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Published online: 14 Jan 2025.

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Intergenerational education mobility of minorities in Turkey

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ABSTRACT
This article examines intergenerational educational mobility among various ethnic and religious groups in Turkey. We focus on directional mobility and show that ethnic Kurds have significantly lower upward mobility than ethnic Turks, and Alevis observe marginally higher upward mobility relative to their Sunni counterparts. The region an individual is born into also makes a difference. Those who are born in the eastern part of the country exhibit lower mobility than those who are born in the west. There is a significant difference in mobility between men and women irrespective of their ethnic origin or religious affiliation as well.

Introduction

Most people care about the equality of opportunity in the society they are living in and consider unequal opportunities as significant threats to the social fabric. In contemporary times, there is an increasing concern about the lack of opportunities and social inclusion among policymakers and the public at large.[1] While one may think of various explanations for existing differences in outcomes, persistence in socioeconomic status across generations is seen as a reliable indicator of a lack of equality of opportunity. Hence, there is the growing literature on intergenerational mobility, particularly in more advanced economies using data on incomes or earnings,[2] and to a lesser extent in less developed countries based on the educational attainment of parents and children as data on incomes are generally not available.[3] Considering that poverty is more prevalent and persistent in the latter group of countries, studies to understand the mechanism that drives inequality and the lack or presence of intergenerational mobility become more relevant.

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A large body of research has investigated intergenerational mobility for the entire population in a single country.[4] Yet, societies are not homogeneous; there are well-known differences in cultural, social, and economic environments in which people live based on their race, ethnicity, class, or region into which they are born. These differences are known to lead to inequalities, and recently there is an increasing number of studies testing differences in intergenerational mobility within a nation and these differences also provide evidence that they also contribute to diminishing mobility over generations.[5]

In this paper, we use a unique dataset to contribute to this literature by considering the intergenerational education mobility of minorities, which we define as belonging to an ethnic, Turkish or Kurdish, or a religious group, Sunni and Alevi, in Turkey. We also consider women as a 'minority' group although they constitute half of the population as they are traditionally left behind in many social and economic aspects, and there could be a significant gender gap in equality of opportunity. While there are some studies discussing gender differences in Turkey, to the best of our knowledge, no studies discuss inequality or mobility between and within minorities in Turkey.

We document existing differences in education and intergenerational mobility between different segments of Turkish society to complement existing literature. While our findings confirm intergenerational elasticity estimates of earlier research at an aggregate level, we show that there are significant differences between various groups. We find, similar to earlier research on the subject, that mobility increases over generations as a result of the expansion of education and an increase in the importance of (formal) education over time and that women have lower mobility than men. We also provide evidence that ethnicity matters significantly. Kurds have much lower upward mobility than Turks, particularly Kurdish women. Interestingly, intergenerational mobility is higher for women of the Alevi minority, although women in general are disadvantaged. Our findings also highlight regional differences beyond geographical ethnic clusters. Disadvantaged groups have a better chance of upward mobility if they are born in western regions rather than in eastern ones. Our analysis provides an introduction to a more detailed and policy-oriented causal analysis, such as testing the implications of access to education or returns to education for various groups in different regions.

This article is organized as follows. First, we briefly review the existing literature. In section three, we introduce our dataset and provide descriptive statistics. After discussing our methodology in Section 4, we provide our findings. The article ends with a conclusion.

Related literature

From a macroeconomic theoretical perspective, intergenerational mobility is closely related to economic growth, inequality, and well-being through

mechanisms of human capital accumulation.[6] The structure and transmission of opportunities were first discussed by Becker and Tomes in their seminal paper.[7] The outcomes of children and parents are related to the inheritability of ability, social capital, goals set by the family environment, and altruistic parental investment in children's human capital. Solon[8] modifies the original model and adds to the list the efficacy of human capital investment, return to human capital, and public investment in human capital. In a recent paper, Alesina et al.[9] also discuss the role of history and institutions in the form of the colonial past in Africa. Thus, any differences in intergenerational mobility could be a consequence of differences in any of these factors.

Defined as the lack of persistence between parents and children's outcomes, there is intensive empirical literature on intergenerational mobility.[10] Black and Devereaux[11] provide a detailed survey of existing research discussing causes of observed correlation between outcomes of parents and children, and difficulties in estimating precise correlation due to measurement, particularly in incomes/earnings. Many studies on intergenerational mobility show a significant variation across countries.[12] Further studies show that intergenerational mobility also varies over time. Mayer and Lopoo[13] find that intergenerational income elasticity decreases for men but increases for women in the US. Blanden and Machin[14] show increasing immobility in the UK, whereas Neidhöfer et al.[15] find that although intergenerational mobility varies between Latin American countries, it is increasing over time, arguing that the earlier findings of a high degree of immobility in this region are valid only for older cohorts.

Relatively fewer studies look into racial/ethnic/class/regional differences within a country. They report strong evidence that such a gap between groups exists. For example, studies by Mazumder[16] and Chetty et al.[17] show that intergenerational mobility is lower for blacks than whites in the US. Similar differences between races are also reported for South Africa,[18] while Azam and Bhatt[19] find that sons of fathers who belong to higher casts in India are more likely to obtain higher levels of education. Chetty et al.[20] shows significant differences in mobility across areas in the United States.[21] An extensive study by Alesina et al.[22] finds significant heterogeneity between and within African countries, arguing that geographic and historical factors are prominent causes of such variation.

Despite large economic inequalities observed in Turkey, particularly between the poorer East where the majority of the Kurdish population resides and the richer West, and the claim that education is a major factor in explaining such inequalities (e.g. Filiztekin[23]), interest in intergenerational education mobility in Turkey is very recent. Tansel[24] finds that there is lower mobility for women in general and for children with less educated parents using the 2007 Adult Literacy Survey conducted by the

Turkish Statistic Institute. Akarçay-Gürbüz and Polat[25] use 1990 and 2000 Censuses and reach a similar conclusion. Both papers also report an increasing mobility over time. In a recent paper, Aydemir and Yazici[26] confirm the intergenerational persistence in educational attainment for women. Their analysis moves beyond and shows a positive relationship between mobility and the development level of the place of residence when the child is young, though their findings are mostly valid for women. Oztunali and Torul,[27] similarly conclude a significant heterogeneity in Turkey, in that descendants' gender, degree of urbanization of the place of (current) residence, educational attainment of the less-educated parent, and financial conditions during the adolescence of the descendant play important roles.

All these studies cited above are at the national level, comparing intergenerational mobility across countries or over time, with a few exceptions that look into gender differences. There are a few studies that consider mobility across social groups, racial, ethnic, religious minorities or 'vulnerable' groups, within a country. The first study that examines differences in mobility between blacks and whites in the US is by Hertz.[28] He found that blacks are less upwardly and more downwardly mobile than whites, a result later confirmed by Mazumder[29] and Chetty et al.[30] Similarly, Nimubona and Vencatachellum[31] report higher intergenerational education mobility for whites than for blacks in South Africa. Azam and Bhatt,[32] on the other hand, investigate intergenerational mobility of different castes in India and find that children of higher castes have a higher probability of obtaining more education.

Data

The Turkish constitution prohibits any kind of discrimination based on gender, ethnicity or religious affiliation. Thus, no official statistics have been published about the distribution of population based on ethnicity since 1965. At the same time, the Turkish state, consistent with its claims to be secular, does not provide any information on the religious affiliation of its citizens.[33] These restrictions on data prevented researchers from examining the economic and social well-being of ethnically and religiously different segments of the population in Turkey for a long time. Our unique dataset allows us to test the presence or lack of intergenerational mobility of minorities for the first time. Regardless of all the provisions in the constitution, we suspect and test the lack of mobility across different segments of Turkish society. As suggested in the literature, lack of mobility could be either due to preferences and/or ambitions of these groups or to '(in)visible' glass ceilings. In this article, we provide a picture of mobility, yet at this stage, we are not able to identify the cause(s).

Data used in this article come from Barometer surveys of Konda, a polling company. Barometer surveys are conducted periodically on the first week of each month regularly covering an average of 2750 individuals and aim to gauge the political and social tendencies and preferences of the Turkish society. While we have had access to surveys for almost ten years, between March 2010 and January 2020, questions pertinent to our research topic are asked infrequently. Particularly, the father's education is asked in only one-third of the monthly surveys and in many surveys, age is reported in larger brackets making those observations not usable in our research.

The questionnaires are completed by those who are over age 18 (eligible age for voting). However, we also limit our sample to people who are older than 25, the age one is expected to be finished with his/her education. We also exclude people who were born after 1985 as a new law passed in 1997, increasing mandatory schooling from five years to eight, binding all those who were born in 1986 or later and the change in the law is likely to bias our estimates.[34] After dropping those observations with missing education and gender information (less than one percent of the remaining sample), we end up with 41,142 observations.

Eliminating those observations may cause our sample to be not representative nationally. We use nationwide representative Household Labor Force Surveys (HLFS) conducted by the Turkish Statistics Institute for the corresponding period to construct sample weights, thus the unconditional distribution of age, gender, education, and region that the individual resides in our data match HLFS data.[35]

Our outcome measure is educational attainment, as data for income or earnings are not available. However, Black and Devereaux[36] argue that educational attainment provides significant information about the lives of individuals and that measurement problems are less severe as education is completed early in life and thus not prone to life cycle effects and people can provide more reliable information on their educational attainment. Blanden,[37] in an extensive survey, considers different outcomes, earnings, education, and social class, using data from 46 countries and concludes that the results for earnings and education are fairly well correlated, analyzing on educational mobility a reliable proxy for earnings mobility in countries such as Turkey where earning information is not readily available.

Educational attainment is measured as the latest degree completed. We have grouped them into five: 'No Degree', 'Primary', 'Middle School', 'High School', and 'University' degrees. Five-year primary school was mandatory for each individual in our dataset. Middle school and high school were three years each. Finally, university degrees also include those (a small minority) who have attended post-graduate education also.

Our main interest is whether intergenerational mobility differs across various segments of society. The Barometer surveys provide unique

information on the ethnicity and religious affiliation of the respondents by asking two specific questions to the respondents[38]:

> We are all citizens of the Turkish Republic, yet may come from different ethnic roots. What is your ethnic identity or how do you perceive your ethnic identity?

and

> Which religious affiliation, do you consider, that you do belong?

The answers to these questions enable us to establish minorities (as perceived by respondents) in Turkish society. Our ethnicity and religious affiliation variables are each grouped into two categories: 'Turkish' and 'Kurdish' (including Zazas, a section of Kurdish ethnicity); and 'Sunni' (including both Hanafites and Shafi'ites) and 'Alevi.' The surveys also allow other ethnicity and religious affiliations, yet each segment has too few observations, and when grouped they exhibit significant variation within groups, rendering our findings on these sub-groups unreliable.[39] We choose to exclude them from our analysis.

Table 1 provides sample size and shares of different ethnic and religious groups in the sample.[40] Men and women almost have equal shares. Over 80 percent of the people living in Turkey consider themselves Turkish. People that perceive themselves as Kurdish are 13.9 percent, which constitutes a sizable minority. An overwhelming majority of people in Turkey claim to be Sunni Muslims, 90.9 percent. Those who respond to religious affiliation question as Alevi make up 5.3 percent of the population.

While not a minority in numbers, women have traditionally been left behind in Turkey. In the year 2020, 6.4 percent of women of 25 years age and above were illiterate and 13.5 percent did not have any degree, despite the mandatory education of five years, as opposed to a mere 1.0 percent illiterate, and 3.2 percent without-a-degree men. There is an abundance of studies that show repeatedly the disadvantages of women in the economic and social spheres in Turkey. Therefore, in our analysis, we consider

Table 1. Distribution by ethnicity and religious affiliation.

		Total	Men	Women
Full Sample	Nobs	41,142	20,545	20,597
	Share	100.0	49.9	50.1
Turkish	Nobs	33,394	16,599	16,795
	Share	80.7	49.9	50.1
Kurdish	Nobs	5574	2831	2743
	Share	13.9	49.7	50.3
Sunni	Nobs	37,372	18,613	18,759
	Share	90.9	49.8	50.2
Alevi	Nobs	2165	1093	1072
	Share	5.3	51.2	48.8

Note: The shares are weighted as described in the text.

women as a vulnerable group and emphasize differences between men and women between and within each ethnic and religious group.

To eliminate possible biases that may result from pooling data we also report mobility measures over four cohorts, defined by their birth years, 1950–1959, 1960–1969, 1970–1979, and 1980–1985, as well. Neidhöfer et al.,[41] for example, report changing immobility in Latin America over time. As education expands and returns to education changes over time, it is likely that younger cohorts obtain more education independent of their fathers' education level. As a compounding factor, changing demographics may also bias mobility estimates, particularly for the Kurdish population which has higher fertility rates. In Table 2, we report shares of each group within the cohort.

In Table 3, we report the educational attainment of children by each population group. Several important differences are apparent. Women, regardless of their ethnic origin or religious affiliation have lower educational attainment: more than one-fifth of women in general did not even comply with compulsory schooling. Second, Kurds have significantly lower attainment, particularly Kurdish women: more than 55 percent of Kurdish women have not completed any degree. Kurds face a linguistic disadvantage from the start, as the medium of learning is in Turkish at all levels. On the other hand, Alevis have a slightly, but not significantly, higher education level. However, Alevi women are better off in terms of education compared to their Sunni counterparts.

Large differences between men and women, and Turks and Kurds in the current population raise the question of whether these differences are persistent, that they are passed on by previous generations. We define a couple of directional mobility measures and test whether there are significant and persistent differences across different groups.

Table 2. Distribution across cohorts (%).

	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Share in Sample	18.5	26.3	32.7	22.4
Share in Cohort				
Men	49.1	50.2	50.0	50.0
Women	50.9	49.8	50.0	50.0
Turkish	84.3	82.4	80.0	76.8
Men	41.4	41.1	40.0	38.8
Women	43.0	41.3	40.0	38.0
Kurdish	10.8	12.2	14.5	17.7
Men	5.5	6.3	7.2	8.5
Women	5.3	5.9	7.3	9.3
Sunni	91.2	91.2	90.7	90.3
Men	44.7	45.7	45.2	45.0
Women	46.5	45.6	45.5	45.3
Alevi	4.9	5.1	5.5	5.5
Men	2.5	2.6	2.8	2.8
Women	2.4	2.5	2.7	2.7

Table 3. Descriptive statistics on the educational attainment of children (%).

	Shares of				
	No Degree	Primary School	Middle School	High School	Univ.
All	13.5	46.9	9.8	16.2	13.6
Men	4.8	46.0	12.8	20.0	16.4
Women	22.2	47.7	6.7	12.5	10.9
Turkish	9.5	48.2	10.1	17.5	14.7
Men	3.2	45.3	13.0	21.1	17.4
Women	15.7	51.1	7.2	13.9	12.1
Kurdish	35.5	39.8	8.6	9.5	6.7
Men	14.1	49.8	12.7	14.0	9.5
Women	56.6	29.9	4.5	5.0	4.0
Sunni	13.8	47.2	9.8	16.1	13.1
Men	4.9	46.3	12.9	20.0	15.9
Women	22.5	48.2	6.7	12.3	10.3
Alevi	12.3	46.9	10.3	17.1	13.4
Men	5.1	48.9	13.0	19.1	13.9
Women	19.9	44.8	7.6	14.9	12.8

Measuring intergenerational mobility

Interest in intergenerational mobility (IM), defined as the transmission of opportunities across generations, is increasing; however, it has many facets and consequently, different measures are used in the literature yielding different pictures of mobility. Fields[42] defines six 'concepts' that have various interpretations. Our main goal in this paper is to compare intergenerational education mobility across different segments of Turkish society and we would like to emphasize 'directional mobility.'

Earlier research on intergenerational mobility is based on a single parameter (intergenerational elasticity, IGE, a gradient) that describes parent-child outcome distributions. While our aim is to discuss directional mobility, and to provide a comparison with earlier research, we have also run a set of regression standards in this literature to estimate intergenerational elasticity and intergenerational correlation. Our estimated elasticity is 0.609 when all data are pooled, which is significant, yet it is much lower than the 0.734 reported by Aydemir and Yazici.[43] However, since we are using different sets of data, a more comparable estimate would be an intergenerational correlation. Indeed, while our estimate for pooled data is 0.525, Aydemir and Yazici[44] report 0.564.[45]

While IGE and IGC provide a broad and intuitive understanding of intergenerational mobility, these measures have major limitations. They are not able to identify changes in opportunity at the ends of distributions, particularly, when there is anon-linear relationship between child's and parents' outcomes as reported in some studies. They are also not suitable for between-group comparison as they are measuring children's outcomes against better-off peers in their own group. Furthermore, we have information only on the latest degree earned, thus we have to assign years to each category, a task that may not be

meaningful. Therefore, we opt to use transition matrices and derive our 'directional' mobility measures based on them.

In Figure 1, we present nationwide absolute mobility, the likelihood that children earned a higher, same or lower degree than his/her father, by gender and cohort. There is a significant difference between men and women, justifying our treatment of women as a separate vulnerable group. The bottom panel of the picture also reveals that absolute mobility is increasing over time, as in Latin America.[46]

While useful, this picture ignores the relative position of individuals and their fathers in the distribution. Thus, we construct 5×5 attainment transition matrices based on different levels of education. Figure 2 shows (nationwide) relative mobility where the percentage of children with the respective parental education attainment is shown in rows. The figure shows striking persistence at the lower and upper ends of distribution for all segments. Over 80 percent of children of fathers with no degree could not attain schooling beyond primary school, whereas 90 percent of children with a university graduate father had the highest education level.

Based on these observations and to take the size of the change between generations into account, we choose to focus on one specific measure of directional mobility, bottom-up-mobility[47] defined as

$$\text{BUM}_i = 1(y_{i,1} \geq s_1 | y_{i,0} < s_0) \tag{1}$$

where $y_{i,t}$ is the educational attainment of the child ($t = 1$) and father ($t = 0$) and, s_0 and s_1 are (highest) attained degrees of the father's and child's, respectively. We have chosen s_0 to be middle school and s_1 to be high school degrees. While these choices are somewhat arbitrary, we picked primary education as it was mandatory for all cohorts in our data, and have chosen high school as around 30 percent of our sample has a degree above middle school.[48]

Intergenerational bottom-up mobility

Mobility estimates

Unconditional bottom-up mobility in Turkey is around 21 percent. That is, only one out of five people with a father who has at most mandatory schooling obtains at least a high school degree. We run a simple regression model to estimate bottom-up mobility (the first column of Table C1 in Appendix C.) Women and Kurds have significantly lower bottom-up mobility than men or Turks, whereas Alevis, in general, are more likely to move upward relative to Sunnis. As has been shown earlier with absolute mobility, bottom-up mobility is higher the younger the cohort.

This baseline model ignores the possibility that there could be variation within each section. For example, Turkish and Kurdish women and/or
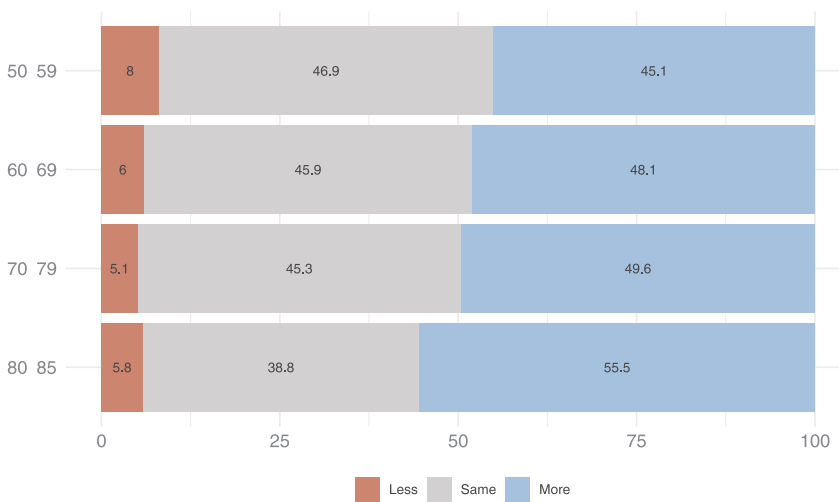
(a) by Gender
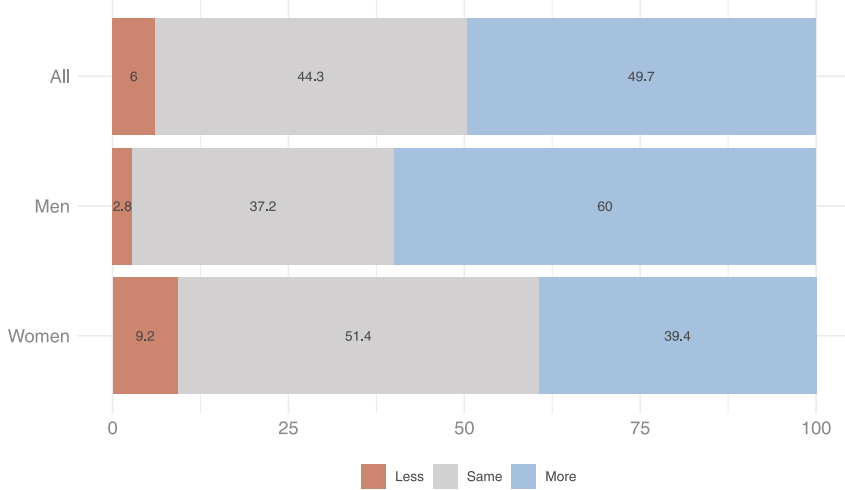
(b) by Cohort

Figure 1. Absolute mobility. (a) by gender; (b) by cohort.

Kurdish men and women may have different mobility rates. We estimate a second model that involves interaction terms to control possible interrelatedness of main demographics. We only present the estimated average predictive probabilities of selected sub-groups here (full estimation results and additional figures for estimated average predicted probabilities are given in the third column of Table C1 in Appendix C.)

As it is in the simplest model, bottom-up mobility is increasing over time for all sub-groups (Table 4).[49] The 'rising tide lifts all boats', and there are no significant differences in this trend across all sub-groups in our sample. Yet,
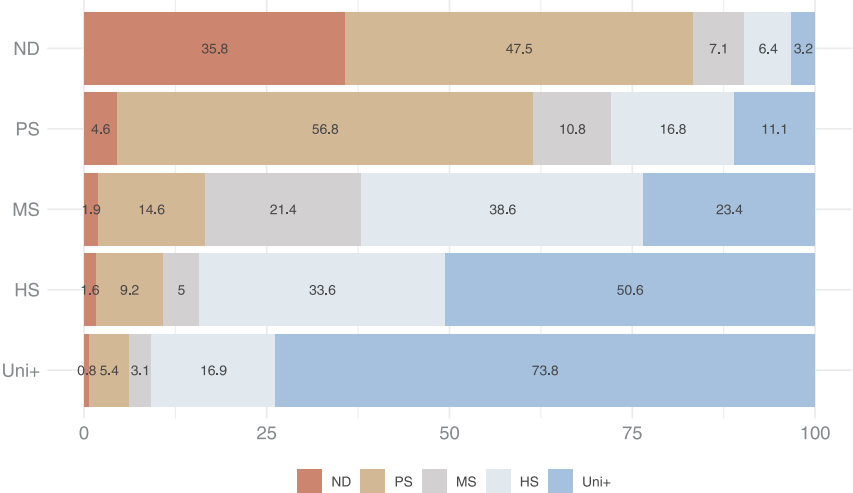
Figure 2. Relative mobility. Note: Rows indicated the father's and colored bars show child's education level.

there are significant differences within genders, ethnic, or religious groups irrespective of their cohort and, if anything, the existing gaps tend to be larger for younger cohorts.

There are significant differences in bottom-up mobility between women (14.8 percent) and men (27.5 percent), Kurds (13.5 percent), Turks (22.4 percent), Sunnis (20.8 percent), and Alevis (26.2 percent). However, these estimates mask heterogeneity between minorities. For ease of presentation, we report our estimates in Figure 3. Kurdish Sunni women born to an at most primary school-educated fathers have the lowest probability of having a high school or more degree, it is a mere seven percent chance. The only segment among women who could compete with men is Turkish

Table 4. Average predicted probabilities for bottom-up mobility.

	APP	Std. Err.
Men	0.275	0.003
Women	0.148	0.003
Turk	0.224	0.003
Kurd	0.135	0.015
Sunni	0.208	0.002
Alevi	0.262	0.011
Dev	0.255	0.006
East	0.176	0.006
Rest	0.205	0.005
50–59	0.130	0.005
60–69	0.163	0.004
70–79	0.235	0.004
80–85	0.325	0.005

Alevi women with an average bottom-up mobility probability of 23.5 percent and they are followed by Kurdish Alevi women who have a 17.6 percent likelihood. The largest gap between men and women is within the Turkish Sunni group, 13.4 percent There is also a large gap between Kurdish Sunni men and women, as well (12.1 percent).

While the Kurdish population has significantly lower bottom-up mobility relative to Turks as a whole, Kurdish Alevi men stand out differently. The average predictive bottom-up probability of this segment is highest among all Kurdish sub-groups, though not significantly different than other Turkish men. The major gap between Turks and Kurds mostly depends on their religious affiliation. While Alevi Kurds have similar bottom-up mobility as any Turk, Sunni Kurds have significantly much lower, almost half, bottom-up mobility, and this is more pronounced among women.

The difference between Sunni and Alevi Turks stems from the gap between women of different religious affiliations. Turkish men, whether Sunni or Alevi, have an almost equal chance of bottom-up probability; however, there is a large gap between Sunni and Alevi Turkish women of
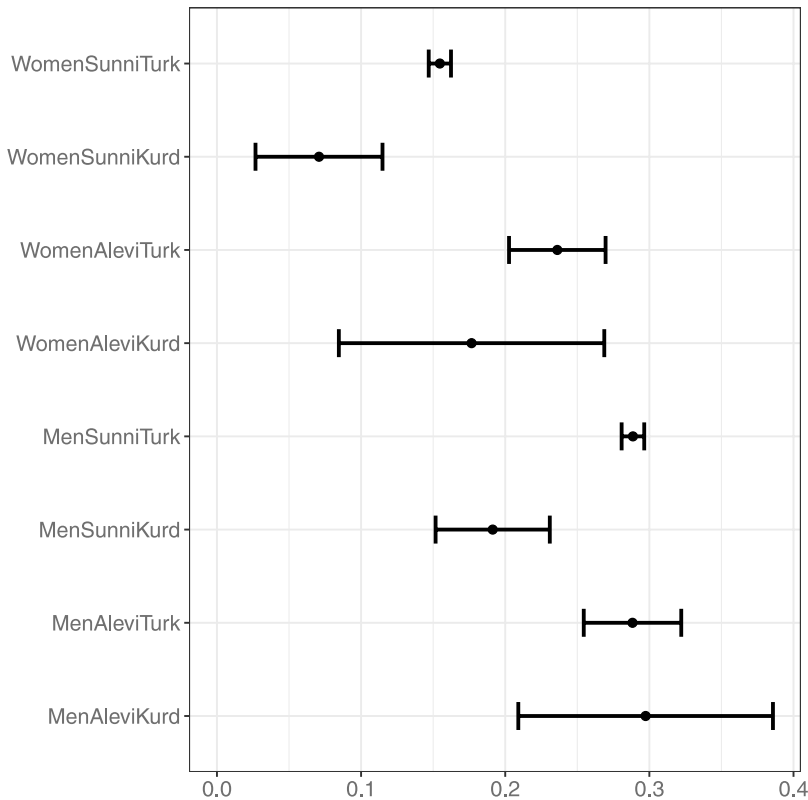

Figure 3. Bottom-up mobility by gender, ethnicity, and religion.

8.1 percent. Among the Kurdish population, Alevis have significantly higher bottom-up mobility irrespective of their gender.

Mobility based on place of birth

An important question is whether the region in which the person spent his/her childhood is a 'cause' of observed mobility rates. Chetty et al.[50] show that children whose families moved to low-poverty neighborhoods at young ages have better outcomes such as earnings and college attendance rates.

It is a well-known fact that there is a persistent wide economic and social development gap between the western and eastern parts of Turkey. Aydemir and Yazici[51] show convincingly that social and economic conditions in the city where the child grows up are important in Turkey. Historically, industrialization and urbanization in the eastern regions of Turkey are far behind the rest of the country and one expects the return to education to be low. If there is a spatial sorting based on ethnic and/or religious identity, then estimates of intergenerational mobility could be biased.

Unfortunately, our data do not have information on the region in which the individual spent his/her childhood, but the region in which he or she was born. We assume that the individual's childhood region is where he/she is born. We split our sample into three regions to ensure that we have sufficient sample size and control for regional differences, as well. These regions are Dev, which includes three major provinces, Istanbul, Ankara, and Izmir; East, covering NUTS1 regions TRA-TRC; and Other which consists of the remaining regions. As shown in Table 5, the majority of the population born in the east belongs to the Kurdish minority (51.7 percent), and Kurds also constitute the current majority in the East (not reported, 54.6 percent). In contrast, people born in other regions are overwhelmingly Turkish and Sunni.

In our second model, we have also interacted with the variable of the region of birth with other characteristics and estimated average predictive probabilities based on the birth region of the individual. As expected, there is a statistically significant order corresponding to the level of development. In the west, most developed regions of the country bottom-up mobility rate is 25.5 percent, in the East it is 17.6 percent, and in the remaining regions, it is 20.5 percent. In what follows, we focus on differences between developed regions (Dev) and the East, as in the parts of remaining regions the social and economic environment may not be significantly better than certain parts of the East, and our mobility estimates indicate that those born in the remaining of the country are in between these to extreme regions, albeit closer to the east.

Despite these differences, women, regardless of where they are born, have significantly lower bottom-up mobility rates relative to men,

Table 5. Distribution across the region of birth.

	Dev	East	Rest
Share in Sample	25.7	23.5	50.8
Share in the Region of Birth			
Men	51.2	49.2	49.5
Women	48.8	50.8	50.5
Turkish	92.8	41.8	93.3
Men	47.2	20.5	46.1
Women	45.7	21.2	47.2
Kurdish	3.1	51.7	2.0
Men	1.7	25.5	1.0
Women	1.4	26.1	1.0
Sunni	91.7	90.4	91.1
Men	46.8	44.4	45.0
Women	45.0	46.0	46.2
Alevi	3.3	6.6	5.8
Men	1.7	3.2	3.0
Women	1.6	3.4	2.8

supporting the findings of Aydemir and Yazici.[52] Our analysis provides further detail based on ethnic, religious, and gender characteristics. Turkish women born in the East have more than twelve percentage points lower mobility rate than Turkish women born in the more developed Western regions. The gap is six percent for Kurdish women, yet it should be noted that those Kurdish women who are born in the East have a dismal 4.3 percent bottom-up move probability. Interestingly, bottom-up mobility is highest for Alevi women who are born in the developed regions, at a level of 46 percent, surpassing even all men, and this is not only because of Turkish Alevi women, as Kurdish Alevi women who are born in the west also has 38.6 percent mobility rate. In short, Alevi women born in the more developed regions, regardless of their ethnic origin have a significant chance to move upward and catch up with men (Figure 4).

As stated above, Kurds in general have lower bottom-up mobility compared to Turks. Kurds born in the East have 4.6 percent marginally lower mobility relative to their peers born in the West. However, the gap between Turks born in the West and in the East is larger, 8.4 percent, and statistically significant, particularly between Turkish women. This is mostly because Kurds, regardless of their birthplace, face fewer opportunities than Turks, and the gap between those who are born in developed and eastern regions is significantly larger for Turks.

In terms of religious affiliation, the difference between those who are born in the developed regions and those in the East still exists. Alevis born in the east suffer 18 percentage points lower mobility probability compared to Alevis born in the west, yet, the estimated average probability for this group is not significantly different than Sunnis born in the west. The major difference is that Alevis born in the West have much higher upward
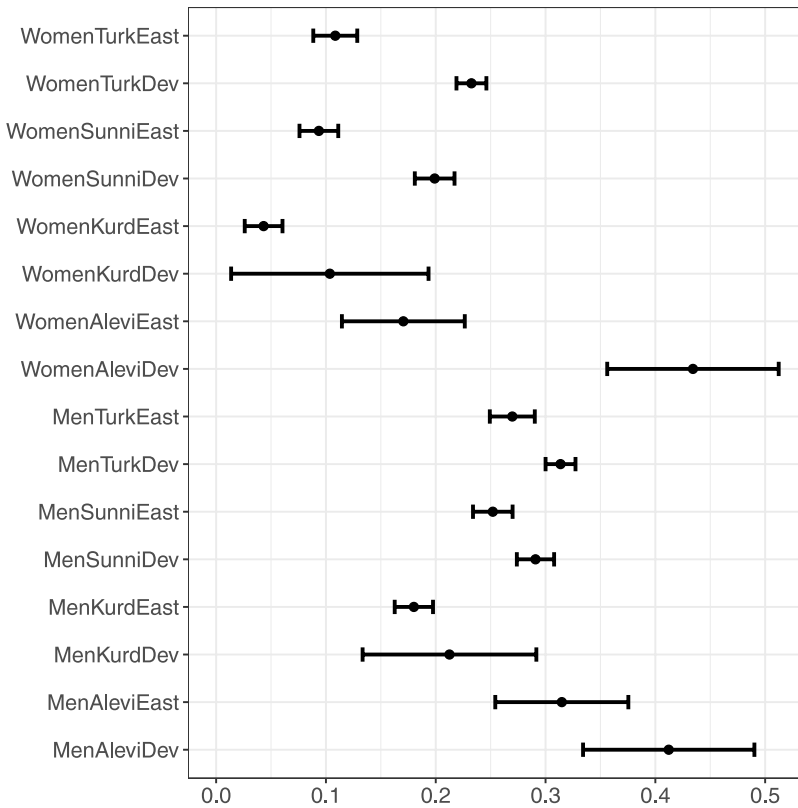
Figure 4. Bottom-up mobility of various segments by the region of birth.

mobility than the rest of all other groups. Once again, the gap between the two regions is mostly due to differences among women rather than men.

The difference *within* ethnic and religious communities based on place of birth should not veil the difference *between* those communities where they are born. While Kurds compared to Turks have relatively lower bottom-up mobility in both more developed and eastern regions, the gap is smaller among those who are born in the east. The same is true also for Sunnis relative to Alevis. Those who have a better chance of upward mobility enjoy significantly better outcomes if they are born in a more advantageous environment also. Particularly, the gap between Turkish and Kurdish women and Alevi and Sunni women born in the West are pronouncedly higher than those who are born in the East.

Conclusion

In this article, we analyzed the intergenerational mobility of different ethnic and religious groups in Turkey using a unique dataset. Our findings show

that the opportunity to move upward varies significantly across different groups.

To save space, we have not discussed several other issues that may arise from our discussion. Firstly, as shown in previous literature, the mother's education could be as important as the father's education. The question about a mother's education is rarely asked in Barometer surveys, giving us few observations to provide extensive analysis. Nonetheless, we have run our analysis with those few observations. Our findings (reported in Appendix D) do not indicate any major differences across ethnic and religious segments than when we used fathers' education. Noteworthy differences are that Sunni Turks enjoyed higher upward mobility, possibly because their mothers had low educational attainment and that Kurdish Alevi women had similar upward move opportunities as their brothers, though we have very imprecise estimates.

One may also ask whether using other mobility measures would show a different picture. Lower-end persistence is very similar and downward mobility and upper-end persistence measures are very much like mirror images of what we have shown in this paper (one must note that there are very few fathers with high education and the precision of our estimates is quite low.) We provide average predicted probabilities using all different measures in Appendix E.

We show that mobility is increasing for all segments of the society over time, yet even within the youngest cohort only one-third of the population enjoyed the opportunity to move upward. Despite all efforts and rhetoric at all levels within Turkish society in the last hundred years, only a few could break through and obtain an education level beyond their fathers.' There is significant persistence at both ends of the distribution, children born to less educated fathers have very little chance to move upwards, whereas those of educated fathers tend to have higher education.

It is a well-known fact that women were left behind in Turkey as in many other countries. Our data set confirms this consensus. Both at the level of education and in terms of upward mobility women face fewer opportunities in almost all segments. The only exception is Alevi women who enjoy at least an equal chance as their brothers.

Kurds, especially Kurdish women, are the most disadvantaged group, yet there is also heterogeneity among Kurdish ethnicity for their religious affiliation. Mobility is significantly higher for Alevi Kurdish men as opposed to their Sunni peers and it is almost identical to those of Turks of either religious affiliation.

As a small minority, Alevis observe higher mobility than their Sunni counterparts. Yet, there are still differences among Alevi-affiliated people based on their ethnicity. While we may not be able to make any causal inference with available data, this difference indicates a cultural distinction between Sunnis and Alevis.

We also find that the region where the person is born is also important. Those who are born in less developed eastern regions have very little chance to move upward, as opposed to those who are born in more developed regions that include the three largest metropolises. There are ethnic and religious differences even among those who are born (and possibly raised) in the same environment.

Given the limitations of our data, we may not be able to show any causal links. The differences could be due to a wide range of factors. For example, Mayer and Lopoo[53] relate the change in intergenerational mobility in the US to decisions of children about marriage, whereas Blanden and Machin[54] argue that the fall in mobility in the UK can be explained by differential expansion of education between poor and rich families. In a similar vein, Neidhöfer et al.[55] find that differences in mobility among Latin American countries are strongly correlated with progressive public provision of education. These examples show that educational policies, cultural backgrounds, and social and economic environment can play a role in affecting mobility. Due to a lack of data, particularly on ethnic and religious affiliations of people, our analysis can only provide a first insight about economic and social welfare, and opportunities that ethnic and religious groups face in Turkey.

Notes

1. OECD, *Catching Up?*, and Alesina et al., "Intergenerational Mobility."
2. Checchi et al., "More Equal but less"; Kerm, "What Lies"; and Corak et al., "A Comparison."
3. Azam and Bhatt, "Like Father, Like Son?"; Neidhöfer et al., "Educational Inequality"; and Alesina et al., "Intergenerational Mobility in Africa."
4. Hertz et al., "The Inheritance."
5. Chetty et al., "Land of Opportunity," and Chetty et al., "Race and Economic Opportunity."
6. Owen and Weil, "Intergenerational earnings mobility."
7. Becker and Tomes, "An Equilibrium Theory."
8. Solon, "A model."
9. Alesina et al., "Intergenerational Mobility in Africa."
10. Solon, "Intergenerational Mobility."
11. Black and Devereaux, "Recent Developments."
12. Hertz et al., "The Inheritance."
13. Mayer and Lopoo, "Intergenerational Transmission."
14. Blanden and Machin, "Educational Inequality."
15. Neidhöfer et al., "Educational Inequality."
16. Mazumder, "Black–White Differences."
17. Chetty et al., "Race and Economic Opportunity."
18. Nimubona and Vencatachellum, "Intergenerational Education Mobility."
19. Azam and Bhatt, "Like Father, Like Son?"
20. Chetty et al., "Land of Opportunity."
21. When minorities are recent immigrants, the conclusion differs. For example, Aydemir et al., "Intergenerational Education Mobility" find that immigrants

in Canada exhibit higher intergenerational educational mobility than native born Canadians. An OECD report (OECD, *Catching Up?*) concludes that immigrants' children's educational outcomes depend less on their parents than children of native-born parents in several European countries, albeit migrants to Europe have lower socio-economic characteristics than natives, unlike immigrants in Canada.

22. Alesina et al., "Intergenerational Mobility in Africa."
23. Filiztekin, "Income Inequality."
24. Tansel, "Intergenerational Educational Mobility."
25. Akarçay-Gürbüz and Polat, "Schooling Opportunities."
26. Aydemir and Yazici, "Intergenerational Education Mobility."
27. Oztunali and Torul, "The Evolution."
28. Hertz, "Rags, Riches and Race."
29. Mazumder, "Black–White Differences."
30. Chetty et al., "Race and Economic Opportunity."
31. Nimubona and Vencatachellum, "Intergenerational Education Mobility."
32. Azam and Bhatt, "Like Father, Like Son?"
33. There were significant non-Muslim minorities in the Ottoman Empire. After World War I, population deportations and exchanges reduced Christian minorities to a negligible size. The share of non-Muslims were already below three percent in 1927. In our data set, those who belong to any other religious affiliation other than Sunni or Alevi amount to less than 2.5percent.
34. The effect of such a change is by itself an interesting question, yet a limited number of observations for later cohorts causes our estimates to be less precise. We had to postpone the investigation of this question to a later date.
35. We provide differences between weighted and unweighted sample in Appendix A. Using unweighted data does not change our findings in any significant way.
36. Black and Devereaux, "Recent Developments."
37. Blanden, "Cross-country Rankings."
38. Non-response rates for these two questions are quite low, less than one percent and random.
39. The only sizable group is those who perceive themselves as Arab, constituting two percent of our sample. Small sample size for this group prevents us from obtaining precise estimates. Nonetheless, point estimates for the Arab population are very close to those of the Kurdish segment.
40. We provide the number of observations in this table. In the remaining tables and analyses of the paper, we use weighted figures. More detailed descriptive statistics are provided in Appendix B.
41. Neidhöfer et al., "Educational Inequality."
42. Fields, "Concepts of Social Mobility."
43. Aydemir and Yazici, "Intergenerational Education Mobility."
44. Ibid.
45. The regression models and estimation results are provided in Appendix E.
46. Neidhöfer et al., "Educational Inequality."
47. As alternative directional mobility measures, we have also considered downward mobility ($DWM_i = 1(y_{i,1} < s_1 \mid y_{i,0} \geq s_0)$), lower-end-persistence ($LEP_i = 1(y_{i,t} \leq s_1 \mid y_{i,t-1} < s_1)$) and upper-end persistence ($UEP_i = 1(y_{i,t} \geq s_2 \mid y_{i,t-1} \geq s_2)$). Our main conclusions and rankings of various groups do not change when these alternative measures are used. The results using alternative measures are provided in Appendix E.

48. We have used different levels of educational attainment for robustness and our main findings are not altered in any significant way.
49. This finding is different than that reported in Oztunali and Torul ("The Evolution") where they find a decline in intergenerational education elasticity for older cohorts but starts rising again for younger cohorts. Since the mobility measures are different, comparing two sets of results may not be appropriate.
50. Chetty et al., "Land of Opportunity"; Chetty et al., "The Effects of Exposure."
51. Aydemir and Yazici, "Intergenerational Education Mobility."
52. Ibid.
53. Mayer and Lopoo, "Intergenerational Transmission."
54. Blanden and Machin, "Educational Inequality."
55. Neidhöfer et al., "Educational Inequality."

Acknowledgements

Disclosure statement

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Appendices

Appendix A. Reweighting

Konda did not ask about the father's education in each of its surveys. This may cause our data not to be nationally representative and our estimates could possibly be biased if there are significant differences among intergenerational mobility rates of population sub-groups. Household Labor Force Survey (HLFS), conducted by the Turkish Statistical Institute (TurkStat), however, is nationally representative. We construct sample weights using pooled HLF Surveys from 2010 to 2020 such that the unconditional distribution of age, gender, education, and region in which the individual resides matches the HLFS data.

We created 480 cells defined by education (5 categories), gender (2 categories), cohorts (4 categories) and NUTS1 regions (12 categories) and using whole data from the years 2010 to 2020 we ensure that the unconditional distribution of main variables is the same. Figure A1 shows that in our data young (old) population is slightly more (less) represented than HLFS. Similarly, the share of the population with no degree is underrepresented and the share of high school graduates is over-represented in our sample.

It should be noted that despite these differences between our unweighted sample and HLFS data, our findings do not change in any significant way at all.
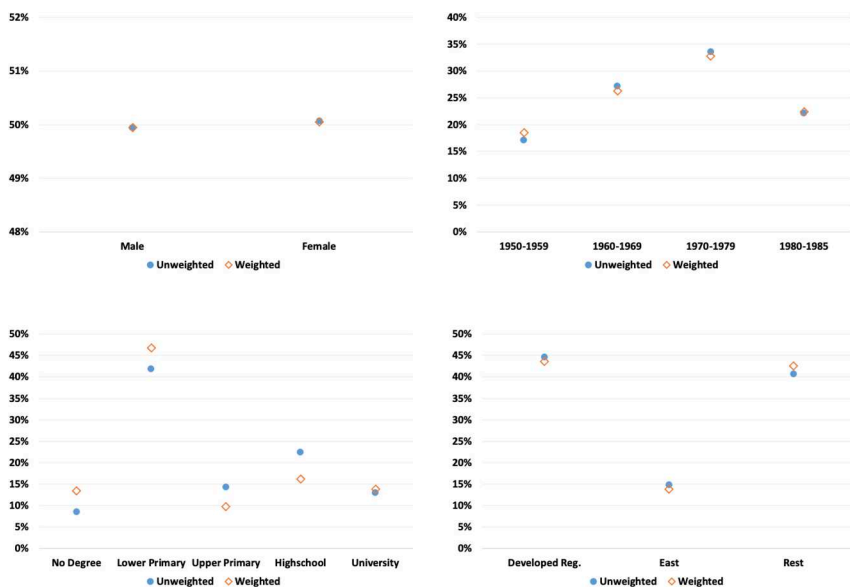
Figure A1. Weighted and unweighted sample (Shares in percentages).

Appendix B. Detailed descriptive statistics

Table B1. Weighted distribution of the full sample by all ethnic and religious groups (%).

	Men				Women			
	Sunni	Alevi	Other	Missing	Sunni	Alevi	Other	Missing
Turkish	37.1	1.8	0.9	0.5	37.4	1.8	0.8	0.5
Kurdish	6.3	0.4	0.1	0.1	6.4	0.4	0.1	0.1
Arab	0.7	0.3	0.0	0.0	0.8	0.3	0.0	0.0
Other	1.0	0.1	0.2	0.0	0.9	0.1	0.2	0.0
Missing	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.2

Table B2. Educational attainment of fathers.

			Shares of		
	No Degree	Primary School	Middle School	High School	Univ.
All	30.0	54.0	6.7	6.4	2.8
Turkish	24.8	57.8	7.4	7.0	3.1
Kurdish	58.2	34.6	3.5	2.8	0.9
Sunni	30.0	54.3	6.7	6.3	2.6
Alevi	35.0	50.7	6.3	5.7	2.2

Appendix C. Estimation results

Table C1. Estimation results for bottom-up mobility without interactions.

	Coeff.	Std. Err.
Women	−0.13***	(0.005)
Kurd	−0.08***	(0.01)
Alevi	0.04***	(0.01)
60–69	0.03***	(0.01)
70–79	0.11***	(0.01)
80–85	0.19***	(0.01)
East	−0.08***	(0.01)
Rest	−0.05***	(0.01)
Constant	0.25***	(0.01)
N	28,369	
Adjusted R^2	0.06	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table C2. Estimation results for bottom-up mobility with interactions.

	Coeff.	Std.Err.		Coeff.	Std. Err.
Women	−0.12***	(0.02)	Kurd*Alevi	0.10	(0.11)
Kurd	−0.10	(0.10)	Kurd*60–69	0.03	(0.13)
Alevi	0.19**	(0.08)	Kurd*70–79	−0.03	(0.11)
60–69	0.04**	(0.02)	Kurd*80–85	−0.001	(0.11)
70–79	0.11***	(0.02)	Kurd*East	0.02	(0.10)
80–85	0.19***	(0.02)	Kurd*Rest	0.05	(0.12)
East	−0.03	(0.03)	Kurd*Alevi*60–69	−0.11	(0.09)
Rest	−0.03	(0.02)	Kurd*Alevi*70–79	0.001	(0.09)
Women*Kurd	−0.01	(0.07)	Kurd*Alevi*80–85	−0.01	(0.10)
Women*Alevi	−0.02	(0.07)	Kurd*Alevi*East	0.01	(0.09)
Women*60–69	0.01	(0.03)	Kurd*Alevi*Rest	0.07	(0.11)
Women*70–79	0.03	(0.03)	Kurd*60–69*East	−0.06	(0.13)
Women*80–85	0.10***	(0.03)	Kurd*70–79*East	0.02	(0.11)
Women*East	−0.02	(0.04)	Kurd*80–85*East	−0.02	(0.12)
Women*Rest	−0.01	(0.03)	Kurd*60–69*Rest	−0.07	(0.15)
Women*Kurd*Alevi	−0.08	(0.06)	Kurd*70–79*Rest	−0.06	(0.13)
Women*Kurd*60–69	−0.02	(0.05)	Kurd*80–85*Rest	−0.02	(0.13)
Women*Kurd*70–79	0.01	(0.05)	Alevi*60–69	−0.17∗	(0.10)
Women*Kurd*80–85	−0.04	(0.05)	Alevi*70–79	−0.03	(0.09)
Women*Kurd*East	0.05	(0.06)	Alevi*80–85	−0.13	(0.10)
Women*Kurd*Rest	0.05	(0.07)	Alevi*East	−0.13	(0.09)
Women*Alevi*60–69	0.17***	(0.06)	Alevi*Rest	−0.16∗	(0.09)
Women*Alevi*70–79	0.17***	(0.06)	Alevi*60–69*East	0.15	(0.12)
Women*Alevi*80–85	0.22***	(0.07)	Alevi*70–79*East	0.02	(0.11)
Women*Alevi*East	−0.10	(0.07)	Alevi*80–85*East	0.07	(0.12)
Women*Alevi*Rest	−0.04	(0.06)	Alevi*60–69*Rest	0.04	(0.11)
Women*60–69*East	−0.0003	(0.05)	Alevi*70–79*Rest	−0.12	(0.10)
Women*70–79*East	−0.08	(0.05)	Alevi*80–85*Rest	0.05	(0.10)
Women*80–85*East	−0.13**	(0.05)	60–69*East	−0.01	(0.04)
Women*60–69*Rest	−0.01	(0.03)	70–79*East	−0.01	(0.04)
Women*70–79*Rest	−0.05	(0.03)	80–85*East	−0.03	(0.04)
Women*80–85*Rest	−0.11***	(0.04)	60–69*Rest	−0.01	(0.02)
			70–79**Rest	0.02	(0.02)
Constant	0.22***	(0.02)	80–85*Rest	0.02	(0.03)
N	28,369				
Adjusted R^2	0.07				

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix D. Results using the mother's education

Table D1. Educational attainment of mothers.

No Degree		Prim.	School	Shares of Mid. School	High School	Univ.	Grads.
All	30.0		54.0	6.7	6.4		2.8
Turkish	24.8	57.8		7.4	7.0	3.1	
Kurdish	58.2	34.6		3.5	2.8	0.9	
Sunni	30.0	54.3		6.7	6.3	2.6	
Alevi	35.0	50.7		6.3	5.7	2.2	

Table D2. Average predicted probabilities for bottom-up mobility.

	Based on the father's education		Based on the mother's education	
	APP	Std. Err.	APP	Std. Err.
Men	0.275	0.003	0.312	0.008
Women	0.148	0.003	0.188	0.008
Turk	0.224	0.003	0.265	0.007
Kurd	0.135	0.015	0.142	0.034
Sunni	0.208	0.002	0.246	0.006
Alevi	0.262	0.011	0.297	0.027
Dev	0.255	0.006	0.292	0.018
East	0.176	0.006	0.207	0.015
Rest	0.205	0.005	0.243	0.010
50–59	0.130	0.005	0.137	0.014
60–69	0.163	0.004	0.189	0.011
70–79	0.235	0.004	0.273	0.010
80–85	0.325	0.005	0.382	0.013

Appendix E. Results using other mobility measures

E.1. Intergenerational elasticity estimates

To provide a comparison with earlier research we have estimated intergenerational educational elasticity and correlation for each group separately. The estimation is based on the following equation

$$S_{1i} = \alpha + \beta S_{0i} + \varepsilon_i$$

where S_{1i} and S_{0i} refer to the years of education of the child and father, respectively. The coefficient *beta* is the intergenerational elasticity. The estimate could be biased if the fathers' and children's distributions vary.

A second equation

$$S_{1i} = \alpha + \rho S_{0i} + \varepsilon_i,$$

where S_{1i} and S_{1i} are the father's and child's years of schooling normalized by the standard deviation of the respective generations.

Assuming 0, 5, 8, 11, and 15 years for no-degree, primary, middle school, high school, and university graduates, respectively, we assigned years of schooling to each individual. Using this generated data, we have run both models. The estimation results are provided in Table E1.

Table E1. Intergeneration education elasticity and correlation estimates.

	β	Std.Err.	ρ	Std.Err.
All	0.6086	0.0042	0.5246	0.0036
Males	0.5286	0.0055	0.4917	0.0051
Females	0.6779	0.0063	0.5722	0.0053
Turkish	0.5745	0.0049	0.5032	0.0043
Males	0.5142	0.0061	0.4795	0.0056
Females	0.6269	0.0068	0.5398	0.0059
Kurdish	0.6487	0.0133	0.4929	0.0101
Males	0.5478	0.0164	0.4615	0.0138
Females	0.7079	0.0194	0.5497	0.0151
Sunni	0.6093	0.0047	0.5205	0.0040
Males	0.5298	0.0061	0.4878	0.0056
Females	0.6768	0.0066	0.5687	0.0055
Alevite	0.5728	0.0175	0.5020	0.0154
Males	0.5155	0.0242	0.4735	0.0223
Females	0.6300	0.0246	0.5392	0.0210

E.2. Estimation results based on other directional mobility measures

The following table provides estimates using alternative measures of *directional* mobility. The relative position of different segments does not differ regardless of the measure used. Nonetheless, there are a few points that could be made to add to our main findings.

Downward mobility has a mirror image of upward mobility for different segments of the society. Those groups relatively less mobile upwardly, have a higher probability of moving downward.

Relatively more upwardly mobile groups also tend to exhibit higher upper-end persistence, meaning educated fathers' children are very likely to have higher education. Symmetrically, those who have a disadvantageous position in terms of upper mobility tend to have higher lower-end persistence. While lower-end persistence declines over generations, upper-end persistence increases.

Thus, in the terminology of mobility literature, there is little '*flux.*' This raises further questions about educational inequality for the future generations.

Table E2. Average predicted probability estimates using different directional mobility measures.

	Upward mobility		Downward mobility		Lower-end persistence		Upper-end persistence	
	APP	Std. Err.	APP	Std. Err.	APP	Std. Err.	APP	Std. Err.
Men	0.275	0.003	0.091	0.006	0.593	0.004	0.885	0.009
Women	0.148	0.003	0.184	0.006	0.793	0.004	0.821	0.009
Turk	0.224	0.003	0.130	0.004	0.677	0.003	0.860	0.006
Kurd	0.135	0.015	0.225	0.032	0.774	0.017	0.683	0.053
Sunni	0.208	0.002	0.138	0.004	0.697	0.003	0.849	0.006
Alevi	0.262	0.011	0.086	0.021	0.636	0.013	0.913	0.033
Dev.	0.255	0.006	0.118	0.008	0.640	0.007	0.874	0.010
East	0.176	0.006	0.198	0.013	0.730	0.007	0.768	0.018
Rest	0.205	0.005	0.131	0.007	0.698	0.005	0.859	0.010
50–59	0.13	0.005	0.224	0.016	0.814	0.006	0.720	0.032
60–69	0.163	0.004	0.186	0.010	0.748	0.005	0.804	0.015
70–79	0.235	0.004	0.134	0.007	0.666	0.005	0.870	0.010
80–85	0.325	0.005	0.085	0.007	0.536	0.006	0.886	0.010
Nobs	28,369		5,960		28,369		3.235	