of the child outside the family can indirectly influence mother's language use with her child. Indeed, it was found that Dutch language use of Turkish children in the Netherlands increased between the ages of three and four years due to the introduction into childcare and kindergarten. Additionally, the children's Dutch vocabulary was related to Dutch language use in the home environment (Leseman 2000). This can be explained by the fact that children are exposed to a (predominantly) Dutch environment in childcare or kindergarten; as a result these children will start using the Dutch language more at home as well. Parents' increased use of the Dutch language in the home environment can in turn stimulate the children's Dutch vocabulary in addition to the language stimulation in childcare or kindergarten. Mothers of bilingual English-Spanish children in kindergarten or Head Start preschool programmes were found to increasingly communicate in English with their children between the ages of four and six years (Hammer et al. 2009). This increase is likely to be influenced by the education system, which may implicitly or explicitly communicate that the host language is important for children's academic success (Hammer et al. 2009). Nevertheless, active language use patterns of parents and children may differ. In the home situation, Turkish children in The Netherlands have been found to exclusively speak Dutch more often than their parents (De Houwer 2007). The parents tended to use a combination of both the Dutch and the Turkish language.

The ethnic composition of a neighbourhood influences the contact of its immigrant inhabitants with either people of their own ethnicity or Dutch people (Dagevos 2009). Turkish and Moroccan immigrant men in The Netherlands living in areas with a higher percentage of non-western immigrants have been found to use the Dutch language less frequently with their partner compared to immigrants in neighbourhoods with a lower percentage of non-western immigrants (Van Tubergen and Kalmijn 2009). Immigrants in neighbourhoods with a higher concentration of non-western immigrants will experience less pressure to use the host language than immigrants in a neighbourhood with a lower ethnic concentration (Van Tubergen and Kalmijn 2009). These neighbourhood characteristics can influence the language use pattern between mother and child.

In the current study we will focus on the language use of Turkish second-generation mothers with their toddlers. The toddler phase is important in language development, as children's abilities to comprehend and produce language emerge between 12 and 24 months, and continue to grow substantially in subsequent years (Zubrick et al. 2007). By the age of two all children can be expected to be able to comprehend and produce language to some degree. In the specific case of bilingual children, the optimal age for dual language development starts in the second year of life (Meisel 2004). All children in the current study can be considered to develop two languages simultaneously, because they start acquisition of the two languages within the first three years of life. Also, bilingual toddlers' ability to choose the language they use depending on the person they are speaking to is present from age two onwards (Meisel 2004). Furthermore, between ages two and three toddlers in The Netherlands are often introduced into either a playgroup or a child daycare centre. Playgroups in The Netherlands can be used to let toddlers get experience with peer

contact as a preparation for primary school. Children usually attend a playgroup during several mornings or afternoons per week and the groups consist of toddlers only. Child daycare centres, on the other hand, offer parents a place for their children to stay while the parents are at work. Children usually stay at a daycare centre full days and the groups in these centres can include a broader age range. Both playgroups and daycare centres may have special programmes for early childhood education to address possible language and/or educational disadvantages early. During the data collection period of this study approximately 53% of the at-risk children were reached by these preschool education programmes (Jepma, Kooima and van der Vegt 2007). The introduction into these types of childcare can have a positive influence on their use of the host language (Leseman 2000).

The Turkish population is the largest immigrant population in The Netherlands and more than 15% of this group consists of children younger than five years (Centraal Bureau voor de Statistiek 2008b). Furthermore, Turkish immigrants report more difficulties with the Dutch language than other non-western immigrants (SCP 2009; Van Tubergen and Kalmijn 2009) and were found to keep to their ethnic language more often, compared to other immigrant groups in The Netherlands (Extra and Yagmur 2010). Turkish preschoolers have been found to be far behind in Dutch as well as Turkish vocabulary compared to a monolingual Dutch comparison group (Leseman 2000). We specifically focus on second-generation Turkish families because second-generation parents are expected to be the strongest bilinguals, which means that they are expected to be equally proficient in both the ethnic and the host language (Hakuta and D'Andrea 1992). Furthermore, the growth of the number of Turkish inhabitants in The Netherlands is mostly due to the increase of the second-generation population and much less due to migration (Distelbrink and Hooghiemstra 2005). Insight in the language use at home in this large immigrant population can yield important information to provide appropriate and tailored support of these children's language development.

In this study, we aim to answer the following questions:

- (1) Is the amount of Dutch or Turkish that mothers use in communication with their toddlers related to maternal education, mothers' sensitivity, mothers' ethnic identity, the start of childcare or the ethnic constellation of the neighbourhood?
- (2) Does the amount of Dutch or Turkish that mothers use in communication with their toddlers change between the ages of two and three years?
- (3) Is change or stability in Dutch and/or Turkish maternal language use over time related to maternal education, mothers' sensitivity, mothers' ethnic identity, the start of childcare or the ethnic constellation of the neighbourhood?

In line with previous research, we hypothesise positive relations of Dutch language use with maternal education and start of childcare, and negative relations with mothers' sensitivity, mothers' ethnic identity and the percentage of non-western immigrants in the neighbourhood. Furthermore, we hypothesise that the use of the Dutch language will increase between the age of two and three years, as was the case for the English language in the study of Hammer et al. (2009).

Method

Participants and procedure

Data for the current study were collected in a research project focusing on Turkish immigrant mothers and their toddlers in The Netherlands (Yaman et al. 2010a). The sample consisted of 87 second-generation Turkish immigrant mothers of two-year-old children who completed questionnaires and extensive home observations at two time points. These mothers were recruited from the municipal registers of several cities and towns in the western and middle region of The Netherlands. Only second-generation Turkish immigrant mothers born in The Netherlands (with at least one of their parents born in Turkey) with a two-year-old child (age 22–29 months) were selected to ensure the homogeneity of the sample and to control for confounding effects of ethnicity and migration.

In total, 384 families were reached of whom 230 (60%) agreed to participate. One hundred and forty-four of these mothers (63%) filled out questionnaires on child behaviour problems and also participated in a video-taped one-hour home-visit (Time 1). One year after the first home-visit, we contacted the mothers for a second home-visit (Time 2). One hundred and thirty-two mothers (92%) and their children participated in this second visit. One hundred and five of these mothers (80%) also filled out a questionnaire at Time 2. To prevent biased or indistinctly interpretable results the decision was made to impute only missing data on item level and exclude participants for whom one or more complete scales were missing. For 87 of the families we had a complete dataset for the current analyses. This attrition was mostly due to mothers not completing all parts of the questionnaires. Despite the fact that the mothers included in our analyses filled out all relevant parts of the questionnaires, there were still a few missing values on item level within scales. They were substituted with the mean score of the particular respondent on the remaining items of the scale (Downey and King 1998).

Mothers who dropped out before the second measurement or who did not provide a complete dataset ($N=57$) did not differ significantly from mothers who provided a complete dataset at both time points ($N=87$) in age ($t(142)=-1.32$, $p=0.19$), child's gender ($t(142)=0.79$, $p=0.43$), reported use of the Dutch ($t(130)=0.33$, $p=0.30$) or Turkish language ($t(130)=-1.67$, $p=0.35$), percentage of non-western immigrants in the neighbourhood ($t(142)=-1.06$, $p=0.29$) or use of childcare ($t(143)=-1.48$, $p=0.14$).

The children had a mean age of 25.24 months ($SD=1.62$). Fifty-one per cent of the sample consisted of boys. Most children were reared in two-parent families (90%), with mothers who had a mean education of $M=2.98$ ($SD=0.66$) on a five-point scale (1 – primary education to 5 – higher vocational education or university). The mothers had a mean age of 27.18 years ($SD=2.91$) at the first home-visit. The majority of the children had no siblings (63%), 35% had one sibling and 2% had two or more siblings.

Measures

Questionnaires were available in the Dutch and the Turkish language. Mothers were free to choose the language of the questionnaires. All questionnaires in this study

were translated from Dutch into Turkish and back-translated in order to ensure correct wording in the Turkish language. Most mothers (84%) completed the Dutch version of the questionnaire. This may be explained by the fact that all second-generation Turkish mothers have attended school in The Netherlands, and are thus more used to written communication in Dutch, even though they may prefer Turkish for spoken communication (Yaman et al. 2010b).

Language use

Language use was measured by asking Turkish mothers how often they spoke the Turkish and Dutch language with important others (their children, partner, parents, brothers and sisters, other family members and friends) (Van Oort et al. 2006) on a five-point scale (0 = never, 1 = occasionally, 2 = sometimes, 3 = often, 4 = very often/always). An overall score for each language was calculated from the six items, but in the analyses some of the items have also been used separately. The internal consistencies for the overall use of the Turkish and Dutch language were 0.76 and 0.78 respectively.

The language use of mothers with their children during the structured tasks of the video observation was also assessed. Language use in these interactions was rated as '1 – predominantly Turkish', '2 – mixed use of Dutch and Turkish' or '3 – predominantly Dutch'. Videos were rated in either of the 'predominant' categories if mothers consistently spoke one language or if sentences in the predominant language included only separate words or expressions in the non-predominant language. In all cases in which mothers alternated between the two languages, videos were rated as 'mixed'. All videos were coded by two researchers. Agreement between the coders was 90.8%. If the coders rated a video differently, this difference was always between 'mixed' and one of the 'predominant' categories. These cases were discussed to obtain a consensus rating that both researchers agreed upon.

Ethnic identity

Ethnic identity was measured at Time 1 with an adapted version of the Psychological Acculturation Scale (PAS) (Stevens et al. 2004). Emotional connectedness of the mothers to the Turkish culture (six items) and Dutch culture (six items) (e.g. I feel comfortable around Turkish/Dutch people) were rated on a five-point scale (ranging from 0 – totally disagree, to 4 – totally agree). The internal consistencies for the emotional connectedness to the Turkish and Dutch culture were 0.73 and 0.81 respectively.

Percentage of non-western immigrants in the neighbourhood

The calculation of the percentage of non-western immigrants in the neighbourhood was based on the families' postal codes. The number of non-western immigrants in the postal code area (Centraal Bureau voor de Statistiek 2008a) was divided by the total number of residents in the area and multiplied by 100 to get the percentage of non-western immigrants. Since the migration of both native Dutch people as well as Turkish immigrants to other neighbourhoods was relatively low in the

period 2005–2008 as compared to the years before (Kullberg and Nicolaas 2009), this percentage can be considered as stable over the years that this study took place.

Use of childcare

We measured use of childcare by asking mothers whether or not the child visited a playgroup and whether or not the child visited a daycare centre. An additional variable was computed by subtracting the Time 1 answer to these questions from the Time 2 answers. If the value was positive this meant that the child started using a playgroup and/or daycare centre between Time 1 and Time 2, if the value was zero or negative no childcare was used or the child stopped visiting it. The use of childcare increased significantly between Time 1 and Time 2 (see Table 1). Thirty per cent of the children started attending childcare between Time 1 and Time 2. Of these children, 73% started attending a playgroup and 27% started attending a daycare centre. One child stopped visiting childcare during this period.

Maternal sensitivity

Mothers' sensitive responsiveness to their toddlers was measured during three problem-solving tasks at Time 1 and two tasks at Time 2, consisting of a construction task (at Time 1 and 2), a jigsaw puzzle (at Time 1 and 2) and a sorting task (only at Time 1) for five minutes per task. These tasks were somewhat too difficult considering the age of the children and mothers were instructed to help their children in a way they would normally do. The observations were rated with the Erickson scales to measure mothers' supportive presence on a 7-point scale (Egeland et al. 1990; Erickson, Sroufe, and Egeland 1985). Supportive presence refers to the mother's expression of emotional support and positive regard by encouraging, giving support and confidence, reassuring and acknowledging the child's accomplishments on the tasks. Scale scores were computed by averaging the scores for the separate

Table 1. Descriptives and *t*-tests of language variables and characteristics of mother, child and neighbourhood.

	Time 1		Time 2		<i>t</i> -value	<i>p</i> -value
	Mean	(<i>SD</i>)	Mean	(<i>SD</i>)		
Reported Dutch overall	2.03	(0.74)	2.23	(0.70)	-3.52	<0.01
Reported Turkish overall	3.07	(0.60)	3.02	(0.59)	0.86	0.39
Reported Dutch with child	2.40	(1.02)	2.88	(0.89)	4.64	<0.001
Reported Turkish with child	2.98	(0.81)	2.77	(0.81)	2.06	<0.05
Observed language use with child					-6.48	<0.001
Predominantly Turkish	67%		35%			
Mix Turkish-Dutch	16%		29%			
Predominantly Dutch	17%		37%			
Maternal education	2.97	(0.66)				
Observed sensitivity	3.74	(1.39)	3.99	(1.30)	-1.59	0.12
Connection to Dutch culture	2.22	(0.64)	2.19	(0.71)	0.53	0.60
Connection to Turkish culture	3.03	(0.64)	3.14	(0.58)	-1.66	0.10
Childcare use	30%		53%		-4.30	<0.001
% Non-western immigrants	46.09	(21.52)				

tasks. The scales were coded by two trained coders. The intraclass correlation (single rater, absolute agreement) was 0.71 for supportive presence.

Results

Maternal language use

Descriptive statistics for the language variables are presented in Table 1. Overall, the mothers reported speaking the Turkish language significantly more often than the Dutch language, at Time 1 ($t(86) = 8.78, p < 0.01$) and Time 2 ($t(86) = 7.40, p < 0.001$). Regarding communication with their toddlers, mothers also reported using the Turkish language significantly more often than the Dutch language, at Time 1 ($t(86) = -3.54, p < 0.01$) but not at Time 2 ($t(86) = 0.61, p = 0.55$). Sixty-seven per cent of the mothers spoke predominantly Turkish during the observation at Time 1, whereas at Time 2 this was only 35%. For both reported and observed language use, a significant increase in the use of the Dutch language was found between Time 1 and Time 2 ($t(86) = 4.64, p < 0.001$; $t(86) = -6.48, p < 0.001$, respectively). Also, a significant increase in use of childcare between Time 1 and Time 2 was found ($t(86) = -4.30, p < 0.001$).

In a repeated-measures ANOVA language use with the child was compared to language use with others. The results show that mothers spoke significantly more Dutch with their toddlers ($M = 2.40, SD = 1.02$) than with their parents ($M = 1.01, SD = 1.17$), their partners ($M = 1.83, SD = 1.15$) and other family members ($M = 1.70, SD = 1.17$) (all p -values ≤ 0.001), but mothers spoke significantly more Dutch with their brothers and sisters ($M = 2.86, SD = 1.01$) than with their toddlers ($p < 0.001$).

T -tests showed no significant differences between children whose fathers were also born in Turkey (70.1%) as compared to children whose fathers were born in The Netherlands in use of the Dutch ($t(74) = 0.92, p = 0.36$ at Time 1; $t(74) = 0.55, p = 0.59$ at Time 2) or Turkish language ($t(74) = -1.54, p = 0.13$ at Time 1; $t(74) = 0.14, p = 0.89$ at Time 2).

Differences in reported language use between the three groups of observed language use (Predominantly Turkish; Mixed or Predominantly Dutch) were tested by means of one-way-ANOVAs. Mothers who spoke predominantly Dutch during the observations also reported speaking more Dutch than the other mothers ($F(2) = 7.59, p < 0.001$ at Time 1; $F(2) = 20.20, p < 0.001$ at Time 2). Mothers who spoke predominantly Turkish during the observations did report speaking more Turkish than the other mothers, but this difference was not significant ($F(2) = 2.84, p = 0.02$ at Time 1; $F(2) = 2.25, p = 0.11$ at Time 2). Because the direction of change over time is the same for observed and reported language use and the reported language use scale has the advantages of addressing each language separately and including a broader range of scale points, reported use of the Dutch and the Turkish language in mother-toddler communication will be used as language measure in further analyses.

Table 2 shows correlations among the language variables. The more frequently mothers used the Turkish language in communication with their toddlers, the less frequently they used the Dutch language with their toddlers, but only at Time 1 ($r = -0.46, p < 0.001$). Reported language use was significantly stable from Time 1 to Time 2 ($r = 0.50, p < 0.001$ for Dutch; $r = 0.36, p < 0.001$ for Turkish).

Table 2. Correlations between Turkish mother’s language use and characteristics of mother, child and neighbourhood.

	1	2	3	4
1. Reported Dutch with child (Time 1)	–			
2. Reported Dutch with child (Time 2)	0.50*	–		
3. Reported Turkish with child (Time 1)	–0.46*	–0.38*	–	
4. Reported Turkish with child (Time 2)	–0.16	–0.21	0.36*	–
5. Maternal education	–0.07	–0.11	0.04	0.10
6. % non-western immigrants	0.001	–0.06	0.15	0.10
7. Connection to Dutch culture	0.21	0.05	–0.07	–0.05
8. Connection to Turkish culture	–0.07	–0.32*	0.38*	0.20
9. Observed sensitivity (Time 1)	–0.02	0.03	0.10	–0.06
10. Observed sensitivity (Time 2)	0.13	0.12	–0.10	–0.13

* $p < 0.001$.

Correlations between language use and characteristics of mother, child and neighbourhood

Turkish mothers’ reported language use with their children was not significantly related to maternal education, percentage of non-western immigrants in the neighbourhood, connection to the Dutch culture or observed sensitivity (see Table 2). Mothers who felt more emotionally connected to the Turkish culture reported using the Turkish language more frequently at Time 1 ($r = -0.32, p < 0.001$), and showed a less frequent reported use of the Dutch language at Time 2 ($r = 0.38, p < 0.001$) (see Table 2). The differences in correlations between connection to the Turkish culture and use of either the Dutch or the Turkish language at Times 1 and 2 were not significant ($p > 0.89$)

Mothers of children who attended childcare differed significantly in use of the Dutch language from mothers of children who did not attend childcare at Time 2, but not at Time 1 (see Table 3). Mothers of children who did visit these facilities reported using more Dutch with their child at Time 2 ($t(86) = -2.24, p < 0.05$). There was no significant difference in use of the Turkish language between mothers of children who did or did not attend childcare.

Relation between changes in language use and characteristics of mother, child and neighbourhood

To find out which variables were related to changes in use of the Dutch language with the child, we used repeated-measures ANOVAs with Time 1 and Time 2 use

Table 3. T-tests for differences in language use between groups of childcare use.

	Reported Dutch language use				Reported Turkish language use			
	Mean	(SD)	t-value	p-value	Mean	(SD)	t-value	p-value
Childcare (Time 1)								
Yes	2.65	(1.13)			3.04	(0.92)		
No	2.30	(0.96)	–1.52	0.13	2.97	(0.76)	–0.34	0.73
Childcare (Time 2)								
Yes	3.07	(0.76)			2.74	(0.86)		
No	2.66	(0.96)	–2.24	0.03	2.85	(0.75)	0.60	0.55

of the Dutch language with the child as the within-subject dependent variable, and maternal education, percentage of non-western immigrants in the neighbourhood, ethnic identity, maternal sensitivity and the start of childcare respectively as independent variables. The results show that the change of reported language use with the child over time was significantly affected by the start of childcare between Time 1 and Time 2, $F(1, 85) = 4.00$, $p < 0.05$, and the percentage of non-western immigrants in the neighbourhood, $F(1, 85) = 4.69$, $p < 0.05$. The increase in reported use of Dutch with the child was larger for mothers whose children started attending childcare between Time 1 and Time 2 (Figure 1) and for mothers living in a neighbourhood with a low percentage of non-western-immigrants (Figure 2). The same effect was found for the start of playgroup, which includes the majority of the children that started childcare, $F(1, 85) = 4.13$, $p < 0.05$. It should be noted that the group of children who did not start childcare between Time 1 and 2 includes both children who were already in childcare at Time 1 and children who have never been in childcare. Therefore, we also conducted separate analyses for each of these latter two groups. ANOVAs showed that the increase in use of Dutch was significantly larger for children who started childcare between Time 1 and Time 2 as compared to children who have never been in childcare, $F(1, 65) = 5.16$, $p < 0.05$. Differences in the increase of Dutch between the other groups were not significant ($F(1, 59) = 0.66$, $p = 0.42$ for no childcare vs. already in childcare at Time 1; $F(1, 44) = 1.33$, $p = 0.26$ for start of childcare vs. already in childcare at Time 1).

In subsequent analyses interaction terms for start of childcare and percentage of non-western immigrants were entered in repeated-measures ANOVAs as well, but this interaction term was not significant ($F(1, 83) = 2.92$, $p = 0.09$).

Other factors did not significantly affect the change in reported language use with the child over time; these factors include maternal education ($F(1, 85) = 0.01$,

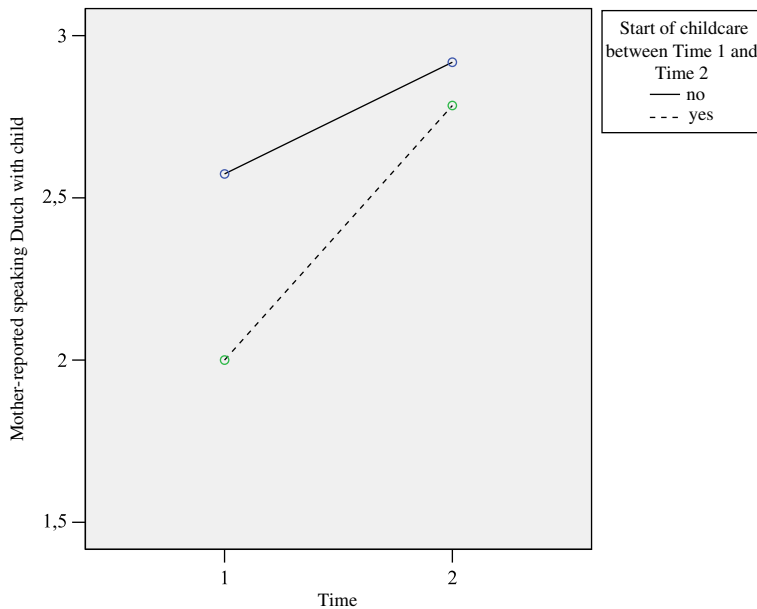


Figure 1. Change in reported Dutch language use with child over time for children who did and did not start childcare between Time 1 and Time 2.

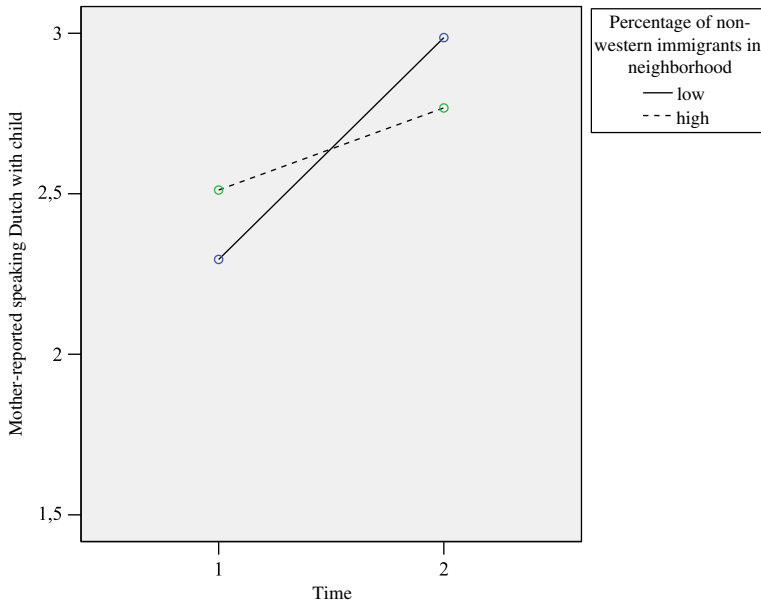


Figure 2. Change in reported Dutch language use with child over time for mothers from neighbourhoods with a high or low percentage of non-western immigrants.

$p = 0.91$), mothers' emotional connectedness to the Dutch culture ($F(1, 85) = 1.72$, $p = 0.19$), or to the Turkish culture ($F(1, 85) = 0.32$, $p = 0.57$) and maternal sensitivity at Time 1 ($F(1, 85) = 0.04$, $p = 0.84$) or Time 2 ($F(1, 85) = 0.42$, $p = 0.52$). The decrease in reported use of the Turkish language with the child was not significantly affected by any of these factors.

Discussion

The amount of Dutch used in mother–toddler communication increased significantly between ages two and three years. Mothers of children who started attending childcare or who lived in a neighbourhood with a low percentage of non-western immigrants showed a larger increase in use of the Dutch language with their toddlers. The language use of mothers in communication with their toddlers was not related to maternal education, maternal sensitivity or percentage of non-western immigrants in the neighbourhood. We did find evidence that mothers who felt more strongly connected to the Turkish culture spoke more Turkish and less Dutch with their toddlers. Language use and ethnic identity were measured independently, since the PAS does not include any questions regarding language nor does the language scale include questions about culture.

The finding that the use of the Dutch language increased between age two and three years is in line with previous studies among Turkish preschoolers and their mothers in The Netherlands (Leseman 2000) and Spanish bilingual mothers with their toddlers in USA (Hammer et al. 2009). In these studies and in the current study the start of attending childcare was found to influence the increase in use of the host language. This can be explained by the predominant use of the host language and often deliberately language-stimulating environment that childcare facilities offer.

In the Dutch situation, this leads to an increase of use of the Dutch language by the child not only in the childcare setting but also in the home situation. That in turn triggers mothers to use more Dutch in the communication with their children (see Figure 3). Thus, even toddlers to some extent create their own home language environments through their choice of language in daily communication, which is influenced by the language context outside the home. This has also been found to be true for Spanish-speaking children in USA (Fillmore 1991).

Whether this increase in use of the host language is positive or negative for the children's development is questionable. Increase in use of the host language of mother with her child has been found to have a negative impact on children's vocabulary in the ethnic language (Fillmore 1991; Hammer et al. 2009). More specifically, if the exposure to either the host or the ethnic language falls below a certain limit, a bilingual child will not acquire full competence in that particular language (Genesee 2008). If a child does not develop the ethnic language well, this can have long-term effects on the social, emotional and academic development and family dynamics (Kohnert et al. 2005). However, it can be expected that the third-generation toddlers in this study will eventually use the Dutch language more than their second-generation mothers (Hakuta and D'Andrea 1992). Maternal use of the host language was unrelated to children's vocabulary and emergent literacy development in the host language in a sample of children who were visiting Head Start and kindergarten classrooms (Hammer et al. 2009). Therefore, it might not be desirable if mothers keep increasing their use of the host language with their children, because that might lead to loss of ethnic language development. For host language development, the children's (pre)school environment is likely to provide sufficient opportunities. To our knowledge, this relation between increase of host language use and ethnic language maintenance or loss has not yet been investigated in the Turkish population in The Netherlands.

Mothers of children who lived in a neighbourhood with a low percentage of non-western immigrants showed a larger increase in use of the Dutch language with their toddlers; possibly, the Dutch language is more prominent in a neighbourhood with a lower percentage of non-western immigrants. This means that the child is exposed to the Dutch language in a greater variety of situations, which makes it more likely that mother and child will use the Dutch language more often in their communication (see Figure 3).

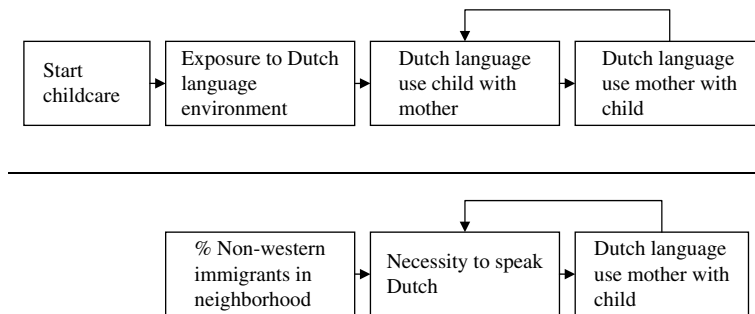


Figure 3. Explanation models for the influence of the start of childcare and the percentage of non-western immigrants on the increase of mothers' Dutch language use with the child.

Education is more strongly associated with an increase in language ability than with language use (Van Tubergen and Kalmijn 2009), which might be the reason that no relation between education and maternal language use was found in our study. Maternal sensitivity did not significantly affect the increase in Dutch language use. To our knowledge, there are no other studies investigating this association in ethnic minority families. However, one study showed that language use patterns in the ethnic and host language of adolescents and their parents were not related to the quality of the parent–adolescent relationship (Oh and Fuligni 2010). In other words, although a more sensitive mother might stimulate her child's language development more by making efforts towards verbal engagement and providing language input (Hoff 2006), this does not necessarily mean that she speaks either the ethnic or the host language more frequently with her child.

The language use of second-generation Turkish immigrant mothers with their toddlers was found to differ significantly from mothers' language use with important others. It is notable that Turkish mothers spoke more Dutch with their own brothers and sisters than with their children. The habit to speak Dutch with their brothers and sisters might originate from mothers' youth; previous research has shown that second-generation adolescents were more likely than first-generation adolescents to speak in the host language with their peers (Oh and Fuligni 2010) and young Turkish people switched to the Dutch language with their siblings in their home situation (Extra and Yagmur 2010).

The current study has some limitations. First, the sample size and the response rate were moderate (60%). We could have increased this sample size by imputing missing data if complete scales were missing, but that would have increased the risk of bias. The moderate response rate may have resulted in low representativeness of the general Turkish population. However, the educational level in our sample was comparable with national data on educational level of the second-generation Turkish immigrant group in The Netherlands. Maternal education was used as an indicator of SES in this study, although it covers only part of the total concept of SES. Another limitation is the fact that only language use by the mothers was measured, and not language proficiency. It is known that language exposure in itself is not sufficient for a child to develop the language well (Meisel 2004). Furthermore, no child language variables were measured. The potentially mediating role of the children's language use in the association between environmental factors and maternal language use should be addressed in future research. This could be done by looking at the language use of the children in the video observations. Also, language use was measured at just two time points. If three or more time points would have been included in this study, it would be possible to get more insight in the process of change in language use. Lastly, only reported measures of maternal language use were included in the analyses. However, language use reported by mothers converged with observed language use. The reported language use measure had the advantage that it measured both the Dutch and the Turkish language independently and referred to overall language use with the child.

Our findings may help professionals supporting ethnic minority children's language development. It will be helpful for anyone working with bilingual children and/or their parents to have insight in the influence of environmental factors on maternal language use patterns when supporting bilingual children's language development or advising parents about the most optimal language context for their situation. The host language is important for children in their school environment

and daily life in the host country, whereas the maintenance of the ethnic language can be important in the home environment and is part of the children's cultural background. Studies in other countries and with other ethnic groups have shown that mothers' increase of the host language use with their children might be at the expense of developing ethnic language skills but without any significant benefit for the children's host language development (Hammer et al. 2009; Kohnert et al. 2005). If the same is true for Turkish mothers in The Netherlands, informing these mothers about such processes is desirable. Parents could be informed about the environmental factors that influence their language use with their children so that they can make a choice which fits their personal situation and find an appropriate balance between the use of the ethnic and the host language. Also, for professionals working in childcare it is important to be aware of their influence on the language use pattern between bilingual mothers and their children, both directly and indirectly.

In conclusion, our findings show an increase over time in maternal language use in communication with their toddlers. This increase is stronger for families that live in neighbourhoods with more non-western immigrants and when children have started in childcare in the past year.

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