

Effects of family background characteristics on educational participation in Turkey

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Abstract

We study family background effects on participation in primary and secondary education of children in Turkey using large representative data sets. Educational participation, especially of girls, is found to be still a major concern, with non-enrollment being especially high in the countryside and the eastern part of the country. Parental education, number of siblings, household income, occupation of the father, traditionality of the mother and the mother's ability to speak Turkish are major factors affecting participation. For primary participation of girls, having a mother who has completed primary education and who can speak Turkish is most significant. Traditional gender role attitudes of the mother reduce the girl's chances to get secondary education. For participation of boys, the economic situation of the household is important. Findings indicate that a key role is played by the mothers of the children who are out of school. Reaching this group of mostly illiterate and traditional women is a major challenge for policy makers wanting to improve the situation.

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1. Introduction

The level of schooling in Turkey is still rather low. In the countryside and the eastern part of the country, there are many women who did not even complete primary education (UNESCO, 2003; Ministry of Education, 2000). In the last decades, major efforts have been made to improve educational participation in the country. However, the number of children not enrolled in education

remains still rather high, especially at the secondary and tertiary level (Tansel, 2002; Aytac and Rankin, 2004; Hoşgör and Smits, 2006). Table 1 shows that as recently as 2004, total net primary enrollment was 90% and net secondary enrollment no more than 50.5%. The figures for boys are higher than for girls, but also of them a substantial number was not enrolled in primary education and more than half was not enrolled in secondary education. With regard to the disparity in educational level between boys and girls, there has been little improvement over the last decade. In the 2003/2004 education for all (EFA) global monitoring report (UNESCO, 2003), Turkey was mentioned as one of the 12 countries (among 128 studied) who were expected to

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Table 1

Adult literacy rate and net primary and secondary school enrollment in Turkey in 1996 and 2004

	1996	2004
Adult literacy rate (%)		
Total	85.1	87.4
Male	94.0	95.3
Female	76.0	79.6
Net primary school education enrollment ratio (%)		
Total	89.4	89.7
Male	91.8	92.6
Female	86.9	86.6
Net secondary education enrollment ratio (%)		
Total	38.5	54.9
Male	43.1	59.1
Female	33.8	50.5

Source: State Statistics Institute (2006).

reach neither for primary nor for secondary education the EFA goal of gender parity by the year 2015.

Given the increasing importance of education for getting a decent job, the low level of schooling of many women makes them economically dependent on their male family members. As most women without education are not able to read and sometimes do not even speak the country's dominant language, they also depend on the male family members for their contact with and information about the outside world. As a result, these women may play an important role in the reproduction of the prevailing values—including the values which stress a subordinate position of women—to the next generation (Armstrong and Armstrong, 1994; Hoşgör and Smits, 2006). Attempts to change the traditional value patterns in this country will not be very successful, if the horizon of these women is not widened and their dependency not diminished. An important way to do this is by increasing the women's level of schooling. However, policies directed at increasing the educational level of women can only be effective if they are based on a thorough understanding of the factors by which their school enrollment and completion is furthered or hindered. In this paper, we aim to contribute to this understanding by presenting new empirical findings regarding the participation in primary and secondary education of children in Turkey.

In the following sections we first present information on the historical developments regarding (women's) education in Turkey and we give some information on the Turkish educational system.

After that, we derive hypotheses about effects of socio-economic, cultural, demographic and geographic factors on educational participation. In the empirical part of the paper, first the trend in enrollment of Turkish girls and boys aged 7–14 over the period 1978–1998 is determined. Then we study for the year 1998 the variation in participation according to socio-economic, demographic and cultural family (background) characteristics and according to region and degree of urbanization. In this section, besides bivariate cross-tabulations, also multivariate logistic regression analyses are used to gain insight into the relative importance of the various background characteristics in explaining educational participation. In the last section of the empirical part, an overview is given of the most distinguishing characteristics of the group of children who are not in school. We end the paper with a concluding section in which the major findings and their implications are discussed and a number of policy measures aimed at improving the situation are formulated.

2. Background

After the Turkish Republic was established in 1923, education became an important issue for the new Kemalist government that required to transform the nation into a secular, modern, and industrial state (Jayawardene, 1986; Moghadam, 1993). In order to build up an efficient public educational system, the entire educational network was placed under political control (Winter, 1984). As women were considered central to the success of the new secular and modernizing ideology, there was special emphasis on the education of women. With the exception of the military schools, all institutes of higher education and universities welcomed female students. In urban centers, a number of technical colleges for women were established (Doğramacı, 1992, p. 93; Baykan, 1994). Early in the Republic, co-education was established at the primary and university levels. Middle schools and high schools remained segregated (Tan, 1981). Families were obliged to send their children including their daughters to primary schools.

Both primary and secondary education were (and still are) free of charge in state schools. In the Turkish educational system, primary school starts at age six (72 months) and until 1997 it lasted for five years. In September 1997, primary education

was extended to eight years. The reason for this change was the observation that many girls completed primary education, but after that did not enter secondary education. By extending primary education by three years, the government hoped to keep girls in the educational system until age 14 instead of 11.

After the introduction of the new system, some of the small village schools were closed and the pupils of those villages are since then transported to the nearest town or larger village schools by bus. This transportation system is free of charge and includes free lunches for the pupils. In addition, boarding schools were established. These schools are mostly concentrated in the less developed rural regions of the country, where due to sparse settlement it is not possible to provide basic education services to children in close proximity to their homestead.

In the old (before 1997) system, secondary education consisted of three years of lower secondary education (age 12–14) followed by three years of lyceum education (age 15–17). In the new system, it covers only age 15–17. Secondary education is run by the State and is free, but it is not compulsory. There are also private high schools, which are generally preferred by middle or upper class families. Regardless of whether children are in public or private schools, the Ministry of Education regulates the standards of teaching.

2.1. *Main problems in the educational system*

The figures presented in [Table 1](#) make clear that non-schooling, especially at the secondary level, is still a major problem for a large group of children. This problem has both supply and demand side dimensions. Despite all efforts of the State, the available resources are too limited to meet all the needs of the school-age population. The lack of educational infrastructure goes hand in hand with disparities and polarization in educational opportunities. The biggest disparities are related to the urban–rural division and regional differences between the West and East. Although compulsory primary education was extended from five to eight years in 1997, some villages until now have not been able to create the eight-year primary education infrastructure ([Hancioğlu et al., 2000](#)).

In urban areas, there are differences between private and public schools in terms of the quality of primary education. In some state schools, classes are overcrowded and there is a shortage of teachers.

However, at the private schools in the main urban centers, children can access higher quality education and even learn second languages like English or French at early ages ([Ayata et al., 1999](#)). The infrastructure problems in the educational system create polarization and inequalities in the country.

In addition to these shortages, the gender disparities in education are especially noteworthy, as can be seen in [Table 1](#). The female figures are always lower than the male figures. This gender disparity is closely related to cultural norms and social structures. The strong emphasis of the State on education of women has not been taken over by the majority of the population, which still consists of a substantial part of small and uneducated farmers. As recently as 1998, more than half of the married women in the towns and countryside of the East of Turkey had not completed primary education and were not able to read easily ([Hoşgör and Smits, 2006](#)). Those Eastern women also had another disadvantage: many of them were speaking their local languages at home. That means that the ones who did not go to school also missed the opportunity to learn the Turkish language, the lack of which constitutes a major barrier preventing their access to the resources and positions available in Turkish society ([Sahin and Gulmez, 2000](#); [Smits and Hoşgör, 2003](#)).

3. Hypotheses

3.1. *Socio-economic characteristics*

According to human capital theory, participation in education is an investment in human capital made because of the expected returns later in life ([Becker, 1964](#)). In the case of young children in developing countries, the investment decision is generally made by the parents. They are expected to trade off the future benefits of sending their children to school against the immediate costs. Those benefits can be for the child, but also for the parents themselves, because in the absence of pension systems, children often are the old-age security. The costs of schooling include besides the direct costs of school fees, books, uniforms and travel costs also opportunity costs of the children not being able to help at home, in the household or at the family farm, or to earn some additional money with child labor ([Basu, 1999](#); [World Bank, 2002](#); [Admassie, 2003](#)). As the costs weigh heavier for poorer households, the first, rather obvious,

socio-economic hypothesis is on the effect of poverty: children from low-income households are expected to have lower participation rates than children from other households.

Besides household income, also the occupations and educational levels of the parents are expected to play a role. According to status attainment theory, in modern societies, parents have less possibilities to ascertain a good position in society for their children via direct occupational transmission or via transference of capital, because education has become more and more important as a means of social mobility (Blau and Duncan, 1967; Treiman and Ganzeboom, 1990). In these societies, parents are expected to invest more in the education of their children than in less developed societies. The theory also implies that social groups for which direct transference of capital is still important—like farmers—may feel less need to invest in the education of their children than people in dependent employment. Of the people in dependent employment, we would expect the non-manual employees to be most aware of the importance of education and we would expect them to invest most in their children's education. Our second socio-economic hypothesis, therefore, predicts educational participation to be lowest among children of farmers and highest among children whose fathers have non-manual occupations.

The effects of a father's occupation are expected to be strongest for the educational participation of sons. As the labor force participation of women is low in Turkey, social mobility of women might take place mostly via their marriage with a promising husband. However, for daughters of employed women, this may be different. According to the resource theory of conjugal power (Blood and Wolfe, 1960; Rodman, 1972) the degree to which the partners can influence important household decisions depends on the extent to which they bring in valued resources into the marriage. This implies that mothers who are gainfully employed and hence contribute to the household income have more influence on family decisions than women who are not employed. It seems likely that more independent women may be better able to create the possibility for their daughters to go to school. This may be especially true for women who have a job in the formal economy and hence more clearly see the importance of education than women who work at a family farm. We therefore expect differences in educational participation of girls depending on

whether their mothers are (1) employed in farming, (2) housewives, and (3) employed in the formal (non-farm) economy, with highest participation rates of girls with mothers employed in non-farm occupations.

With regard to the educational level of the parents, similar processes may play a role, with the parents using their human capital to increase their children's chances to get education (Treiman and Yip, 1989; Shavit and Blossfeld, 1993). Parents who have reached a certain educational level can be expected to want their children to reach at least the same level. We therefore expect a higher educational level of the parents to lead to higher participation levels of their children. For the educational participation of girls, the education of the mother will probably be especially important. Mothers who have succeeded in completing a certain level of education have experienced the value of education and also know that it is within the reach of girls to complete that level. Therefore, we expect them to use the power and insights derived from their higher education to make sure that their daughters get education too.

3.2. *Cultural factors*

The focus on economic factors of the human capital approach has been criticized by researchers who consider the major causes of the gender gap in education to be cultural and institutional (Colclough et al., 2000; Leach, 2000; Swainson, 2000). According to these researchers, the strategies of national governments and international agencies like the World Bank aimed at increasing girls' participation in developing countries do not acknowledge the link between girls' under-enrollment and women's status in society. They have concentrated too much on improving the supply of education and too little on the factors at home (demand side) which hinder participation (need for the girl's labor, lack of mobility, etc.). Colclough et al. (2000) argue that poverty may be a major cause of under-enrollment, but that the gender differences in enrollment are the product of cultural practices. Illiterate women are economically and for their information strongly dependent on their male family members and thus may play an important role in the reproduction of the prevailing values—including the values which stress a subordinate position of women—to the next generation. Once this circle is broken and women get education, the

chances increase that their daughters can get education too. With regard to the influence of such socio-cultural factors, we expect to find a lower educational participation among girls whose mothers have more traditional gender role attitudes or who are controlled stronger by their families.

3.3. Demographic factors

Demographic factors that may influence the educational participation of children are birth order, family size, and living in an extended family. With regard to birth order, there is some evidence that in developing countries the cost of high fertility may be borne by older siblings, rather than by the parents (Buchmann and Hannum, 2001). The younger children in such families have more opportunities to go to school because the older children run the household chores, do the farm work, or contribute to the household income. Besides birth order, also the number of children may play a role. In Western societies and some developing countries, family size tends to be negatively correlated to educational participation, probably because the available resources have to be divided among more children (Pong, 1997; Montgomery and Lloyd, 1998; Buchmann and Hannum, 2001). However, this is not the case in all situations. For example, in rural Botswana, the number of 7–14 years old children in the household was found to be positively related to participation (Chernichovski, 1985). The reason for this may be that with more children, there are also more helping hands at home, which may raise the chance that at least some children can go to school. The same may be true for an extended family. Gender of the siblings may also play a role. Under the influence of patriarchal culture and the fact that girls most often outmarry into the family of their husbands, parents may prefer to invest in the education of their sons. This would imply that the chances that girls get education are lower if they have a higher number of brothers.

3.4. Geographical factors

Turkey is geographically a diverse country with substantial regional differences. In the literature, the country is generally divided into West, South, East, North and Central (TDHS, 1999). The West is the most advanced and also the most densely populated and urbanized region of Turkey. The infrastructure

necessary for regional development was built up here earlier than in the other parts of Turkey and the mechanization of agriculture and its connection to the market economy took place already in the 1950s. Given the presence of a good educational infrastructure and demand for skilled labor in this region, we expect to find children in the West to have higher participation rates at school than in other regions. Because of the weaker influence of traditional values, we also expect the educational gender disparity in this region to be lowest.

Like the West, the South of Turkey includes highly fertile agricultural areas as well as industrial centers, like *Adana*, and a growing tourist industry along the coastline, like around *Antalya*. Although there is some internal variation, the South is a densely populated and urbanized region, characterized by relatively high levels of per capita income. Given the mixture of agriculture and other economic activities in the region and its relatively high population density and urbanization we expect a reasonable level of educational participation in this region.

In the Central region of Turkey, *Ankara*, the capital and the second largest city in Turkey is situated. The government activities in this city play a central role in the local economy. Another contribution is in the area of cultural capital, as Ankara includes many educational institutions and universities. With the exception of some minor industries located around Ankara, the industrial production of the Central region is low and the agricultural production is less diversified than in the West and the South, because the climate and geography of Central Turkey are more restrictive. Because of the good educational infrastructure in Ankara, we expect educational participation in this region to be relatively high.

The North of Turkey has a fertile coastal area and receives much rain. The coastal area is isolated from the rest of the country by high mountains and forests. Therefore, the North was connected relatively late to the market economy and lacked infrastructural development. Because of much out-migration of males, the women of this region tend to have a more independent position than in other parts of Turkey (Hoşgör and Smits, 2006). Given the relatively strong position of women in this region we expect educational participation of girls to be relatively high here.

The East of Turkey is the least developed region of the country. This region is generally divided into

an eastern and a southeastern part. In the eastern part, the most important economic activity is husbandry. Crops are generally produced only for household consumption and not for marketing. The average size of the agricultural holdings is small compared to other regions and the lands are mainly cultivated by the landowners. The number of people living in urban areas and the rate of population growth are also low. In some parts population growth is below zero because of outmigration. Per capita income is the lowest of all regions of Turkey. The southeastern part shows similarities with the eastern part in terms of lack of industrialization and infrastructure. Until recently, an important characteristic of some of the villages in this region was their tribal structure, and most people lived under the authority of their religious leaders (Sheiks). Because of economic insufficiency and the political unrest between the separatist Kurdish Workers Party (PKK) and the military, the region has experienced high levels of internal migration to the larger cities in the last decades. Given the under-developed infrastructure, the strong influence of traditional patriarchal ideologies and the recent migration, we expect educational participation of children and especially of girls to be lowest in the East of Turkey.

Besides differences among the regions, we also expect to find large differences with regard to level of urbanization. As the educational infrastructure and the influence of modern values is strongest in the cities and weakest in the towns and villages of the countryside we expect educational participation to increase with increasing urbanization of the place of living.

4. Data and methods

The data used for our analyses are from the 1978 Turkish Fertility Survey (TFS) and the 1998 Turkish Demographic and Health Survey (TDHS, 1999; DHS+, 2006). These surveys use nationally representative samples of households and consist of at least a household survey and a women's survey. To make our analyses possible, we combined the family background information from the women's surveys with the children's educational information collected in the household surveys. Most analyses are based on the TDHS. The TFS data are only used to describe the changes in educational participation over the last decades of the 20th century.

We restricted most of our analyses to children aged 9–14. The upper boundary of 14 was chosen because for older children no information on the mother was available. The lower boundary of 9 was chosen because our findings made clear that in Turkey many children and especially girls start primary education later than age 6. As the increase in girl's participation between ages 8 and 9 in Figs. 1 and 2 shows, even at age 8 not yet all girls who would eventually enroll had already entered. For enrollment in primary education, the explanatory analysis is restricted to children aged 9–11, because children of age 12 could already have finished primary education. For the study of the changes between 1978 and 1998 this is no problem because that analysis is based on whether or not the child has ever been in primary education. For that analysis, the upper age limit for primary education is therefore set at 12. The analyses of entering or being enrolled in secondary education are restricted to children aged 13 and 14 (with the lower boundary at 13 to be sure that in 1998 the children were still in the old secondary system and not in the new eight-year primary system). Because of starting late and grade repeating, it cannot be prevented that a small number of children in this age group may still be enrolled in primary education.

As most of the family background information was derived from the women's surveys, children for whom the information of the mother was lacking could not be included in the analyses of the family background effects. Information of the mother was

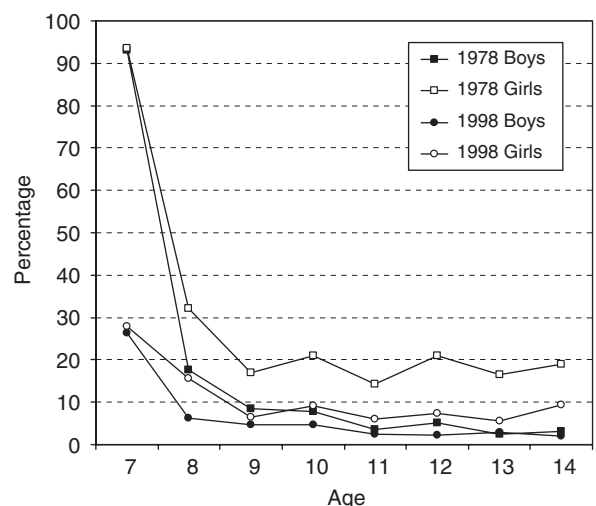


Fig. 1. Percentage *never* in school in Turkey in 1978 and 1998 by gender and age.

lacking if she was over age 49 or not present in the household (e.g. because of separation, illness or death). For this reason, 19% of the children had to be left out of these analyses. However, because information on these children was available in the household surveys, we could still include them in the descriptive results presented in Figs. 1 and 2 and in Table 2. A comparison of the educational characteristics of the children with and without mother's information indicated that in the group for which

this information is available, the children who were not in school at the time of the interview were slightly underrepresented. The total number of children aged 7–14 available for our analyses was 9491, of which 2254 girls and 2295 boys in 1978 and 2416 girls and 2526 boys in 1998.

4.1. Method and variables

The effect of family background on educational participation is studied using bivariate cross-tabulations and multivariate logistic regression analyses. In these analyses, educational participation is measured with variables indicating whether the children were enrolled in primary or secondary education at the time of the interview. Because this information was lacking in the 1978 data, the trends over time are studied with variables indicating whether the children ever entered primary or secondary education.

Independent variables are geographic characteristics (region and urbanization), socio-economic characteristics (parental education and occupation and household income), demographic characteristics (age, number of brothers and sisters, birth order, and extended family) and socio-cultural characteristics (gender role attitudes, dependency, and Turkish language proficiency of the mother).

Occupation of father is measured as: (1) farm, (2) lower non-farm (sales, services, manual) and (3) upper non-farm (professional, technical, managerial, clerical). Mother's occupation/employment is measured as: (1) not employed, (2) farm and (3) non-farm. Education of father is measured as: (1) none, (2) at least some primary and (3) at least some secondary. Given the low educational levels of Turkish women, mother's education was measured with a dummy indicating whether (1) or not (0) she had completed primary education. Urbanization is measured in four categories: (1) capital, large city, (2) small city, (3) town and (4) countryside. For region, five categories are used: (1) west, (2) south, (3) central, (4) north and (5) east/southeast.

The numbers of sisters and brothers are measured as: (1) none, (2) one or two and (3) three or more. Birth order is measured as: (1) oldest child, (2) second to fifth child and (3) sixth or later child. For extended family a dummy is used indicating whether (1) or not (0) there are grandparents and/or other adult relatives living in the household. As socio-cultural factors we use information about the marriage age of the mothers and their answers

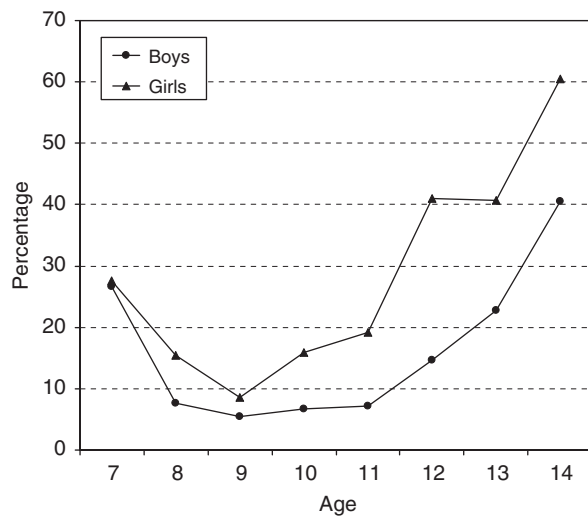


Fig. 2. Percentage *not* in school in Turkey in 1998 by gender and age.

Table 2
Percentage never entered or not enrolled in primary or secondary education of Turkish girls and boys in 1978 and 1998

	1978	1998
Never entered primary education age 9–12		
All	12.4	5.4
Girls	18.7	7.2
Boys	6.3	3.5
Never entered secondary education age 13–14		
All	66.7	45.6
Girls	76.8	55.7
Boys	56.4	34.5
Not enrolled in education age 9–11		
All	–	11.2
Girls	–	15.6
Boys	–	7.1
Not enrolled in education age 13–14		
All	–	44.1
Girls	–	55.3
Boys	–	31.8

to four indicators of gender role attitudes. Their age at marriage is seen as a (rough) indicator of the degree she is dependent on her family. It is measured by a dummy variable indicating whether (1) or not (0) she was married under age 17. The gender role attitude variables are dummies indicating whether (1) or not (0) the mother agrees with the following pronouncements “Men are wiser than women”, “Women should not argue with men”, “Important decisions should be made by men”, “It is better for a male than for a female child to have education”, and “A man has the right to beat his wife when she argues with him”. To indicate mothers who were not able to speak Turkish, we used a dummy variable coded “1” for mothers with another language than Turkish as mother tongue who stated that they were not able to speak Turkish and “0” for all other women.

5. Results

5.1. Participation in education

Fig. 1 shows the percentages of girls and boys who had never been in school in 1978 and 1998, according to children's age. The figure starts at age 7, because most of the interviews were held in August and September. At that time of the year, the first school year of the new cohort of six-year old children had not yet started in Turkey. Therefore, the first age group that could have been in school completely was the group of 7-year olds at the time of the interview. Fig. 1 shows, however, that in 1978, more than 90% of the children of this age were not yet in school. In 1998, non-participation at age 7 was much lower. However, with about 28% it still was rather substantial. In both years, non-participation was much lower at age 8. In 1978, 32% of girls and 18% of boys aged 8 at the time of interview had not yet entered primary education. In 1998, these figures were 15% and 6% respectively. At age 9, the percentage of children who never entered school reaches a more or less stable level. For girls this level was 17% in 1978 and 6% in 1998; for boys it was a little below 10% in 1978 and 5% in 1998.

The figures on children who never entered school give a somewhat distorted picture of the real participation rates, because children who only have been in school for a short period count as much as children who were enrolled for the whole period. Therefore, we present in Fig. 2 also the percentages

of girls and boys who were actually enrolled in 1998. We see that the non-enrollment rates are much higher than the non-entering rates, especially in the higher age groups. Non-enrollment was lowest for both girls and boys of age 9. At that age, 9% of girls and 5% of boys were not in school. However, after age 9 the non-enrollment rate of girls increases substantially, via about 20% at age 11 and 40% at age 12 to 60% at age 14. For boys, non-enrollment remains at a low level until age 11, but then it increases more or less linearly to 40% at age 14. These figures show that a substantial number of Turkish children who start schooling drop out of it after some years or after completing five years of primary school (the duration of primary education in the old system).

Table 2 presents again the percentages of girls and boys who never entered education or who were not enrolled at the time of the interview, but this time separately for primary and secondary education. For primary education, the figures are rather similar to those in Fig. 1. However, for entering secondary education the figures are new. They make clear that in 1978 as much as 77% of girls and 56% of boys aged 13–14 had never entered secondary education. For 1998, these percentages are 56% and 35%. That means that, only a few years ago, still half of the girls and one-third of the boys of this age group had not entered secondary education. The percentages of girls and boys aged 13–14 who were not enrolled at the time of the interview are of about the same order. They are slightly lower, probably because some children in this age group may have still been enrolled in primary education.

The figures presented so far underline the importance of gaining more insight into the factors that promote or impede the educational participation of girls and boys in Turkey. Not completing primary or secondary education reduces the chances in life of the children very much. Moreover, the percentages for girls are much higher than those for boys, so there must be some gender-related factors playing a role which should be identified. In the following sections, we study—separately for girls and boys—to what extent participation in primary and secondary education depends on (background) characteristics of the children.

5.2. Primary education (age 9–11)

Table 3 shows participation rates of boys and girls aged 9–11 to be highest in the largest cities and

Table 3

Percentage not in education of Turkish girls and boys aged 9–11 and 13–14 in 1998 by socio-economic, geographic, and demographic characteristics of the household

	Age 9–11		Age 13–14	
	Girls	Boys	Girls	Boys
Urbanization				
Capital, large city	3.4	2.3	26.7	23.6
Small city	15.5	5.4	38.3	23.2
Town	14.3	6.3	45.5	19.4
Countryside	19.6	9.5	73.1	43.2
Region				
West	4.3	1.7	37.2	26.5
South	15.3	6.1	51.9	33.0
Central	8.5	4.6	45.8	29.0
North	1.7	2.4	50.8	24.6
East	35.5	16.4	74.3	40.2
Father's education				
None	34.3	21.2	85.0	46.8
At least some primary	16.8	6.2	58.2	37.2
At least some secondary	3.2	2.0	17.7	11.7
Mother's education				
Incomplete primary or none	28.7	12.8	73.2	40.2
Primary or higher	4.8	2.1	31.1	22.2
Father's occupation				
Farm	22.3	11.5	78.9	45.2
Lower non-farm	11.5	5.7	48.6	28.4
Upper non-farm	12.3	4.4	22.9	19.1
Mother's occupation/employment				
Farm	12.8	6.3	65.5	44.4
Non-farm	6.1	1.7	17.4	16.3
Not employed	16.4	7.4	50.1	28.3
Household income				
<50 million TL	22.5	13.9	75.7	51.2
50–100 million TL	13.5	3.8	49.4	26.6
>100 million TL	7.9	3.3	30.8	16.7
Birth order				
1st child	6.8	3.6	35.8	21.7
2nd–5th child	13.5	6.2	51.4	27.8
More than 5th child	35.0	15.1	75.0	52.4
Number of sisters				
None	4.4	3.0	31.5	15.7
One or two	11.8	6.3	47.3	31.4
More than two	33.0	12.4	74.8	43.2
Number of brothers				
None	4.2	1.2	22.2	16.2
One or two	9.6	5.7	49.3	28.7
More than two	40.2	17.6	79.2	53.6
Extended family				
Not	7.7	4.0	41.0	23.5
Yes	20.3	8.7	54.9	33.9
Number of children	867	936	599	592

lowest in the Eastern region and in the countryside. In the East, as much as 36% of girls and 16% of boys of primary school age were not enrolled in primary education, whereas in the largest cities and in the West and North this is only a few percent. Non-participation of boys increases gradually with decreasing level of urbanization, whereas for girls it is relatively high at all levels, except the capital and largest cities.

With regard to the effects of the parent's socio-economic status characteristics, we see that both father's and mother's education have a strong and positive relationship with participation in primary education of girls and boys. If the father has some primary education, the chances of being in primary school are strongly increased. And the children whose fathers have some secondary education almost all are in primary school. The same is true for children whose mothers have completed primary education.

There are also positive effects of father's and mother's occupation, with higher participation rates if the parents are working in non-farm occupations. The effect of employment of the mother is rather interesting. If the mother is employed, even if it is only in farming, the chance that a girl goes to school is increased. For boys, there is also an indication of such a "working mother" effect, but it is rather small. As could be expected, participation increases with increasing household income. Especially the lowest income category is disadvantaged compared to the other ones.

The effects of birth order and number of siblings are also substantial. First-born children have higher participation rates than second or later-born children, and children with few siblings have higher participation rates than children with more siblings. Whether the siblings are sisters or brothers does not seem to matter very much, although the presence of more than two brothers is associated with the lowest participation rates of both boys and girls. Living in an extended family is negatively related to participation.

Table 4 shows the effects of being married young, not speaking Turkish and gender role attitudes of the mother. In practically all cases, participation of both girls and boys is clearly lower among children of mothers who married young, who were not able to speak Turkish and who agree with the traditional gender role statements. The effect of not speaking Turkish of the mother was especially strong. Of the girls with a mother who could not speak Turkish,

Table 4

Percentage not in education of Turkish girls and boys aged 9–11 and 13–14 in 1998 by characteristics of the mothers and the mothers' answers to questions on gender role attitudes

	Age 9–11		Age 13–14	
	Girls	Boys	Girls	Boys
Mother married under age 17				
Not	9.0	4.9	41.3	28.2
Yes	25.7	9.3	65.9	34.5
Mother speaks Turkish				
Not	60.7	23.1	86.1	51.7
Yes	7.6	4.4	46.0	28.3
Men are wiser than women				
Not	11.4	4.8	37.7	26.1
Yes	20.1	8.9	69.0	37.7
Women should not argue with men				
Not	11.5	5.4	33.5	26.1
Yes	17.4	7.4	63.9	35.0
Important decisions should be made by men				
Not	9.7	5.5	35.5	24.8
Yes	21.0	7.5	67.0	38.2
Better for male than female child to have education				
Not	11.8	4.5	39.0	25.9
Yes	21.6	10.9	79.7	40.7
Men has right to beat wife when she argues with him				
Not	12.4	5.4	36.9	23.9
Yes	17.4	7.9	70.3	40.7

61% was not enrolled in primary education at the time of the interview. When the mother could speak Turkish, this figure was only 8%. Also for boys there are substantial negative effects on participation when the mother cannot speak Turkish.

5.3. Secondary education

As we already saw in Table 2, participation of children aged 13 and 14 in secondary education is very low in Turkey. In 1998, more than half of the girls and one-third of the boys in this age group had never entered secondary education. Table 3 makes clear that the situation is again worst in the countryside and in the Eastern region, with even three-quarter of the girls and 40% of the boys not in secondary education. For girls, the situation is best in the largest cities and the West; for boys in the towns and the North.

The effects of parental education, father's occupation and household income are strongly positive.

Occupation of the mother also has a positive effect, with much higher participation rates when the mother is employed in a non-farm occupation. When the mother is not employed, participation rates are higher than when she is working in agriculture but lower than when she has a non-farm occupation. This suggests that parents who have a farm may find it more important that their children help at the family farm, than that they go to secondary education.

Birth order, number of siblings, and living in an extended family all again have negative effects on participation. The same is true for having a mother who married young, who does not speak Turkish or who agrees with the traditional gender role statements (Table 4).

5.4. Multivariate analyses

The figures presented so far show the bivariate relationships between participation in primary and secondary education and the geographic, socio-economic, demographic and cultural (family) background characteristics of the children. They show how educational participation varies among different social groups and regions of Turkey, and are important as such. However, because these characteristics may be related to each other (e.g. higher educated mothers tend to be married with higher educated fathers, traditional women tend to live in the countryside, being the fifth child means having at least four siblings), the bivariate figures give no insight into the relative importance of the various characteristics in explaining the differences in participation. To find out which factors are most important in this respect, we have conducted logistic regression analyses with participating in primary or secondary education as dependent variables and the geographic, socio-economic, demographic and cultural indicators as independent variables. Because the indicators of gender role attitudes are highly correlated, we could not take all of them in the analyses. Therefore, we use only three of them.

Given the rather large number of explanatory variables, a stepwise selection procedure was used by which only the variables that contribute significantly to the explanation of educational participation were selected. Table 5 presents the selected models. For the categorical variables, the category (or categories) with value 0 is (are) the reference group to which the other categories are compared. To focus on the most important effects,

Table 5

Logistic regression coefficients of stepwise selected independent variables on being enrolled in education of Turkish girls and boys aged 9–11 and 13–14 in 1998

	Age 9–11		Age 13–14	
	Girls	Boys	Girls	Boys
Constant	1.06**	2.51**	–1.67**	0.07
Education father none	0	0	0	0
Education father some primary	0	0.62	0	0
Education father some secondary	1.39**	1.42**	1.19**	0.91**
Education mother primary or higher	0.88**	–	1.08**	–
Occupation father farm	0	–	0.00	–
Occupation father lower non-farm	0	–	0.68*	–
Occupation father upper non-farm	–0.72*	–	1.18**	–
Mother not employed	–	–	–0.81**	–
Income household low	–	0	0	0
Income household middle	–	0.89**	0.70*	0.88**
Income household high	–	0.68	0.94**	1.36**
Large city	1.25**	–	0.79*	–
Small city	0	–	0.84**	–
Town	0	–	0.80*	–
Countryside	0	–	0	–
Region West	0	0	–	–0.60*
Region Center	0	0	–	0
Region South	0	0	–	0
Region North	1.85*	0	–	0
Region East	0	–0.91**	–	0
No sisters	–	–	1.15**	1.11**
1 or 2 sisters	–	–	0.37	0.31
3 or more sisters	–	–	0	0
No brothers	1.06*	1.91**	1.16**	1.46**
1 or 2 brothers	0.56*	0.53	0.50	0.67**
3 or more brothers	0	0	0	0
Mother speaks no Turkish	–1.83**	–	–	–
Important decisions should be made by men	–	–	–0.52*	–
Better for male child to have education	–	–	–0.97**	–
Men right beating wife when argue with him	–	–	–0.85**	–0.60**

The variables “Mother married under age 17” and “Extended family” were selected in none of the models.

0 = Reference category.

– = Not significant.

* $P < 0.05$.

** $P < 0.01$.

the reference category (categories) may be different for the same variable in different models.

The logistic regression coefficients will be interpreted here mostly in terms of whether the effects of the explanatory variables on educational participation are significantly positive or negative. To get their precise meaning, the antilog of the coefficient should

be taken. For example, the coefficient of father's education in the first model is significantly positive and has a value of 1.39 which means that girls with fathers who have some secondary education have an $\exp(1,39) = 4.02$ times higher probability of being enrolled in primary education than girls whose fathers have some primary or no education.

In all four models, the education level of the father turns out to be a major explanatory factor. Especially when the father has entered secondary education, this makes a very big difference for both girls and boys at both the primary and the secondary level. Education of the mother also plays an important role, but only for girls.

The effect of a father's occupation only plays a role for girls. At the primary level, employment of the father in an upper non-farm occupation—unexpectedly—leads to lower enrollment of girls in comparison with his employment in a lower non-farm or farm occupation. At the secondary level, the effect of father's occupation is in line with expectations, with higher participation of girls when the father works in a lower or upper non-farm occupation. The occupation of employed mothers has no effect on educational participation of their children. However, if the mother is not employed the chances that girls go to secondary education are significantly reduced. Income of the household has a significant positive effect on educational participation at the primary level for boys and at the secondary level for boys and girls.

The parameters of the geographic variables show that participation in primary education of girls is significantly higher in large cities and in the Northern region, whereas participation in secondary education of girls is significantly reduced in the countryside compared to all other levels of urbanization. For boys, participation in primary education is significantly reduced in the East than participation in secondary education in the West.

Of the demographic characteristics of the household, the number of brothers turns out to play a significant role for participation in both primary

and secondary education. Having three or more brothers reduces the probability of being in education substantially compared to the situation of having no brothers. The number of sisters has a similar effect, but only at the secondary level.

Not speaking Turkish of the mother has a very strong negative effect on being enrolled in primary education of girls. The gender role attitudes of the mother do not seem to play a role for participation in primary education: neither of these variables has a significant effect in the primary enrollment models. However, these attitudes play a major role in explaining the differences in secondary enrollment. For girls, all these three variables have a significant negative effect on participation and for boys one of them does.

5.5. *Characteristics of non-participating children*

In the analyses presented so far, we have tried to find out which characteristics in the (family) backgrounds of girls and boys affect the decision of their parents and themselves to enroll in education or not. Knowing these factors may be helpful in developing programs and policy measures aimed at increasing participation. However, knowing that certain characteristics of the parents, like their educational level or their gender role attitudes, influence educational participation of their children is not enough. To be able to develop those programs and measures as effectively as possible, it is important to know besides the existence and strength of these effects also the *number of children* for which they play a role. For example, not speaking Turkish, of the mother may have a very strong effect on participation of their daughters, but

Table 6
Most distinguishing characteristics of Turkish girls and boys out of education in 1998

	Not in primary education		Not in secondary education	
	Girls	Boys	Girls	Boys
Education mother less than primary	80 (34)	80 (37)	67 (26)	61 (40)
Household income is low	47 (28)	60 (26)	42 (14)	48 (20)
More than 4 siblings	77 (27)	66 (27)	59 (19)	50 (27)
Mother married under age 17	59 (29)	50 (34)	50 (27)	44 (37)
Lives in east Turkey	61 (19)	57 (20)	33 (12)	25 (16)
Lives in countryside	53 (37)	56 (37)	57 (22)	55 (32)
Mother agrees important decisions should be made by men	61 (39)	53 (45)	64 (32)	55 (40)
Mother speaks no Turkish	54 (6)	39 (9)	20 (3)	17 (7)

Between bracelets the respective percentages for the girls and boys who are enrolled in education.

if there are only a handful of girls with a mother who does not speak Turkish, the effect on total participation of a program aimed at improving participation in this group cannot be very large.

To get a better idea of who the children out of school in Turkey are, we have computed some of their most distinguishing characteristics and present them in Table 6. We see that of the group of girls aged 9–11 who are not enrolled in primary education 80% has a mother who has less than primary education, whereas for the girls who are in school this percentage is only 34. More than three-quarter of these girls come from a big family with more than four siblings, and more than half of them live in the east of Turkey or in the countryside. Their mothers tend to be married young and to agree with traditional gender role attitudes and more than half of them have mothers who do not speak Turkish (against only 6% of the girls who are in school). The characteristics of the boys who are not in primary education are quite similar, but the differences with the boys who are in school are generally somewhat less strong. Only with regard to household income are there relatively more in the low-income group, suggesting that material factors play more a role for them than for girls. For non-enrollment in secondary education the picture is rather much the same.

6. Conclusions

Educational participation of children is still an important concern in Turkey. Although enrollment rates rose considerably in the last decades, still a substantial number of school-aged children do not participate in primary or secondary education. The problem is especially severe at the secondary level, where, as recently as 1998, more than half of the girls and one-third of the boys aged 13–14 in our data were not in school. But also at the primary level enrollment is not complete, with about 16% of girls (approximately 600 000 girls) and 7% of boys aged 9–11 out of school in 1998. Moreover, these figures are averages for the whole country that mask great disparities between different subgroups and parts of the country. For example, while in the Western part of the country primary non-enrollment of girls and boys was only a few percent in 1998, in the Eastern region—the major problem area—non-enrollment in primary education was still as high as 36% for girls and 16% for boys.

These figures make clear that it is very important to gain insight into the factors that prevent these children, and especially the girls, from using their legal right for education. The major goal of this paper was to identify such factors in the family background of the children. We started with describing the differences in primary and secondary participation according to socio-economic, geographic, demographic and cultural characteristics of the family background. The descriptive results made clear that educational participation of both girls and boys was related in expected ways to these background factors, with higher participation levels for children from families with higher socio-economic status, for children with lower birth order, with fewer siblings, with Turkish speaking and less traditional mothers and living in the more developed and urbanized parts of the country. That means that the results were largely in line with the established ideas and hypotheses.

As most of the background characteristics are related to each other, the percentages of girls and boys out of school within the categories of the explanatory variables do not make clear which variables are most important in explaining the children's non-participation. Therefore we also studied the effects of the factors simultaneously in multivariate logistic regression models. For primary participation of girls, education of both parents, the number of brothers, and whether or not the mother was able to speak Turkish were identified as major explanatory factors. When the mother has completed primary education or the father has some secondary education, the probability that a girl aged 9–11 is in primary school increases considerably. The same is true when there are few brothers. A very striking finding is the strong effect of Turkish language proficiency of the mother. In the descriptive analysis we already found that as many as 61% of the girls whose mothers could not speak Turkish were not in primary school in 1998, against only 8% of the other girls. The fact that this effect remained very strong in the multivariate analysis suggests that lack of Turkish language proficiency of the mother (and thus most likely also of the girls themselves) forms a major barrier for girls from a non-Turkish speaking background to enter primary education, which is in Turkish. The finding that of the group of girls out of primary education more than half have mothers who do not speak Turkish stresses the importance of this finding.

The positive effect of mother's education is in line with our expectations. It seems that mothers who succeeded in completing primary education themselves do their best to realize the same for their daughters (probably because they are aware of its importance and know that it is within the reach of girls to realize this).

For primary participation of boys, the education of the mother does not play a significant role. Neither do the mother's Turkish language proficiency, her gender role attitudes nor the presence of sisters. This suggests that there is little female influence on primary participation of boys. Factors that do have an effect are whether the father has realized it himself to go to school, income of the household (which might indicate the need for boys to help at home or earn money with child labor), and the presence of brothers (who might compete for the same resources).

Interestingly, the occupation of the father, a major explanatory factor in social mobility studies, has no effect at all on participation in primary or secondary education of boys, after control for the other factors. That means that the effects of father's occupation found in the bivariate analysis were probably due to the association between father's occupation and father's education or family income. This finding is in line with the idea that the classical status attainment model mainly applies to the higher educational levels.

The finding that in the multivariate analysis the effect of the father's occupation on primary participation of the girls is negative is difficult to interpret. Given the fact that almost all fathers with upper non-farm occupations have relatively high educational levels, it is possible that multicollinearity between father's occupation and education plays a role. The effect of the father's occupation on secondary participation of girls has the expected positive effect. Daughters of farmers have the lowest chance of being in secondary education and daughters of fathers working in upper non-farm occupations the highest.

At the secondary education level, education of the parents again plays an important role, with especially high participation rates for boys and girls if the father has some secondary education, and higher participation rates for girls if the mother has completed primary education. At this level, language proficiency of the mother does not play a role. Instead, the mother's gender role attitudes seem to be very important here. All variables that

indicate traditionality of the mother have significant negative effects on secondary participation of girls. Interestingly, this is also true for having a non-working mother. If a mother is economically active—independent of whether this is in agriculture or in the formal economy—the probability that her daughters go to secondary education is higher than if she is a housewife. This might mean that working mothers use the power derived from their economic role on behalf of their daughters' education and/or that they are more aware of the importance of girl's education than housewives.

The presence of brothers or sisters decreases the probability of both boys and girls to participate in secondary education and the presence of brothers also the chance of being enrolled in primary education. These negative sibling effects are probably due to the fact that the restricted resources must be divided over more children. The importance of financial restrictions also becomes clear from the lower participation rates of children in low-income households. However, these financial restrictions turn out to be more important for boys than for girls, which, together with the stronger effects of mother's gender role attitudes and education on participation of girls, lend support to the idea that the major causes of the gender gap in education are cultural and institutional and not so much economic as the human capital approach assumes.

6.1. Recommendations

Our results suggest that lack of proficiency in speaking the Turkish language of the mothers, and hence probably also of the girls themselves, forms a major handicap for participation in primary education of girls with other languages than Turkish as mother tongue. Because the multivariate analyses contained controls for regional differences (many non-Turkish speaking women live in the East), for the mother's education (many non-Turkish speaking women have little education), for family structure (many non-Turkish speaking families have many children), and for traditionality of the mother (many non-Turkish speaking women are rather traditional), it seems that the lack of Turkish language proficiency itself is the major factor. In Turkey, 4% (or one in 25) of the women aged 15–49 cannot speak Turkish (Smits and Hoşgör, 2003) and our analyses make clear that more than half of the girls out of primary education have mothers who do not speak Turkish.

These—mostly illiterate—women are for their contact with and information about the outside world very much dependent on their male family members (who generally can speak Turkish). These males might be less motivated to pass information to their wives and daughters which is not in line with the traditional patriarchal ideology (like information about the importance of girls' education). Specific policies must be developed in order to circumvent this male filter.

Besides this language issue, also non-education of the mother seems to be an important factor hindering educational participation in Turkey. As much as 80% of boys and girls out of primary education and more than 60% of boys and girls out of secondary education have mothers who have not completed primary education. The majority of mothers are also traditional, married at a young age and have big families. Because of the negative effects of these mothers' characteristics on the education of their daughters, there exists a vicious circle of disadvantage in which children and especially daughters of disadvantaged background are kept. This circle is strengthened by the fact that uneducated women tend to have more children than educated women. As a result, relatively more children are born in disadvantaged households, which makes the problem extra difficult to solve.

The foregoing suggests that to improve educational participation of young children and especially of girls in Turkey the mother takes in a key position. However, the finding that the large majority has not completed primary education, that a substantial part does not even speak Turkish, and that these women may be rather more controlled by their male family members, make this group difficult to reach. Given that most of the women are illiterate, the media may play a significant role in overcoming the male filter. For example, television programs that currently are developed in both Turkish and local languages (like in Kurdish and Arabic) can especially target those high-risk groups of women. The timing and the context of these television programs should be adapted to the fact that the spectators are women. In these programs the importance of girls' education can be discussed and information could be passed that widens the horizon of these women.

An alternative policy is to focus on the adolescents, especially on the brothers. Children's committees at schools can be established that consist of male and female adolescents. As in some cases it is not possible to overcome the male filter (i.e.,

fathers), a kind of child-to-child communication model can be applied in order to raise the awareness and consciousness among the adolescents. The members of these student committees may participate in campaign teams to convince the girls who do not go to school in their own neighborhoods or to convince their own families. Training in the importance of education can be offered to girls at school and they can be equipped with arguments that may help to convince their parents if they want to take them out of school. The importance of education can also be explained to the families by *local role models*. Local people may constitute "real" examples of the fact that through education girls can get a different future.

However, efforts to increase girls' schooling should not be limited to policies aimed at convincing the parents. It is important also that the existing social and economic support programs are expanded. Although the basic reasons why girls are out of school may be cultural, their contributions to household tasks, like looking after their siblings or helping their mother, have also economic importance. To persuade parents to send their daughters to school, it is therefore important that families are not only strengthened socially, but also economically. Programs in this direction may include scholarship and pocket-money programs, free supply of textbooks and free health care services.

For future policies, a planned, long-term strategy should be developed and the 0–6 age group should be targeted. The girls of this age group should not, in any way, be out of school in the long-term. The Turkish Ministry of National Education should aim at realizing this and make multisectoral long-term planning accordingly.

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