Parental Ethnic Identity and Educational Attainment of Second-Generation Immigrants

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ABSTRACT

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A lack of cultural integration is often blamed for hindering immigrant families' economic progression. This paper is a first attempt to explore whether immigrant parents' ethnic identity affects the next generation's human capital accumulation in the host country. Empirical results based on data from the German Socio-Economic Panel (GSOEP) indicate that maternal majority as well as paternal minority identity are positively related to the educational attainment of second-generation youth – even controlling for differences in ethnicity, family background and years-since-migration. Additional tests show that the effect of maternal majority identity can be explained by mothers' German language proficiency, while the beneficial effect of fathers' minority identity is not related to language skills and thus likely to stem from paternal minority identity per se.

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1   Introduction

Based on the theoretical framework by Akerlof and Kranton (2000), who introduce identity as a part of an individual's utility function, the concept of ethnic identity[1] is attracting increasing research interest from economists.[2] A number of empirical studies show that how immigrants relate to the majority society and the culture of their countries of origin may affect aspects of their economic behavior, such as labor force participation (Constant and Zimmermann, 2009; Battu and Zenou, 2010), job search and occupational prestige (Pendakur and Pendakur, 2005), income (Nekby and Rödin, 2007) and homeownership (Constant et al., 2009). However, most of the research on ethnic identity has so far focused on the economic outcomes of first-generation immigrants. Only a few studies have specifically considered second-generation immigrants (e.g. Casey and Dustmann, 2010; Nekby and Rödin, 2010) or investigated the relation between ethnic identity and education (e.g. Zimmermann et al., 2008; Nekby et al., 2009).

The present analysis adds to this literature by exploring the role of parental ethnic identity in second-generation immigrants' educational attainment in Germany. Investigating this intergenerational link is crucial for two reasons. First, the recent public debate has revealed the importance of examining whether there are in fact long-term economic or social consequences stemming from immigrants being more or less attached to their ethnic background culture or the mainstream culture of the host country. Recurrent controversy in Germany over citizenship tests, a German leading culture or the failing of multiculturalism[3] affirms a persistent public uncertainty of whether immigrants should culturally assimilate or whether cultural diversity be embraced. Second, the children of immigrants form a large and increasing share of the Western European population, and so are of growing importance for European labor markets. Whether or not these second-generation immigrants are able to successfully contribute to the host country economy depends largely on the amount of human

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[1]Following Phinney and Ong (2007), ethnic identity is defined as a part of social identity, which in turn is defined by Tajfel (1981) as "that part of an individual's self-concept which derives from [his] knowledge of [his] membership of a social group (or groups) together with the value and emotional significance attached to that membership" (p.255). Unlike ethnicity, ethnic identity is thus chosen by individuals themselves. Ethnicity, on the other hand, is assigned to an individual either by birth or by others on the basis of ethnic background or phenotype (Phinney and Ong, 2007).

[2]Special issues of the *Journal of Population Economics* (Volume 20, Issue 3, 2007), *Research in Labor Economics* (Volume 29, 2009) and *The Economic Journal* (Volume 120, Issue 542, 2010) document this increasing research interest.

[3]After an extended debate on how to define a German leading culture that immigrants would need to assimilate to, the discussion on how to deal with Germany's immigrant population was again accelerated in 2010 with the publication of the controversial book "Deutschland schafft sich ab" ("Germany Does Away With Itself") by Thilo Sarrazin promoting anti-immigrant attitudes.

capital they accumulate in the host country educational structures. Yet this group performs poorly compared to natives according to most measures, such as education, earnings or employment (Algan et al., 2010). It is thus important to understand the factors associated with second-generation immigrants' educational performance.

Economic literature generally stresses the importance of parental input in children's education (e.g. Becker and Tomes, 1976; Becker, 1981). Parents care about their children's economic success and can exert influence by investing in their "skills, health, learning, motivation, 'credentials', and many other characteristics" (Becker and Tomes, 1986, p. S5). In the context of immigrant parents, however, it is likely that the way parents influence and assure their children's educational success is affected by their degree of cultural integration, i.e. both their sense of belonging to the host country society (majority identity) and the extent to which they stick to the cultural traits of their home countries (minority identity).

Immigrant parents with a stronger affiliation to the host country might be better able to motivate their children effectively simply because they have a better command of language, are more familiar with the local schooling system and are less handicapped by cultural differences, e.g. when dealing with teachers. Additionally, as suggested by sociological literature, parents with a stronger sense of belonging to the majority culture are more optimistic about their children's future opportunities for economic advancement in the host country, which in turn alters their incentives for educational investments (Kao and Tienda, 1995).

There are mixed stories as to how immigrant parents' affiliation to their background culture may matter for educational investments in the next generation. On the one hand, sociological and cross-cultural psychology literature suggests that children may profit from a strong parental minority identity because the affirmation of one's cultural heritage increases individual well-being, self-esteem and is thus beneficial for a child's educational attainment (e.g. Portes and Rumbaut, 1990; Olneck, 1995; Phinney et al., 2001). On the other hand, economic literature points to possible adverse effects. The model of ethnic identity developed by Chiswick (2009) illustrates that parents who are deeply rooted in the culture of their country of origin are likely to specialize in the development of children's ethnic skills, which, depending on the cultural tension between minority and majority culture, might come at the expense of investments in general human capital.

The main scope of this paper is to analyze whether, and to what extent, immigrant parents' ethnic identity, defined as both the parental affiliation to the host country society and their ties to the background culture, affects immigrant children's educational paths. Of specific interest is the relative importance of parental majority and minority identity. The cross-cultural psychological literature indicates that, in

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analogy with the concept of two-dimensional acculturation by Berry (1997), ethnic identity can be seen as "two dimensions of group identity that vary independently; that is, each identity can be either secure and strong or underdeveloped and weak." (Phinney et al., 2001, p. 495). I therefore attempt to identify separately the effects of parental minority and majority identity. Similarly, I employ separate measures of maternal and paternal identities in order to investigate their respective roles.

Germany, as a country with a sizeable stock of second-generation immigrants, provides an excellent case study. In 2007 children of immigrants constituted roughly 20 percent of the German population under the age of 20 (Statistisches Bundesamt, 2009).[4] Moreover, within Germany's early tracking school system, already the transition to secondary school appears to constitute a significant barrier to immigrant children's educational progression.[5] In fact, in a system which imposes critical choices early in a child's educational career, a great weight falls on the knowledge, support and strategizing of the parents.

I start by estimating basic probit models of the probability that an immigrant child in Germany is tracked either into intermediate or upper level secondary school and find that both parental German and minority identity seem to matter significantly. Both kinds of identities appear to be associated with an increase in a child's probability to be placed in a higher secondary schooling track. Moreover, I find the positive impact of German identity to work exclusively through mothers, while the beneficial effect of minority identity is specific to fathers. These results are robust when controlling for family background characteristics and introducing ethnicity fixed effects. Also, the observed pattern is apparent in both specifications that include all identity measures together and specifications that include only one identity measure at a time. In order to assess whether parental identity effects are driven by unobserved time-invariant family characteristics, I then take advantage of the relatively large number of siblings in my sample of immigrant children. Estimating models that allow for family fixed effects, I find a remarkably similar pattern to my basic results.

Additional tests indicate that the positive effect of maternal German identity can to a great extent be explained by mother's command of the German language, while neither father's German or minority language ability accounts for the beneficial impact of paternal minority identity on educational attainment. These findings gen-

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[4]These are mainly the children of "guestworker" immigrants who arrived during the 1960s and 70s from Turkey, the former Yugoslavia, and other southern European countries, including Greece, Italy, and Spain, and more recently immigrants from Eastern Europe.

[5]The design of the German school system places pupils into different secondary schooling tracks at around the age of ten. Immigrant children in Germany are generally over-represented in the lowest secondary schooling track and relatively few are found in the academically oriented school type (Riphahn, 2005).

erally suggest differential roles of fathers and mothers in contributing to their child's education. While paternal minority identity appears to be a stabilizing factor, with respect to immigrant mothers it may be rather their host country-specific skills, such as language skills, that help them navigate through the German education system.

The paper proceeds as follows: Section 2 reviews previous related literature. Section 3 introduces the data and provides descriptive evidence on the relationship between parental ethnic identity and secondary school placement. Section 4 presents the empirical findings, and Section 5 summarizes the results and concludes.

2   Existing Literature

The literature on the educational attainment of second-generation immigrants is large and growing (Borjas, 1992; Djajić, 2003; Nielsen et al., 2003; van Ours and Veenman, 2003; Colding, 2006; Algan et al., 2010; Belzil and Poinas, 2010; Cobb-Clark and Nguyen, 2010). Several studies on Germany document a persistent educational gap between native and immigrant children (Haisken-DeNew et al., 1997; Gang and Zimmermann, 2000; Riphahn, 2003, 2005; Algan et al., 2010; Luthra, 2010). This literature mainly focuses on the role of immigrant parents' lower average human capital endowment in explaining these gaps. A further question is whether in the immigrant context, there are specific patterns of parental investment in the next generation's education. Several migrant-specific factors have been suggested to play a role in explaining differences *within* the immigrant population. Chiswick (1988) suggests that culturally motivated differences in family background may be responsible for different returns to schooling across ethnic groups. Borjas (1992), on the other hand, emphasizes that the performance of the next generation not only depends on parental skills but also on the average human capital endowment of their respective ethnic group ('ethnic capital'). Gang and Zimmermann (2000) suggest the degree of immigrant parents' 'assimilation' to the host country culture plays a role.

The most examined measure of 'assimilation' is the immigrant families' duration of stay in the host country assuming that language and cultural barriers, as well as immigrant-specific information deficits, decrease with the time spent in the host country. In the German context such time aspects of parental integration are generally found to be positively associated with children's educational attainment (Haisken-DeNew et al., 1997; Riphahn, 2003, 2005). However, less attention is given to measures that reflect the immigrant families' emotional attachment to German society or the ties to their own culture. Concerning the former, Luthra (2010) employs parental naturalization as a measure of immigrant families' active integration

into German society, but finds no significant relationship to child education.[6] With respect to their own culture, Haisken-DeNew et al. (1997) find children of parents who prefer ethnic over German food or strongly consider returning to their home country are more likely to end up in lower educational tracks.

I use here direct measures of parental self-assessed ethnic identity to analyze the potential role of immigrant parents' identification with either the host country and the minority culture in determining the second generation's school performance. This intergenerational relationship has, to my knowledge, yet to be directly investigated in the empirical literature. There are, however, two studies that relate closely to the present analysis.

The first study, by Nekby et al. (2009) analyzes the ethnic identity of young second-generation adults in Sweden in relation to post-secondary educational attainment. A significant association between ethnic identity and educational outcomes is found predominantly for men. Men who are affiliated with both the majority and minority culture seem to have greater probabilities of completing tertiary education than men who identify only with one or neither of the two. However, and as Nekby et al. (2009) suggest themselves, the relationship of ethnic identity and education outcomes is likely to have been established earlier in the educational career. Mechanisms that link ethnic identity and educational outcomes at earlier stages might then run through parental influence rather than the child's own feelings of group belonging, given the importance of parental inputs and involvement in the child's capacity development at an early age. Second, Casey and Dustmann (2010) study the transmission of ethnic identities across generations. Their results indicate that immigrant parents transmit both their ethnic minority and majority identities to the next generation. More specifically, they find mothers to be relatively more important with respect to the transmission of minority identity, while fathers appear to transmit the German identity more strongly. Consequently, I expect the way parental identity is associated with immigrant children's education outcomes to vary between fathers and mothers.

This paper adds to the two studies above by analyzing the possible influence of both majority and minority identity of immigrant mothers as well as fathers on the next generation's human capital accumulation. The analysis provides greater understanding of the intergenerational aspects of immigrant integration and the factors related to immigrant families' long-term economic advancement.

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[6]Concerning the naturalization of the children themselves, the evidence of a positive naturalization-effect is unclear. While Riphahn (2005) finds the association between citizenship and second-generation outcomes disappear after controlling for socio-economic background, Gang and Zimmermann (2000) report a significant and positive effect.

3 Empirical Setup and Data

3.1 Empirical Setup

The econometric framework used to assess the relationship between parental ethnic identity and immigrant children's educational attainment is given by the underlying latent variable model

$$y_i^* = \beta_0 + \beta_1' I_i + \beta_2' X_i + \epsilon_i, \quad X_i = \{F_i, T_i, C_{ij}, O_i\}, \tag{1}$$

where y_i^* denotes child i's level of human capital, and I_i represents parental German and minority identity measures. X_i comprises control variables for child i's family background (F_i), the household's years since migration (T_i), a dummy variable C_{ij} indicating whether child i is a member of ethnic group j and other controls (O_i) such as region of residence and survey year.

Since human capital is not directly observable, equation (1) cannot be estimated straightaway. The earliest observable outcome is a child's enrolment in one of the traditional three schooling tracks after primary school. Assuming that a child is placed in one of the two highest tracks if, and only if, his or her human capital is above some threshold (without loss of generality set to 0) and also assuming that the error term ϵ_i in equation (1) follows the standard normal distribution, equation (1) can be rewritten as

$$P(y_i = 1) = P(y_i^* > 0) = \Phi(\beta_0 + \beta_1' I_i + \beta_2' X_i), \tag{2}$$

where $\Phi(\cdot)$ is the standard normal CDF.

At this point it is important to stress that the resulting estimates are to be cautiously interpreted. There might be a number of other characteristics and attributes correlated with parental ethnic identity that drive their pre-school educational investments or ability to navigate the German school system. Not all of these characteristics are observable and can be controlled for in the estimation. In the absence of an exogenous instrument correlated with identity, but not with the regression disturbance, results need to be carefully interpreted.

Another problem might be that results are driven by a simultaneity bias in the case where children's educational performance impacts their parents' feelings of belonging. To some extent I confront this problem by employing measures of parental identity that are observed at least one year *before* secondary school tracking decisions are made.

3.2 Secondary Education in Germany

In the German school system crucial educational decisions are made relatively early at the transition from primary to secondary schooling. Usually at around the age of ten, and after only four years of primary education[7], pupils are separated into different secondary schooling tracks. Traditionally, secondary education in Germany is divided into three school types: the lower level *Hauptschule*, designed to prepare pupils for manual professions; the intermediate *Realschule*, which prepares students for administrative and lower white-collar jobs and finally the upper level *Gymnasium* – the most prestigious – which prepares students for higher education.[8] It is only the latter upper level track that provides direct access to the higher level academic system. All three types of schools are typically state-run and tuition-free.

The placement decision for secondary education is made jointly by parents and teachers. Primary school teachers recommend a secondary track, but these recommendations are not binding in many federal states.[9] As a result, the influence of parental views on the tracking decision is potentially significant. In general, Germany's early tracking system is often criticized as cementing educational careers at too early an age (e.g. Dustmann, 2004), especially since different curricula for the different school types leave little room for later upward (or downward) mobility.[10]

3.3 Data and Descriptive Evidence

I use data from the German Socio-Economic Panel (GSOEP), a nationally representative, household-based, panel survey, which is administered annually since 1984 (Wagner et al., 2007). One major advantage of the data is that since the initiation of the survey, the resident migrant population, i.e. mainly the traditional five immigrant nationalities in Germany (Greek, Italian, Spanish, Turkish, and Yugoslavian), is over-sampled. The first survey wave included about 1500 households with a foreign-born household head, which makes the dataset unique in providing repeated information on immigrants over a long period of time.

A second reason for using this dataset is that questions on ethnic self-identification were asked in a total of 12 waves (from 1984 through 1987, and every second year

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[7]Exceptions are the East German federal states of Berlin and Brandenburg, where primary school generally covers six grades. Also, in a few West German federal states, such as Hesse, Bremen and Lower-Saxony, some schools exist in which tracking is postponed for two years.

[8]Besides these three traditional secondary schooling types, there exists an alternative more recent school type, called *Gesamtschule* or comprehensive school, which combines all three tiers. Numerically, however, this type is not significant.

[9]Exceptions are Brandenburg, Saxony and Thüringen, in the east, and Baden-Württemberg, Bavaria and North Rhine-Westphalia in the west.

[10]Changing tracks after the initial school placement is in principle possible but rare in practice (Autorengruppe Bildungsberichterstattung, 2008).

thereafter until 2003). In particular, foreign-born immigrants were asked on a five-point scale to what extent they felt 'German', and how strongly they felt connected to their country of origin. These measures capture the concept of ethnic identity as corresponding to the way individuals define themselves as members of a particular ethnic group (Tajfel, 1981; Akerlof and Kranton, 2000). Furthermore, the fact that each household head provides information about individuals in the household below the interviewing age of 16 allows me to investigate the tracking level of children's education. Using the father and mother-identifiers provided in the dataset allows the children's parents to be identified. Exploiting the GSOEP data thus grants the possibility of studying the effect of immigrant ethnic identity in an intergenerational context.

In order to estimate the role of parental ethnic identity on immigrant children's educational attainment, I focus on the transition from primary to secondary school. Hence, the sample consists of pupils aged 10 – 14 for whom the transition from primary school to one of the secondary schooling tracks (*Hauptschule*, *Realschule* or *Gymnasium*) can be observed. Although the timing of secondary school placement differs for some federal states, by the age of 14 educational placement has been determined for almost all children.[11] The dependent variable, secondary school placement, is then defined as a dichotomous variable equal to one if, at age 10 – 14, the child experiences a transition from primary school to intermediate or upper secondary school and zero in the case of a transition to *Hauptschule*.[12] There are two reasons for grouping the two higher school levels. First, the split between them and the lower level school, *Hauptschule*, greatly determines the possibilities of later success in the German labor market. Second, children of immigrants appear to be generally overrepresented in the lowest track, while they are less likely than their native peers to be tracked into one of the upper two school types (Riphahn, 2005).

The analysis is restricted to households residing in West Germany because of the virtual absence of a history of migration into East Germany. Furthermore, I focus on the traditional guest-worker population, thus excluding ethnic German immigrants who entered the GSOEP in 1994/95 through additional sampling. The resulting sample is a random sample covering second-generation pupils from all parts of West Germany who could be matched to both their parents and for whom there is information on both parents' socio-economic and immigrant-specific characteristics.

A second-generation immigrant child is defined as an individual who is born in

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[11]A somewhat similar approach is taken by Spieß et al. (2003) and Haisken-DeNew et al. (1997), who examine 7th grade pupils at age 14.

[12]Note that pupils attending nonstandard schools such as *Gesamtschulen* (integrated schools) are excluded from the sample.

Germany and whose mother *and* father were born abroad[13] (indirect migration background). I also consider children of foreign-born parents who are themselves foreign born, but arrived in Germany before the age of 7 (direct migration background). These are usually referred to as the '1.5 generation'. Their inclusion is justified by the fact that they immigrated at pre-school age. The final sample comprises a total of 482 immigrant children (250 males and 232 females). Table 1 presents the dependent variable, i.e. secondary school enrolment by gender for this sample. Most notable is that the enrolment rates of around 70 percent into the lowest schooling track are relatively high when compared to the share of native German pupils attending this type of school, which is typically documented to amount to less than 30 percent (Frick and Wagner, 2001; Riphahn, 2005).

Table 1 about here

The main variables of interest are *minority identity* and *German identity* of immigrant parents. These measures of parental self-assessed ethnic identification with the minority ethnic culture, and the majority culture respectively, are based on information collected at least one year *prior* to when placement decisions are typically made, i.e., they are measured when children are eight or nine years old.[14] The two survey questions read: "To what extent do you view yourself as a German?" and "To what extent do you feel that you belong to the culture of the country where you or your family comes from?". Answers to these questions are coded into a five-point scale, ranging from "not at all" (1) to "completely" (5). Assuming that each, maternal and paternal minority as well as German identity may – independently from each other – exert an influence on educational attainment, I employ separate measures of minority and German identity for fathers and mothers respectively. I also choose to use identity measures as quasi-metric variables, thus using information from the entire observed distributions to avoid an arbitrary separation in two or three categories.[15]

Table 2 about here

Table 2 shows summary statistics of the parental identity measures for all individuals in the sample. The information indicates that the majority of both fathers and

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[13]Note that children with mixed foreign backgrounds, e.g. one native and one immigrant parent, as well as single parents are thus excluded from the sample. This results in the loss of 42 observations of mixed native-immigrant background and three single-parent observations.

[14]Since questions on ethnic self-identification are not available for every survey year, I include observations of the respective previous year, which correspond to the parental identity when the child was eight years old.

[15]The main results remain, however, robust when employing binary variables indicating above- or below-median parental identity instead of quasi-metric measures.

mothers do not or only weakly identify with German culture and very strongly with their culture of origin. Nevertheless, there is considerable cross-sectional variation in all four parental identity measures. Considering that minority and German identity are measured on a five-point scale, a standard deviation of around one represents a reasonably large variation from the average.

Table 3 about here

Table 3 provides an overview of the patterns of maternal and paternal identities within families distinguished by above- and below-median parental German and minority identity. It is important to note that although measures of minority and German identity are negatively correlated across fathers and mothers respectively, and in spite of the relatively high intra-family correlation between fathers' and mothers' identities, there is clearly substantial variation for each of the four parental identity factors which is independent from the other, even within immigrant families. When, e.g., attention is restricted to mothers who state a German identity at or above the sample median, 22.87 percent of these mothers also exert a strong affiliation towards their background culture. Similarly, 12.79 percent of their partners state a below-median German identity. As later analysis will show, this intra-family variance of parental ethnic identities is adequate to provide reasonably precise estimates of the relationship between measures of fathers' (mothers') identity and child educational attainment, conditional on mothers' (fathers') ethnic identity measures.

As a first impression of the relationship between parental ethnic identity and educational attainment, Table 4 compares the sample probabilities of a child being tracked into intermediate (*Realschule*) or upper secondary school (*Gymnasium*) by above- and below-median parental German and minority identity. Children whose mothers state a relatively higher affiliation to the German culture are considerably more likely to be enrolled in one of the higher school tracks. The difference in higher track enrolment probability between them and children whose mothers' German identity is relatively weaker amounts to 10 percent. The relationship of mothers' minority identity and secondary school enrolment is the inverse. However, differences are not significant at the 5 percent level. With respect to fathers' ethnic identity, the picture is less clear. Higher track enrolment probabilities do not appear to be significantly different for pupils whose fathers' German or minority identity is above or below the sample median.

Table 4 about here

The following empirical exercise explores whether this first descriptive indication of associations between parental ethnic identity and educational attainment holds

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when accounting for the influence of family background, ethnicity and the immigrant families' years since migration. The concern is that associations between parental ethnic identity and educational attainment reflect systematic differences in family background, ethnic capital or duration of stay rather than effects stemming from the parents' sense of group membership and emotional attachment.

In order to control for parental socio-economic background, I employ two indicators: both parents' years of education and disposable household income[16] per household member.[17] I also control for the number of children in the household as families must divide financial resources as well as time and attention. These variables control for the influence of a *favorable family background* (Chiswick, 1988). *Ethnic capital* (Borjas, 1992) is represented by the children's ethnic group, a variable constructed using both the parents' and the child's information on country of origin and nationality.[18] In addition, the parents' years residing in Germany is included, thus controlling for the pure *time aspects* of the parental cultural integration process. Federal state dummies and a dummy for urban or rural place of residence control for compositional and regional differences. Calendar effects are controlled for by the year of observation. Summary statistics of the main variables used are presented in Table 5.

Table 5 about here

4   Results and Discussion

4.1   Main Results

This section examines the main estimates of the relationship between immigrant parents' ethnic identities and educational attainment of their offspring. Table 6 shows the average marginal effects from binary probit estimations of a child's enrolment probability in intermediate or upper secondary school at age 10 – 14 on parental ethnic identity measured at the child's age eight or nine. Results reported in panel A are from simple regressions on parental identity measures and basic covariates, such as federal state and survey year, while results presented in panel B are based on estimations of the most extensive model specification, including controls for family

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[16]Adjusted monthly net household income deflated by 2008 CPI.

[17]Based on previous empirical literature (e.g. Constant and Zimmermann, 2009) one might expect parents' ethnic identification to be associated with their labor force participation, which is why I choose not to include these variables in my preferred specifications. However, the inclusion of parental labor force status does not alter the empirical results.

[18]The sample is restricted to ethnic groups from the major guest-worker countries Greece, Italy, Spain, Turkey, and the former Yugoslavia.

background, ethnicity and the household's years since migration. Standard errors are adjusted for clustering by household in each model to account for correlations between children who live in the same household.

Table 6 about here

In order to assess the relevance of each parental identity measure, I employ several specifications. First, secondary school enrolment is regressed on each of the parental identity measures separately (columns 1 – 4), and subsequently, I estimate a model including the full set of identity variables (column 5). When each measure of parental ethnic identity is considered on its own (i.e. without conditioning on other identity measures), I find a rather strong and highly significant positive association between mothers' German identity and higher-level secondary school enrolment (column 1), while mothers' minority identity exerts a negative but insignificant influence (column 2). Thus, children whose mothers are more strongly affiliated to the host country culture are more likely to be tracked into one of the two highest schooling types. The estimated average marginal effects suggest that any additional German identity of mothers is associated with a statistically significant 5.1 percent increase in the probability of the child's enrolment in one of the higher track schools (column 1). The estimated effect of mothers' minority identity is -3.3 percent, but not statistically different from zero (column 2).

With respect to fathers, results in columns 3 and 4 indicate a substantially different pattern. First of all, whether fathers feel more or less German does not seem to significantly impact enrolment probabilities. The estimated average marginal effect of paternal German identity amounts to 1.6 percent, but is statistically insignificant. Interestingly, and contrary to what is found for mothers, it appears that it is the father's *minority* identity that is significantly and *positively* associated with the child's enrolment probability in one of the higher track schools. The estimated marginal effect of an increase in fathers' minority identity is a statistically significant 4.3 percent (column 4). Hence, children of fathers with relatively stronger minority identification are more likely to be tracked into one of the higher secondary schooling types.

The picture that emerges from this first set of results indicates that among all parental identity measures, the German identity of immigrant mothers as well as the minority identity of immigrant fathers are the relevant variables contributing to the explanation of immigrant children's educational attainment. Interestingly, both of these associations are positive. One could have expected that each of the parental identity measures, if considered on its own, would pick up significant variation simply because of the generally negative correlation between the German and minority

identity and the positive intra-family correlation between parents' identities. There is, however, little evidence that this is the case, since the estimated effects of mothers' minority and fathers' German identity are already smaller and not significant when considered separately.

Next, I estimate a model including the full set of parental identity variables (column 5). Consider a sample of immigrant children whose mothers all state a strong minority identity. Among these mothers, some will feel more or less affiliated with the German society. The fathers of these children will also vary in their strength of minority identity (see Table 3). I am now interested in examining how the estimated contribution of one parental ethnic identity measure changes when introducing the other identity measures. I find that the general pattern of a positive relation between mothers' German identity and the child's educational attainment as well as the positive minority identity effects of immigrant fathers appear to be robust when conditioning on all other identity variables.[19] The estimated effects are even slightly stronger than in specifications without conditioning on other parental identity measures. As in columns 2 and 3, none of the other two parental identity measures exert a significant impact on enrolment probabilities. The measures of fit reported in Table 6 indicate that the latter model has the greatest explanatory power in comparison.

I move on to account for a possible relationship between parental ethnic identity and aspects of ethnicity, family background and the household's years since migration. Results reported in panel B of Table 6 show that adding these controls leave the estimates of parental ethnic identity essentially unchanged.

This analysis thus indicates that mothers' affiliation to German culture, as well as fathers' minority identity, are the relevant parental identity measures contributing to determining immigrant children's educational attainment.[20] The findings are robust to the introduction of controls for ethnicity, years since migration and family background. The possibility that parental identity effects reflect a correlation between parental ethnic identity and certain ethnicity, family background or pure time effects of integration can therefore be ruled out.

Notable additional results show that children with a Greek background are significantly more likely to end up in one of the higher secondary schooling types than

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[19]Note also that interaction terms between mothers' and fathers' identity as well as between parental minority and majority identity turn out to be not significant (results can be obtained upon request).

[20]These main findings are somewhat contradictory to Casey and Dustmann (2010), who study the transmission of ethnic identities across generations. Although they are not looking at child education, their results indicate that mothers transmit the minority identity more strongly and that fathers play a more important role with respect to the transmission of the German identity, whilst I find maternal majority and paternal minority identity do matter for a child's educational attainment.

children of any other ethnic background reviewed here – even net of identity, family background and years-since-migration effects.[21] Children from other guest-worker backgrounds, however, do not differ significantly in their enrolment behavior from children of Turkish origin, the reference group. Furthermore, the household's years since migration do not seem to be significantly correlated with educational attainment. Thus, in contrast to parental ethnic identity, ethnicity per se and pure time aspects of parental integration do not appear to be associated with secondary school placement. Among the family background characteristics controlled for, solely fathers' education appears to play a significant role. The estimated marginal effect amounts to a weakly statistically significant 2.0 to 2.4 percent increase in transition probability to a higher tracking school depending on the specification.

4.2 Extensions and Robustness Checks

4.2.1 Turkish Subsample

Associations between parental ethnic identity and educational attainment may vary across different ethnic groups due to heterogeneity in cultural background, especially in view of the potential importance of the cultural distance or tension between the majority and the specific ethnic culture (Chiswick, 2009). Although the main estimations in Table 6 control for country of origin, separate estimations by ethnic group would help assess whether parental identity effects are an artifact of aggregation over different countries of origin. However, small sample sizes with respect to most ethnic groups do not allow for this option, except for the group of children with a Turkish migration background, which represent the numerically largest group in the sample. Table 7 displays estimation results of the basic models including the full set of controls for the sub-sample of children with a Turkish family background. These results are basically similar to those reported in Table 6.

<div style="text-align:center">

Table 7 about here

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4.2.2 Sibling Fixed Effects

As shown in Section 4.1, differences in measurable family background characteristics, including the immigrant household's years since migration, do not seem to contribute considerably to an explanation of parental ethnic identity effects. However, one might argue that the robustness of parental identity effects to controlling

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[21]Literature on the migrant-native gap in education outcomes in Germany attributes the Greek academic success to the availability of alternative Greek-language schools in Germany (e.g. Alba et al., 1994)

for family background characteristics is due to the necessarily imperfect quality of the measures employed. The relevant characteristics of a child's home environment may remain unobserved and thus unmeasured. According to this argument, mothers' German and fathers' minority identity are a better indicator than the imperfect measure of family background of some unobservable which is directly related to children's home environment. In this subsection I provide evidence that parental ethnic identity effects are not merely a reflection of omitted home factors such as the family's social network or wealth of the (extended) family, among others.

In the following I use the intra-family variation among siblings in parental ethnic identity in order to assess the influence of unobserved family background characteristics in determining parental identity effects on enrolment probabilities. By adding fixed effects for each family in my models, unobserved characteristics that are common to siblings are controlled. If parental ethnic identity effects are driven by time-invariant family background characteristics, I should not find sizable effects of parental ethnic identity on the child's tracking probability into one of the higher level schools. As we shall see, there is sufficient variation across siblings in parental ethnic identity measures to make this strategy viable. The variation in parental ethnic identity experienced by the siblings comes from the age gap between them, since parental ethnic identity is measured for each sibling when they are eight or nine years old.

Table 8 about here

Table 8 presents the estimation results of linear probability models allowing for family fixed effects performed on the sibling-subsample. I find a remarkably similar pattern to results presented in Table 6. Differences between siblings in their mothers' strength of German and their fathers' minority identity have a substantial and positive relationship with differences in their secondary school track placement. Estimated coefficients on the other two identity variables are close to zero and statistically insignificant. Hence, I conclude that there is no evidence of unobserved family environment characteristics that can account for parental ethnic identity effects on secondary school enrolment.

4.2.3 The Role of Language Proficiency

The previous subsection indicates that the advantage immigrant children receive from having a mother that is relatively stronger affiliated with the German society and a father whose minority identity is rather strong, cannot be explained by omitted home environment or family background factors. Thus, I conclude that mothers'

German and fathers' minority identity facilitate the acquisition of some sort of important human capital. It stands to reason that parental language ability might play a significant role in this context.

Here, I explore the role of parental language proficiency in explaining ethnic identity effects. The GSOEP survey includes information on language proficiency for exactly the same survey years in which questions on ethnic identity are asked, allowing me to investigate this issue using the same sample of immigrant children analyzed above. Similar to the ethnic identity measure, I use information on parents' language ability reported when the child was eight or nine years old. Table 9 displays summary statistics of these measures of parental self-assessed oral language proficiency.

<div align="center">Table 9 about here</div>

Table 10 shows the average marginal effects from estimations of probit models identical to those in panel B of Table 6 – controlling additionally for measures of parental German and minority language proficiency. These variables seem to play a significant role in explaining mothers' German identity effect. Conditional on mothers' German proficiency, the marginal effect of mothers' German identity decreases substantially in size and turns statistically insignificant, a phenomenon observed in both specifications, with and without controls for the respective other parental identity and language measures (columns 1 and 5). At the same time, the estimated effect of mothers' German language proficiency is sizeable and highly significant in both specifications. The effect of fathers' minority identity instead appears not to be a result of any sort of differences in fathers' German or minority language proficiency. Including measures of parental language proficiency leaves the estimated marginal effects of fathers' identity measures essentially unchanged. Neither does fathers' language proficiency per se appear to have anything to do with the child's secondary school enrolment.

<div align="center">Table 10 about here</div>

The finding that controlling for mothers' German language proficiency eliminates the effect of mothers' German identity on the child's educational attainment casts doubt on the relevance of mothers' ethnic identity per se. This analysis rather points toward mothers' German identity predicting the child's educational attainment only insofar as ethnic affiliation is correlated with the mother's language proficiency. The relationship between language skills and educational performance, in turn, may be predominantly established through the mother's active management of the child's

educational career, e.g. through monitoring of homework or contact with the school (Baker and Stevenson, 1986) and the beneficial effect of host language proficiency and general knowledge of the host country educational system on the efficiency of such strategies.

With respect to fathers, the finding of beneficial effects of minority identity on children's educational attainment cannot be explained by language proficiency. Other mechanisms, e.g. related to fathers' patriarchal enforcement of traditional family values and rules, might serve as a stabilizing element that contributes to the child's better academic performance. However, the latter are rather speculative interpretations and a further investigation of mechanisms and explanations with respect to the positive minority identity effects of immigrant fathers on their children's educational performance is needed.

5   Summary and Conclusion

The purpose of this analysis is to investigate the relationship between immigrant parental ethnic identity and the educational attainment of their children in the host country schooling system. A systematic association between parental ethnic identity and child education is indeed found. The contribution of parental identity measures to explain differences within the second-generation population is substantial and goes beyond ethnicity, years-since-migration or socio-economic family background effects. Furthermore, the main results presented in this study underline the importance of modeling ethnic identity in a two-dimensional framework and to consider measures of both paternal and maternal German identity as well as the respective minority identity measures. With respect to educational attainment, there is no evidence that the effects of a strong parental minority identity are solely the flipside of a weak parental majority identity. Rather, results support the view that both parental identities influence the child's educational attainment independently. Moreover, it is found that parents' affiliation to both the majority *and* the minority group are potentially *beneficial* for immigrant children's educational careers. Consequently, I find no evidence of parental minority identity being a thread to educational progression.

The main finding that children's probability of being tracked into one of the higher secondary schooling types increases with strength of mothers' self-identification with the host country and fathers' affiliation to the minority group suggests differing roles for fathers and mothers with respect to their children's scholarly career. It is thus possible that fathers and mothers influence their child's educational attainment through different channels. Additional tests confirm this view by indicating that the positive effect of maternal German identity is not an effect of ethnic affiliation per

se, but can be explained by mothers' command of the German language. Beneficial effects of paternal minority identity, on the other hand, seem to originate from a sense of group belonging. These findings are in line with the role of mothers as active managers of their child's scholarly career. It is mostly mothers that are responsible for monitoring homework, being informed about their child's school performance and keeping in contact with teachers. Consequently, better German language proficiency and knowledge of the German school system increase the efficiency of immigrant mothers' strategies to actively help their child through school.

A strong sense of belonging to an ethnic minority group transmitted by fathers, on the other hand, might generally help to increase children's self-esteem and shelter against experiences of discrimination in the school environment, which in turn can benefit educational performance. In addition to being a role model, fathers might influence a child's educational attainment through family rules. Especially in patriarchally organized cultures, it is the father who sets the family rules and enforces them.

The results presented show that the concept of parental ethnic identity might help us to understand immigrant families' intergenerational economic advancement and the long-term consequences of immigrants' emotional attachment to their background and the majority culture. Several pathways for further research can be highlighted. The fact that gender effects with respect to immigrant sons and daughters have not been addressed here is a reflection of the limited number of observations, and not the importance of the topic. One could expect different associations between parental ethnic identity and education due to culturally motivated gender roles within immigrant families. Similarly, the relationship between parental minority identity and education might vary across different ethnic groups according to their cultural distance to the majority culture. Most importantly, my results point at the conjecture that calling on immigrants to abandon their cultural heritage is not only inconclusive, but might also have detrimental effects on immigrants' long-term structural integration into the host country.

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Table 1: Secondary School Enrolment (Age 10 – 14) by Gender

| | Males | | Females | |
	%	N	%	N
Hauptschule	70.40	176	66.81	155
Realschule	17.60	44	22.84	53
Gymnasium	12.00	30	10.34	24
Total	100.00	250	100.00	232

Source: Own calculations based on GSOEP.

Table 2: Sample Distribution of Parental Ethnic Identity

	Mean	Median	Standard Deviation	Observations
Mother German Identity	1.96	2	1.06	482
Mother Minority Identity	4.25	5	0.97	482
Father German Identity	2.12	2	1.04	482
Father Minority Identity	4.20	5	0.97	482

Source: Own calculations based on GSOEP.

Note: Parental ethnic identity is recorded at child's age 8/9 and measured on a five-level scale ranging from *not at all* (1) to *completely* (5).

Table 3: Intra-Family Distribution of Parental Ethnic Identity

	Mother Minority Identity					
	below Median		Median or above		Total	
Mother German Identity	%	N	%	N	%	N
below Median	8.93	20	91.07	204	100.00	224
Median or above	77.13	199	22.87	59	100.00	258
Total	45.44	219	54.56	263	100.00	482

	Father Minority Identity					
	below Median		Median or above		Total	
Father German Identity	%	N	%	N	%	N
below Median	8.24	15	91.76	167	100.00	182
Median or above	73.00	219	27.00	81	100.00	300
Total	48.55	234	51.45	248	100.00	482

	Father German Identity					
	below Median		Median or above		Total	
Mother German Identity	%	N	%	N	%	N
below Median	66.52	149	33.48	75	100.00	224
Median or above	12.79	33	87.21	225	100.00	258
Total	37.76	182	62.24	300	100.00	482

	Father Minority Identity					
	below Median		Median or above		Total	
Mother Minority Identity	%	N	%	N	%	N
below Median	79.45	174	20.55	45	100.00	219
Median or above	22.81	60	77.19	203	100.00	263
Total	48.55	234	51.45	248	100.00	482

Source: Own calculations based on GSOEP.

Table 4: Enrolment Probabilities in Intermediate/Upper Secondary School by Parental German and Minority Identity

	Identity below Median	Identity Median or above
Mother German Identity		
Interm/Upper=1	0.26*	0.36*
Observations	224	258
Mother Minority Identity		
Interm/Upper=1	0.34	0.29
Observations	219	263
Father German Identity		
Interm/Upper=1	0.32	0.31
Observations	182	300
Father Minority Identity		
Interm/Upper=1	0.30	0.32
Observations	234	248

Source: Own calculations based on GSOEP.

Note: * Statistically different at 5 percent confidence level.

Table 5: Summary Statistics, Selected Sample Means

Enrolment in Intermediate/Upper Secondary School (%)	31.33	(0.46)
Family Background:		
Mother Yrs of Education	8.77	(1.59)
Father Yrs of Education	9.41	(1.60)
Household Income/1000	2.80	(1.53)
Nr. of Children in Household	2.46	(1.04)
Years since Migration Household	20.88	(5.37)
Ethnic Background (%):		
Turkey	54.56	(0.50)
Former Yugoslavia	17.22	(0.38)
Italy	14.11	(0.35)
Greece	8.09	(0.27)
Spain	6.02	(0.24)
Survey Year (%):		
1986-1990	40.25	(0.49)
1991-1995	28.84	(0.45)
1996-2000	18.67	(0.39)
2001-2007	12.24	(0.33)
Rural (%)	34.23	(0.47)
Town (%)	28.22	(0.45)
City (%)	37.55	(0.48)
Number of Observations	482	

Source: Own calculations based on GSOEP. *Note:* Entries are means. Standard deviation in parentheses. Secondary school enrolment is recorded as first transition after primary school at child's age $10 - 14$. All other variables are measured at child's age ten. Household income is measured in 2008 euros.

Table 6: Estimation Results: Average Marginal Effects for Probit of "Enrolment in Intermediate/Upper Secondary School"

	(1)	(2)	(3)	(4)	(5)
	A. Without Controls				
Mother German Identity	0.051**				0.063**
	(0.02)				(0.03)
Mother Minority Identity		-0.033			-0.032
		(0.02)			(0.03)
Father German Identity			-0.016		-0.018
			(0.02)		(0.03)
Father Minority Identity				0.043*	0.075**
				(0.02)	(0.03)
Pseudo R^2	0.080	0.073	0.070	0.075	0.099
AIC	577.2	581.5	583.3	580.0	572.0
	B. Controlling for Ethnic and Family Background				
Mother German Identity	0.054**				0.073**
	(0.02)				(0.03)
Mother Minority Identity		-0.035			-0.036
		(0.02)			(0.03)
Father German Identity			-0.022		-0.032
			(0.02)		(0.03)
Father Minority Identity				0.040*	0.069**
				(0.02)	(0.03)
Turkey *(Reference)*					
Former Yugoslavia	-0.012	0.013	0.027	0.023	-0.040
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Italy	-0.059	-0.044	-0.038	-0.039	-0.092
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Greece	0.186***	0.207***	0.206***	0.196***	0.153**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Spain	-0.021	-0.000	0.017	-0.001	-0.054
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Yrs since Migration HH	0.002	0.002	0.003	0.003	0.005
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female *(Reference)*					
Male	-0.057	-0.049	-0.044	-0.044	-0.065
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Mother Yrs of Education	-0.003	0.001	0.006	0.005	-0.007
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father Yrs of Education	0.022*	0.020	0.021	0.021	0.024*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
HH Income/1000	-0.021	-0.023	-0.022	-0.019	-0.017
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Nr. Children in HH	-0.031	-0.030	-0.029	-0.029	-0.027
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
N	481	481	481	481	481
Pseudo R^2	0.112	0.105	0.102	0.106	0.133
AIC	578.4	582.4	584.0	581.8	571.8

Source: Own calculations based on GSOEP. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Note: Clustered standard errors by household. Additional controls for federal states, location of residence size and survey year (four categories) in all models (results omitted). The federal state of Bremen is omitted due to collinearity (one observation dropped). See notes to Table 5.

Table 7: Estimation Results: Average Marginal Effects for Probit of "Enrolment in Intermediate/Upper Secondary School (Age 10 – 14)", Turkish Sub-Sample

	(1)	(2)	(3)	(4)	(5)
Mother German Identity	0.050*				0.069*
	(0.03)				(0.04)
Mother Minority Identity		0.005			-0.034
		(0.03)			(0.04)
Father German Identity			-0.017		-0.015
			(0.03)		(0.04)
Father Minority Identity				0.044	0.075**
				(0.03)	(0.04)
N	263	263	263	263	263
Pseudo R^2	0.140	0.099	0.133	0.139	0.160
AIC	319.4	272.2	321.7	319.6	318.8

Source: Own calculations based on GSOEP. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Note: Clustered standard errors by household. Additional controls for the household's years since migration, gender, parental and household characteristics, survey year, federal states, and location of residence size in all models. The federal state of Bremen is omitted due to collinearity

Table 8: Estimation Results: Linear Probability Model on "Enrolment in Intermediate/Upper Secondary School" with Sibling Fixed Effects

	(1)	(2)	(3)	(4)	(5)
Mother German Identity	0.074*				0.116**
	(0.04)				(0.06)
Mother Minority Identity		0.007			-0.013
		(0.05)			(0.07)
Father German Identity			-0.008		-0.019
			(0.04)		(0.06)
Father Minority Identity				0.080*	0.117*
				(0.04)	(0.06)
Firstborn	-0.030	-0.035	-0.035	-0.032	-0.022
	(0.08)	(0.08)	(0.08)	(0.08)	(0.07)
Male	-0.106	-0.107	-0.107	-0.106	-0.103
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)
HH Income/1000	-0.034**	-0.031*	-0.032*	-0.032*	-0.035**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Nr. Children in HH	0.088	0.105	0.106	0.129*	0.118*
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Yrs since Migration HH	0.025	0.030*	0.030*	0.037**	0.032*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
N	293	293	293	293	293
R^2	0.106	0.089	0.089	0.107	0.143
AIC	102.1	107.6	107.5	101.6	95.81

Source: Own calculations based on GSOEP. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Note: Sibling fixed effects estimation. Additional constant term in all models.

Table 9: Sample Distribution of Parental Language Proficiency

	Mean	Median	Standard Deviation	Observations
Mother German Proficiency	3.08	3	1.06	478
Mother Minority Language	4.45	5	0.66	478
Father German Proficiency	3.53	4	0.83	478
Father Minority Language	4.47	5	0.70	478

Source: Own calculations based on GSOEP.

Note: Parental oral language proficiency is recorded at child's age 8/9 and measured on a five-level scale ranging from *not at all* (1) to *very well* (5). Four observations dropped due to missing information on parental language proficiency.

Table 10: Estimation Results: Average Marginal Effects from Probit of "Enrolment in Intermediate/Upper Secondary School". The Role of Parental Language Proficiency

	(1)	(2)	(3)	(4)	(5)
	A. Parental Ethnic Identity controlling for Parental Language Proficiency				
Mother German Identity	0.021				0.036
	(0.02)				(0.03)
Mother Minority Identity		-0.035			-0.032
		(0.02)			(0.03)
Father German Identity			-0.029		-0.011
			(0.02)		(0.03)
Father Minority Identity				0.042*	0.078***
				(0.02)	(0.03)
Mother German Proficiency	0.096***				0.085***
	(0.02)				(0.02)
Mother Minority Language		0.009			-0.008
		(0.03)			(0.04)
Father German Proficiency			0.026		0.018
			(0.03)		(0.03)
Father Minority Language				-0.007	-0.012
				(0.03)	(0.03)
Pseudo R^2	0.139	0.105	0.105	0.107	0.156
AIC	561.2	581.5	581.8	580.4	563.3
	B. Parental Language Proficiency				
Mother German Proficiency	0.104***				0.106***
	(0.02)				(0.02)
Mother Minority Language		-0.002			-0.020
		(0.03)			(0.04)
Father German Proficiency			0.017		-0.006
			(0.03)		(0.03)
Father Minority Language				0.003	0.011
				(0.03)	(0.03)
N	477	477	477	477	477
Pseudo R^2	0.138	0.101	0.102	0.101	0.138
AIC	560.1	581.9	581.5	581.9	565.7

Source: Own calculations based on GSOEP. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Note: Clustered standard errors by household. Additional controls for country of origin, the household's years since migration, gender, parental and household characteristics, survey year (four categories), federal states and location of residence size in all models. The federal state of Bremen is omitted due to collinearity (one observation dropped).