



STOCKHOLM UNIVERSITY

Dept of Sociology, Demography Unit / www.suda.su.se

Differences in Parental Separation Effects on School Grades across Immigrant Backgrounds in Sweden

Jeylan Erman & Juho Härkönen

**Stockholm
Research Reports
in Demography
2016: 03**

© Copyright is held by the author(s). SRRDs receive only limited review. Views and opinions expressed in SRRDs are attributable to the authors and do not necessarily reflect those held at the Demography Unit.

Differences in Parental Separation Effects on School Grades across Immigrant Backgrounds in Sweden

Jeylan Erman
University of Pennsylvania

Juho Härkönen
Stockholm University

Abstract: Immigration and family change are two demographic processes, which have changed the face of European societies and are associated with inequalities in child outcomes. Yet there is little research outside the United States on whether the effects of family dynamics on children's life chances vary by immigrant background. We asked whether the effect of parental separation on educational achievement varies between immigrant backgrounds (ancestries) in Sweden. We used Swedish population register data on two birth cohorts (born in 1995 and 1996) of Swedish-born children and analyzed parental separation penalties on grade sums and non-passing grades (measured at ninth grade) across ten ancestry groups, defined by the mother's country of birth. We found that the parental separation effects vary across ancestries, being weakest among children with Chilean-born mothers and strongest among children with mother's born in Bosnia and Herzegovina. In general, the effects were weaker in groups in which parental separation was a more common experience.

1. Introduction

Family change and immigration are among the demographic processes, which have changed the face of European societies. Both are also associated with inequalities in children's life chances, and large literatures have investigated differences in educational and other socioeconomic outcomes by immigrant status (Heath et al. 2008) and across family structures (McLanahan and Sandefur 1994; Amato 2000; Härkönen 2014). Nevertheless, only few studies (Kalmijn 2010; Kalmijn, forthcoming) outside the United States have analyzed the intersection between the two, that is, whether effects of family structures and dynamics vary by immigrant background.

This study analyzes heterogeneity in parental separation effects on school achievement by immigrant background—or, ancestry—in Sweden. By doing so, we contribute to the hitherto small non-US literature on parental separation effect heterogeneity by ancestral, ethnic, or racial background. Several American studies have illustrated how parental divorce effects can vary between racial and ethnic groups (e.g., Heard 2007; McLahanan and Sandefur 1994; McLoyd et al. 2000; Sun and Li 2007). Sweden has a large and diverse immigrant population, which combined with the research opportunities of large-scale population register data make it an interesting case for analyzing variation in family dissolution effects. Our research also contributes to the broader quest for analyzing heterogeneous consequences of parental separations, which contributes to understanding which mechanisms moderate these effects (Amato 2010). In contrast to cross-nationally comparative work, comparing different groups in the same country holds constant the broad institutional context, while allowing variation in the socioeconomic position, social cohesion, and cultural valuations between the groups. Finally, our analyses contribute to understanding factors that shape the life chances and differences therein among children of immigrants.

We use population register data from the Sweden in Time – Activities and Relationships (STAR) data files, which are compiled by Statistics Sweden for Stockholm University. We analyze whether children who experienced parental separation have lower school grades (measured as grade sums and incomplete grades (cf. Jonsson and Rudolphi 2011)) than children who grew up in an intact family across 10 ancestry groups: those with a mother born in Sweden, Chile, Finland, East Africa (Djibouti, Eritrea, Somalia, Sudan, and Ethiopia), Iran, Iraq, Poland, Bosnia and Herzegovina, the rest of the former Yugoslavia (Croatia, Macedonia, Montenegro, Serbia, and Slovenia), or Turkey. These groups were chosen as they represent many of the largest immigrant groups in Sweden as well as the heterogeneity of its immigrant population in terms of its ancestry backgrounds and socioeconomic integration.

2. Background

2.1. Parental separation and educational performance

A large literature has documented how parental separation is associated with poorer filial outcomes in terms of psychological well-being, scholastic achievement, social relationships, and adult socioeconomic status, and how these associations can be found from a broad range of societies (Amato 2000; 2010; Amato and James 2010; Härkönen 2014).

Because educational achievement is a strong predictor of later life outcomes—whether socioeconomic or otherwise—much of the literature on parental separation effects has considered whether family dissolution disturbs educational outcomes (e.g., Amato 2001; Cherlin et al. 1991; Frisco et al., 2007; Grätz 2015; Jonsson and Gähler 1997; Bernardi and Radl 2014). A conclusion from this literature is that an experience of parental separation is associated with poorer educational outcomes, whether measured as GPAs, standardized tests, educational transitions, or highest attained education.

The correlations between parental separation and educational outcomes are partly due to selection (Amato 2000; 2010; Härkönen 2014). In many countries, separating couples are less educated than those who do not separate (Härkönen and Dronkers 2006) and they also differ on many other characteristics—such as levels of conflict—which may predict lower educational performance. Nevertheless, many findings indicate that parental separation can have a negative causal effect on education, even though these effects are substantially weaker than those found with regular regression analyses (Amato 2010; McLanahan et al. 2013).

The negative effects of parental separation on educational outcomes have been explained by socioeconomic, psychological, and social pathways. Separation can lead to downward socioeconomic mobility and separation is an important predictor of transitions into poverty, particularly for women (DiPrete and McManus 2000; Uunk 2004; Callens and Croux 2009). Downward mobility and economic disadvantage explain part of the parental separation penalty on educational outcomes (McLanahan and Sandefur 1994; Thomson et al. 1994; Jonsson and Gähler 1997; Bernardi and Boertien 2016). Parental separation often also means residential mobility, potentially because of the abovementioned socioeconomic consequences, which can destabilize children’s social networks and other aspects of their life (McLanahan and Sandefur 1994; Amato 2000).

Parental separation can have negative psychological effects in the short-run and the long-run, ranging from feelings of sadness and loss to clinical psychiatric conditions, such as depression (Amato 2000; Amato and James 2010), which can translate into poorer educational outcomes. Parents going through their own emotional work may have a reduced capability to exert control over their children and may engage in uncoordinated parenting (Amato 1993). Family disruption may also lead to a deterioration in the relationships between the child and the parent—especially the father—weakening the access to that parent’s resources and help (Albertini and Garriga 2011; Aquilino 1994).

Parental separation can also be the initial trigger to further family transitions, such as step-family formation and their potential dissolutions. These can further increase children's family life instability, which may in itself have negative consequences on children's well-being and educational performance (Amato 2010; Fomby and Cherlin 2007).

2.2. Heterogeneous effects by ancestry

Recent research has paid increasing attention to the importance of heterogeneity in the effects of family dissolution on adults and their children (Amato 2010; Amato and Anthony 2014; Bernardi and Radl 2013; Grätz 2015). Not all children suffer from their parents' separation; for the majority, any (long-term) effects are nil or minor, and some children benefit from exiting a dysfunctional family (Dronkers 1999; Amato and Anthony 2014). Yet, we continue to know little about the factors that create vulnerability and resilience in the face of parental separations.

One line of research, mostly from the United States, has investigated heterogeneity in parental separation effects by racial and ethnic background. Several studies have reported that parental separation has weaker effects—on educational outcomes, psychological adjustment, and family demographic behaviors—for Black than for White Americans (McLanahan and Bumpass 1988; Amato and Keith 1991; McLanahan and Sandefur 1994; Smith 1997; Wu and Thomson 2001; Heard 2007; Fomby and Cherlin 2007; Lee and McLanahan 2015). On the other hand, Sun and Li (2007) found no differences in separation effects between Blacks and Whites, but that maladjustment both before and after family disruption was less among Hispanic Americans than European, Asian, and African-American adolescents. In a rare study extending this line of research to Europe, Kalmijn (2010) showed that parental separation had no effects on family and demographic outcomes among Dutch Caribbeans (in contrast to whites), but that the effects on socioeconomic outcomes were similar in both groups. In a later

study, Kalmijn (forthcoming) found that in England, Germany, the Netherlands, and Sweden, the effects of father absence on children's well-being was weaker in groups where father absence was more common.

This heterogeneity in effects has been explained by group differences in economic and social resources as well as by differences in incidence and acceptance of parental separation. Many minority groups, such as immigrants, have fewer socioeconomic resources, measured with such factors as education and labour market integration. To the extent that these increase the probability of parental separation, they can account for differences in the association between parental separation and children's educational performance. The economic consequences of separation—which above were pointed out as important explanations to the effects of parental separations—can also vary between groups depending on their economic vulnerability. This has been pointed out as an explanation to differences in parental separation effects between Blacks and Whites in the United States (e.g., McLanahan and Sandefur 1994; Smith 1997).

Another common explanation for the group differences in parental separation effects refers to the prevalence and acceptance of family dissolutions in the different groups (Amato and Keith 1991; McLanahan and Sandefur 1994; Sun and Li 2007; Kalmijn 2010; Kalmijn, forthcoming). American research has consistently found racial/ethnic group differences in family dissolution incidence, with Black Americans having the highest family dissolution rates (Amato 2010). Group differences have also been found in Europe (Kalmijn 2010; Hannemann and Kulu 2015), including in Sweden (Andersson et al. 2015). The argument behind the “incidence and acceptance” explanation is that in groups with higher rates of family dissolution, single parenthood can be a more institutionalized and accepted living arrangement, with lower levels of stigma and psychological distress and better coping mechanisms in the face of family dissolution, which may translate into weaker effects.

This explanation can also be questioned in the case of migrant groups in Europe, many of which come from societies where family dissolution is rare, and may have not been in the host country long enough to form institutionalized coping patterns for family demographic transitions. With reference to the Swedish case, disapproval of divorce when children are involved is already low in Sweden compared to many other countries (Rijken and Liefbroer 2012). The argument has also been questioned in some cross-national research. For example, Pong and colleagues (2003) found that the single- and two-parent achievement gap was larger in countries where single parenthood is more prevalent (cf. also Kreidl et al. 2014). The association between the incidence of parental separation and parental separation penalties may thus, alternatively, reflect differences in the selectivity of dissolved families in terms of predictors of negative educational outcomes. Furthermore, migration is a taxing process and settling into a new country could lead to unforeseen challenges for a couple. Regardless of the divergence in separation customs between destination and origin countries, increasing economic stress or difficulty adapting to the new environment can increase the likelihood of conflict and separation (Lyngstad and Jalovaara 2010) and have independent effects on children's outcomes.

Heterogeneous parental separation effects may reflect group differences in social support and social networks. This argument has been prevalent in explaining the weaker family disruption effects among African-Americans and points to a stronger importance of kin and other social networks outside the nuclear family (Hunter 1997; Smith 1997; McLoyd et al. 2000). In times of crisis—such as economic troubles or family disruption—these social networks help buffer the potentially adverse effects. In particular, groups may vary to the extent that grandmothers and other female kin provide help (Haxton and Harknett 2009; Hunter 1997; Schans and Komter 2010). In the case of immigrants, access to support from kin especially can be limited by the fact that many immigrants' kin do not live in the host country.

Likewise, research has found that immigrants often have limited access to social capital, but when their lower socioeconomic status is accounted for (Verhaeghe et al. 2015; van Tubergen and Volker 2015) or when studying the children of immigrants (Behtoui 2007), this disadvantage often disappears or even reverses. Some immigrant groups may thus be better willing or equipped to provide support in the face of family dissolution, conditional of having kin in the host country who can provide it.

2.3. Immigrants in Sweden

Sweden has witnessed several waves of immigration, beginning from the influx of labor migrants in the 1950s and 1960s, then immigration associated with the free labor markets of the Nordic countries and the EU, and finally the entry of refugees. Today, refugees and their families, who started to arrive after the oil crisis in the 1970s, are the largest contributors to the growth of Sweden's foreign-born population. While these refugees mainly arrived from Latin America, the Middle East and Africa in the 1970s and from the former Yugoslavia in the 1990s, over the past 15 years they have originated mostly from Africa and the Middle East (including the large influx of Syrians during the time of writing this study) (Shroder 2007; Migrationsverket 2015).

The result of these flows of migration is a large and diverse population of immigrants and their descendants in Sweden. In 2014, over 16 percent of Sweden's population—1,603,551 individuals—was born outside of the country, and another 5 percent of the population had two foreign-born parents (Statistics Sweden 2015). The largest foreign-born groups include those from Finland, Iraq, Poland, former Yugoslavia and Iran, as shown in Figure 1.

--Figure 1 here--

In this present study, children to Swedish-born mothers are compared against nine immigrant origin countries or regions: Bosnia and Herzegovina, Chile, East Africa, Finland, Iran, Iraq, Poland, former Yugoslavia (excluding Bosnia and Herzegovina), and Turkey. Finns have constituted the largest portion of immigrants to Sweden. The countries share a long common history and after World War II, rapid economic development in Sweden brought many Finnish labor migrants to the country, a trend that continued until the 1980s (Andersson et al. 2015; Korkiasaari and Söderling 2003). Iranian immigration has also been prominent for Sweden, particularly during the 1980s with the entry of many political refugees. Many of these Iranian immigrants were well educated (Darvishpour 1999). Individuals from former Yugoslavia arrived in two waves. During the 1960s, labor migration was the primary motivation for immigration, particularly among Serbians and Croats. In the 1990s, immigrants from the region were primarily political refugees, particularly from Bosnia and Herzegovina, as a result of the Balkan wars. Polish immigration consisted largely of political refugees during the country's communist period. However, Polish spouses of Swedish men have also been a source of immigration.

During the 1990s, political refugees from East Africa began arriving to Sweden. Somali immigrants were the largest group from the region to immigrate to Sweden, as a result of its civil war. Immigration from Turkey took place in several stages, first as labour migration (often from a single Anatolian city, Kulu) and later as refugees, especially among those from the Kurdish minority. A large share of immigrants from Iraq came to Sweden as refugees, beginning from the 1980s and increasingly so since the 2003 US invasion and its aftermaths (Andersson et al. 2015). Chilean immigrants, the largest group in Sweden from South America, arrived to Sweden in two waves. The first wave in the 1970s included political refugees in the wake of Chile's dictatorial regime. The second wave in the 1980s was largely

economic in motivation (Cronemo 2012). This description of immigration to Sweden highlights the fact that immigrant groups do not constitute a cross-section of the sending country population, nor are they always homogeneous in terms of ethnicity.

The performance of foreign-born individuals in the Swedish labor market has generally been poorer than that of native Swedes. Since the mid-1970s, the income levels of foreign-born individuals have been lower than those of natives, with the largest income gaps seen for individuals from outside of Europe (Shroder 2007). Variation in employment rates is also stark. The recent migrants from Africa, the Middle East and Eastern Europe are most vulnerable to unemployment, while those groups who came to Sweden as part of the free labor market movement of Europe are more likely to be better off. Even migrants with a comparable education to native Swedes have lower employment rates and are more likely to hold unqualified jobs (Lemaître 2007). The accounts for this variation include the cultural distance hypothesis, where cultural unlikeness with the Swedish culture prevents human capital exchange, as well as preference-based and statistical discrimination by employers. Among all groups, foreign-born women are the worst off, most likely to face discrimination as a result of being both an immigrant and female (Shroder 2007).

Research on the educational performance of the children of immigrants has shown heterogeneity in school performance—measured as grades—across the ancestry groups, with some—such as those with Iranian or Asian descent—performing better than native Swedes, whereas others, such as those with parental backgrounds from the other Nordic countries or the Middle East, perform worse on average. Given grades, many children of immigrants show higher educational ambitions and are more likely to enroll in academic studies, although a considerable share drop out (Jonsson and Rudolphi 2007).

As discussed above, divorce rates among immigrant groups to Sweden vary considerably. Andersson, Obućina and Scott (2015) found major differences in divorce rates

by migrant background: of the ancestries considered here, divorce was least common among Turkish immigrants and native Swedes (28 % divorced 15 years after the wedding) and most common among migrants from the Horn of Africa (58 %). Importantly, these differences do not directly reflect differences in divorce rates in the sending countries. For example, although the crude divorce rates in Iran, Poland, and former Yugoslav states (including Bosnia and Herzegovina) are lower than in Sweden (United Nations 2009; 2013), immigrants from these countries to Sweden have higher divorce risks than native Swedes (Andersson et al. 2015).

2.4. The present study

We compare gaps in school grades between adolescents whose parents separated and those whose parents remained together (here referred to as the parental separation penalty) in and across ten ancestry groups, defined by the mother's country of birth. The mother's country of birth was chosen to define ancestry groups with the assumption that most children reside either exclusively or to a large extent with their mothers after a parental separation. Given the heterogeneity in backgrounds within regions and even countries of origin, the ten ancestral groups chosen here do not necessarily overlap with recognized and self-identified ethnic groups. However, they are arguably more internally homogenous than many alternative classifications, such as groupings based on geography and economic development.

We purpose of the study is three-fold. First, we describe differences in the parental separation gap in grades in our ten ancestry groups. Second, we analyze to what extent these gaps and the differences in them are due to socioeconomic and demographic differences between dissolved and intact families. We group the socioeconomic and demographic variables into those, which are primarily determined before parental separation (and thus act as control variables and reflect the socio-demographic composition of dissolved families) and those, which can also be affected by the parental separation (which can act as mediating

variables). Third, we assess whether the differences in these gaps (net of socioeconomic and demographic variables) relate to the incidence of parental separation as well as the prevalence of three-generation households. The former relates to the “incidence and acceptance” argument outlined above. The latter is used to proxy access to kin support among the different groups. The prevalence of three-generation households is a measure related to the degree of available intergenerational support (e.g., Reher 1998) and although not its only measure, it is available at the ancestry-group level, unless many other potential measures. It is also closely related to the arguments of the importance of grandparental support, prevalent in the American literature on racial differences in family dissolution effects.

We formulate the following hypotheses:

Hypothesis 1: The parental separation penalty varies across ancestry groups.

Hypothesis 2: The variation in the parental separation penalty can be explained by socioeconomic and demographic differences between the ancestry groups.

Hypothesis 3: The parental separation penalty—net of socioeconomic and demographic composition—is smaller in groups with higher parental separation incidence.

Hypothesis 4: The parental separation penalty—net of socioeconomic and demographic composition—is smaller in groups with higher prevalence of three-generational families.

3. Data and methods

We used data for children born in Sweden in 1995 and 1996 from various population registries annually collected and maintained by Swedish authorities, including tax and school registries and the LISA database. These registries provide information on all individuals in Sweden, including place of residence, country of birth, immigration history, income and

school performance, as well as other basic socioeconomic information. From this data, information on households may also be constructed. The registries are thus fitting for a study on ancestral background, parental separation and children's educational attainment. As the register data was last updated in 2012, the study focuses on children born in 1995 and 1996 and their school grades at age 16 in 2011 and 2012 (at the end of the ninth grade of comprehensive school), respectively. Ten ancestral groups (Sweden, Bosnia-Herzegovina, Chile, East Africa, Finland, Iran, Iraq, Poland, Former Yugoslavia (excluding Bosnia-Herzegovina after the break-up), and Turkey), defined by the mother's country of birth, are included in the analysis. We excluded cohort members born to a single mother, whose either parent had died, or whose grades were measured "off-time", that is, during another year than the year they turned 16. The total number of observations after these exclusions was 165,449. For the regression analyses, we also dropped the small share of cases with missing information on the independent variables.

3.1. Variables

We used two dependent variables, both of which come from the school grade registries (cf. Jonsson and Rudolphi 2011). The first dependent variable is the *grade sum (meritvärde)*, which is the sum of the 16 best grades (out of around 20). Each subject is assigned fail (0 points), pass (10), pass with distinction (15), and pass with special distinction (20) and the grade sum thus ranges from 0 to 320. The second dependent variable is a dummy, which measures whether the student got *incomplete grades* from one or more of the core subjects Swedish (or Swedish as second language), English, or Mathematics. The former measure can be seen as a general assessment of scholastic performance and affects the study path a student can attend after comprehensive school. The latter is a measure of failure in academic

performance and also indicates inability to enroll in an ordinary secondary school programme, forcing the student either to leave school or attend preparatory courses.

- *Table 1* -

The central independent variables are parental separation and mother's country/region of origin. In the analysis, separation of parents includes parents in both marriages and coresidential partnerships. The rise of non-married, cohabitating couples has become a challenge for demographers to track through census data. However, residential property-based measures of cohabitation have been used effectively to identify these new partnership forms (Thomson and Eriksson 2013). In the population registries, each parent's residential property at the end of the calendar year is identified. If parents are living in the same property at the year of the child's birth, they are considered to be in a union. If the parents were in a union at the child's birth and are no longer living together the year before the grades were measured (when the child was 15 years old), they are considered to have separated in the analysis. Children whose parents are not living together at the time of the child's birth are removed from the analysis (8 %, N = 13,264).

The variable for country/region background of the mother is also central to this study, as it is used to define the child's ancestry. The mother's country/region of birth was identified from the multigenerational register and classified according to the groupings available from Statistics Sweden. We ran robustness checks using the father's country/region at birth as the identifier of ancestry and the results were generally very similar.

The control variables include the education of both of the parents, the mother's age at birth (linear and squared), the number of siblings, birth order of the child, sex of the child, whether the father was born in Sweden, and birth cohort. Parental education variables

measure the parent's highest attained education the year before the grades were set (when the child was 15) and are categorized into compulsory (or missing) level, short secondary (typically 2 years after the compulsory), long secondary (typically 3 years after compulsory), short postsecondary, and tertiary education (university degree or higher). The mother's age at birth, birth order, and the number of siblings are all predictors of educational achievement and correlate with the probability of experiencing parental separation; larger families formed at older ages are generally more stable and younger siblings are more likely to experience their parents' separation than older siblings. We included a dummy of whether the father was born in Sweden to control for intermarriage and endogamy. Exogamous unions are less stable (Dribe and Lundh 2012) and may have weaker social support networks post-separation; having a Swedish father can also help in transmitting any educational (dis)advantages associated with the majority group. Finally, we controlled for birth cohort (whether the child was born in 1995 or 1996). We also tested using the number of years since the mother immigrated to Sweden as a control variable. Because it did not change any results and is not given for Swedish-born mothers, it was not used in the final analyses.

We also included two mediating variables, measured the year before the grades were set, namely, mother's employment status (employed vs not employed) and the household's logged disposable income, adjusted with Sweden's official equivalence scale. These variables can be affected by the parental separation and can thus mediate any effect of parental separation on school grades.

3.2. Methods

The analysis was done in four stages. First, we described the prevalence of having experienced parental separation by age 15 in the ten ancestry groups as well as the parental separation penalties in them.

Second, we estimated a series of regression models to analyze how much of the parental separation penalties *within* each group can be explained by the control and mediating variables. The first regression model includes the social background control variables, whereas the second adds the maternal employment and logged disposable incomes as the mediating variables. The dependent variable *grade sum* was analyzed using ordinary least squares (OLS) regression. The dependent variable *incomplete grades* was analyzed using Linear Probability Models (LPMs). Because of scaling effects, comparing logistic regression coefficients between models is problematic, whereas LPMs do not have such restrictions (Mood 2010), and thus more suitable for analyzing how much of the parental separation penalties can be explained by the control and the mediating variables in each group. Robust standard errors were estimated.

Third, we estimated another series of regression models to analyze how big are the parental separation penalties between the groups when conditioning on the control and mediating variables. These between-group differences in parental separation penalties were analyzed with full interaction models, that is, models which interact mother's country/region of birth with all the independent variables and are thus akin to comparing the estimates from models ran separately between the groups. The advantage of the full interaction model is that it allows the control variables to change the association between parental separation and grades differently in each group. We estimated an empty model without additional control variables, a model with the control variables added, and a model which also added the mediating variables. The dependent variable *grade sum* was again analyzed using OLS regression, but the dependent variable *incomplete grades* was here analyzed using logistic regressions. This was done because the baseline probability for having at least one incomplete grade varies remarkably between the groups (Table 2 below). A small percentage point difference in having incomplete grades can mean a big relative difference if the baseline

probability is small, and vice versa. The logistic regression interaction model presents the between-group differences in the penalty in relative terms (Buis 2010).

Fourth and finally, we correlated the net (of the socioeconomic and demographic variables) parental separation penalties in grade sums from each group with two aggregate-level measures at the ancestry group level: the percentage of adolescents at ninth grade who had experienced parental separation, and the percentage of adolescents in the two cohorts who live in a three-generational household, conditional on a grandparent identified as living in Sweden. The first correlation is used to assess the arguments that parental separation effects are weaker when it is more common (Hypothesis 3). The second is used to explore whether the effects are weaker when the potential access of social support is higher (Hypothesis 4), proxied by the prevalence of three-generation households, which as such are uncommon in Sweden. We chose to measure intergenerational support at the aggregate rather than the household level. Residing in three-generation households may be affected by unmeasured (dis)advantages related to school grades at the individual and household level. On the other hand, the prevalence of three-generation households at the group level can be seen as one proxy for access to intergenerational support within that group (cf. Reher 1998), and less affected by endogeneity. Conditioning three-generation household prevalence on grandparental presence in Sweden excludes variation due policy or migration history reasons which may restrict the possibility of forming such households and taps more closely to willingness for closer kin support.

Because of our small number of ancestry groups, we do not perform a multilevel analysis, but instead visually inspect and correlate the regression coefficient estimates with the aggregate measures, akin to what is sometimes referred to as a “two-step analysis” (Bowers and Drake 2005; Bryan and Jenkins 2016).

4. Results

Figure 2 displays the share of children who experienced parental separation by ancestry group. Parental separation incidence varies considerably. 15 % of children with Bosnian-Herzegovinian mothers experienced parental separation, compared to 40 % or more of those with Polish, Chilean, or East African mothers. Children with Swedish-born parents are found in between, with roughly one third experiencing parental separation by the time their grades are measured.

--Figure 2--

--Table 2--

Table 2 shows the parental separation gaps in grade sums and the prevalence of failing one or more core subjects by ancestry. Also the parental separation gaps show major variation, ranging from 16-17 grade sum points among children with East African or Chilean ancestry to 33 grade sum points to those with Bosnian-Herzegovinian mothers. The latter gap is over half of the standard deviation and 1.4 times the grade sum gender gap (23 points). Likewise, the parental separation gap in receiving one or more non-passing grades ranges from 3.6 percentage points (OR = 1.3) among those with Chilean mothers to 12.4 percentage points (OR = 3.3) among youths with Bosnian-Herzegovinian mothers. Both gaps are of similar size among youths with Swedish mothers and youths with Finnish, Yugoslav, and Polish mothers. Otherwise, the patterning of the crude gaps escapes any simple categorizations. The gaps are large in one group (Bosnia-Herzegovinian mothers) and small in another (Turkish mothers) where parental separation is uncommon and small (Chile) to

average (Poland) in groups where parental separation is common. Neither do the patterns clearly cluster according to geographical or religious-cultural lines.

Do these penalties hold when we adjust for the control variables, and can they be explained by the mediating variables? Table 3 presents the results from the regression models ran separately for each ancestry group. To save space, the estimates of the control and mediating variables are suppressed.

--Table 3--

Model 1 presents results from the model, which added the control variables (gender, cohort, education of both parents, mother's age at birth (linear and squared), family size, birth order, and whether the father was an immigrant). Introducing the control variables reduces the parental separation gap in grade sums as well as in incomplete grades in each group except for children with Turkish-origin mothers. These control variables explain approximately one-third of the parental separation gap in grade sums for children with mothers from Sweden, Finland, and Chile, around one-fifth of the gap for children with mothers from Bosnia-Herzegovina, East Africa, Iran, Iraq, and Poland, and approximately one-eighth of the gap for those with Yugoslavian mothers. In other words, in these ancestries parental separation is a more common experience among relatively disadvantaged children (in terms to school performance), in descending order of relative disadvantage. The results are similar when incomplete grades are used as the dependent variable. In this case, however, the control variables explain more of the gap for children with Iraqi-origin mothers and the gap is no longer statistically significant in this group nor for youths with Chilean-origin mothers. Youths with Turkish-origin mothers are the exception to this general pattern of smaller parental separation gaps: In this group, parental separation is a more common experience

among better-performing youths and the gap net of the control variables is larger than the crude penalty. These findings show that the importance of the background variables in explaining the parental separation gap in grades varies between groups; in some groups, selection into parental separation is different than in others.

Model 2 adds the mediating variables (mother's employment and (logged) disposable incomes). The decreasing coefficient estimates suggest that these variables further explain the parental separation penalty in school grades. The penalty measured in grade sums is cut by over half and becomes non-significant for youths with Chilean parents, and reduced typically by around 15 to 30 % in the other groups. Similar reductions are witnessed in the penalty measured as incomplete grades, which is no longer statistically significant for youths with East African mothers. The remaining net parental separation penalty—regardless of the outcome measure—is the largest for youths with Bosnian-Herzegovinian mothers, 22 grade points (i.e., approximately 1/3 standard deviation, or equal to the gender gap in grade sum) or 7.6 percentage points for receiving non-passing grades. The net penalties are the smallest—not statistically significantly different from zero—for the Chilean ancestry group; for non-passing grades, they are not significant also in the Iraqi and East African groups. We proceeded with a more detailed analysis of these group differences. First, we estimated the full interaction models to directly compare the penalties between the groups and how they change by the inclusion of additional variables.

--Table 4--

Table 4 shows the results from the interaction models. Bosnia-Herzegovina, which also had the largest parental separation penalty, is used as the reference group. Model 0 presents the estimates from a model without control or mediating variables. The parental separation

penalties on grade sums are statistically significantly smaller (interaction coefficients are positive) in the Chilean, East African, Iraqi, and Turkish ancestry groups. After adding the background control variables, the difference between Bosnian-Herzegovinian and Turkish groups disappears, whereas the difference between the former and those with Swedish mothers increases and become statistically significant. This again suggests that, compared to those with Bosnian-Herzegovinian mothers, the smaller separation penalty among youths with Turkish mothers largely reflects their more favorable background gradients in parental separation. The smaller negative selectivity among the Turkish ancestry group was already found in the analysis reported in Table 2. For children with Swedish mothers, the situation was the opposite. Adding the mediating variables (Model 2) does not change the substantive conclusions. The conclusions are likewise broadly similar when analyzing non-passing grades as the dependent variable.

--Figures 3 and 4--

Finally, we inspect the association between the regression coefficients from Model 2 for grade sums with the share of youths who experienced a parental separation as well as the prevalence of three-generation households (conditional on grandparental residence in Sweden). These are shown in Figures 3 and 4. Figure 3 shows that the net parental separation penalty on grade sum is weaker in ancestry groups in which parental separation is a more common experience (correlation 0.66). This result is in line with Kalmijn's (forthcoming) analysis, in which we found a similar pattern for father absence and youth's well-being, and more generally with the argument of weaker parental separation penalties when parental separations are a more common experience. On the other hand, there is no clear relationship between the prevalence of three-generation households and the net parental separation penalty

on grade sums (correlation 0.16). Due to the limitations of this measure of kin support, we cannot disprove the hypothesis that the parental separation penalty is weaker in groups where kin (or other social support) is stronger. However, neither does this finding provide support for this argument (Hypothesis 4).

5. Discussion

We analyzed whether the parental separation penalty on school grades (measured at the end of the ninth grade of comprehensive school) varies between ancestry groups, measured by the country/region of birth of the mother. We compared ten groups: youths with mothers born in Sweden, Bosnia and Herzegovina, Chile, East Africa (Djibouti, Eritrea, Somalia, Sudan, and Ethiopia), Finland, Iran, Iraq, Poland, former Yugoslavia (excluding Bosnia and Herzegovina), and Turkey. These represent large immigrant groups in Sweden and the heterogeneity of its immigrant population in terms of geographical, cultural and economic developmental origin and integration to Swedish society. Our study is among the first outside the United States to compare parental separation penalties across minority groups (for previous analyses, Kalmijn 2010; forthcoming). Furthermore, our study contributes to the research on heterogeneity in parental separation effects more generally, a topic which has received increasing attention among researchers (Amato 2010).

We documented rather considerable heterogeneity in crude parental separation penalties. These ranged from 16 to 33 grade sum points (corresponding to $\frac{1}{4}$ to $\frac{1}{2}$ of a standard deviation, or $\frac{3}{4}$ to $1\frac{1}{2}$ gender gaps) and from an odds ratio of 1.3 to 3.3 in having incomplete grades, which disable progression to standard secondary school programmes. The raw penalties were considerably reduced (and often lost statistical significance) when controlling for social and demographic background, and the mediating variables maternal employment and household disposable income. The remaining net parental separation

penalties in grade sums ranged from not significant (Chilean background) to 22 (Bosnian-Herzegovinian ancestry), and in incomplete grades from not significant (Chile, East Africa, Iraq) to 7-8 percentage points (Bosnia-Herzegovina, and rest of former Yugoslavia). Penalties for youths with Swedish-born mothers were in between.

In terms of explaining the between-group variation in parental separation gaps, our analysis highlighted some important findings. First, we found that socioeconomic and demographic variables explained some of the differences between groups. However, our analysis also showed that the confounding and mediating effects of these variables differ between groups. In some groups, such as among those with native Swedish mothers, these variables explained up to half of the raw association between parental separation and school performance. In these groups, children of divorce come from more disadvantaged backgrounds, such as families with low education. In other groups, such as those with Turkish mothers, the socioeconomic and demographic background variables did not explain the grade gap. Quite the opposite, the parental separation gap increased when these variables were adjusted for. This suggests that in addition to controlling for group differences in composition, one needs to control for group differences in the effects of the composition variables.

Second, our results gave support for the argument that parental separation penalties are smaller in groups where parental separation is more common (Amato and Keith 1991; McLanahan and Sandefur 1994; Kalmijn 2010; Kalmijn, forthcoming). The common explanation given to this finding is that effects of family dissolution are weaker when family dissolutions are more accepted and less stigmatized, when single parenthood is a more institutionalized living arrangement, and when parents and others in the community have better skills to handle family dissolutions. The findings in support of this argument would thus provide an important clue to understanding heterogeneous family dissolution effects more generally (Amato 2010). However, an alternative explanation is that dissolved families

are differently selected (by unobserved factors) in communities in which family dissolution is more common. The findings of stronger parental separation effects in countries with higher rates of family dissolution (Pong et al. 2003; Kreidl et al. 2014) suggest that the “more common, less harmful” argument is not straightforward. Future research would do well to assess more direct measures of stigma and other factors deemed as important mechanisms behind this association. Our analysis did not support our hypothesis of weaker effects in group in which kin support can be more accessible—proxied by the prevalence of three-generation households; however, the limitations of the measure we used has to be considered.

Our findings have implications for the research on immigration and inequality. As reported in the descriptive analysis, the likelihood of experiencing parental separation varies considerably between ancestry groups in Sweden. Whereas 15 % of the children of mothers born in Bosnia-Herzegovina experienced parental separation, the share among children of East African, Chilean-, or Polish-born mothers was around 40 %. For comparison, the respective figure for those of Swedish-born mothers was just above 30 %. To the extent that parental separation leads to poorer school performance, the differences in parental separation incidence (and other family demographic events) can strengthen inequalities among children of different ancestries. On the other hand, the generally weaker parental separation penalties in groups in which parental separation was more common works to counteract this unequalizing effect in ways similar to weaker parental separation penalties in low-SES families, reported in some studies (Bernardi and Boertien 2016). In this respect, groups with both high occurrence of parental separation and strong parental separation penalties (here, children of Polish mothers) can experience a double penalty.

Future research should build on these analyses in Sweden and elsewhere in order to better understand the role of family dynamics in shaping inequality among ancestry groups as well as for understanding the heterogeneity in parental separation effects. Some suggestions

can be given. The question of causality of the effects haunts all research in this field and can be addressed within research on group differences in parental separation as well. Data with direct measures of mechanisms which may lie behind these penalties can likewise be useful. Specific to group migrant group variation in parental separation penalties, future research can gain from analyzing the same groups in multiple countries (cf. Levels et al, 2008) as well focusing on children of mixed ancestry (cf. Panico and Nazroo 2011; Platt 2012).

Acknowledgement

This research received funding from the EU FP7/2007-2013 Programme, grant agreement 320116 to the FamiliesAndSocieties, and the Swedish Research Council (Vetenskapsrådet) via the Swedish Initiative for Research on Microdata in the Social and Medical Sciences (SIMSAM), grant 340-2013-5164.

References

- Albertini, M., & Garriga, A. (2011). The effect of divorce on parent-child contacts: Evidence on two declining-effect hypotheses. *European Societies* 13(2), 257-78.
- Amato, P.R. (1993). Children's adjustment to divorce: Theories, hypotheses, and empirical support. *Journal of Marriage and Family* 55(1), 23-38.
- Amato, P.R. (2000). The consequences of divorce for adults and children. *Journal of Marriage and the Family*, 62(4), 1269-1287.
- Amato, P.R. (2001). Children of divorce in the 1990s: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology*, 15, 355-370.
- Amato, P. R. (2010). Research on divorce: Continuing trends and new developments. *Journal of Marriage and Family* 76(3), 650-66.
- Amato, P. R., & Anthony, C. J. (2014). Estimating the effects of parental divorce and death with fixed effects models. *Journal of Marriage and Family* 76(2), 370-86.
- Amato, P.R., and James, S. (2010). Divorce in Europe and the United States: Commonalities and differences across nations. *Family Science*, 1(1), 2-13.
- Amato, P. R., and Keith, B. (1991). Consequences of parental divorce for children's well-being: A meta-analysis. *Psychological Bulletin*, 110, 26-46.
- Andersson, G., Obućina, O., and Scott, K. (2015). Marriage and divorce of immigrants and descendants to immigrants in Sweden. *Demographic Research*, 33(2), 31-64.
- Aquilino, W. S. (1994). Impact of childhood family disruption on young adults' relationship with parents. *Journal of Marriage and Family* 56(2), 295-313.
- Behtoui, A. (2007). The distribution and return of social capital: Evidence from Sweden. *European Societies* 9(3), 383-407.
- Bernardi, F., & Boertien, D. (2016). Explaining conflicting results in research on the heterogeneous effects of parental separation on child outcomes according to social background. Working paper, European University Institute.
- Bernardi, F. & Radl, J. (2014). The long-term consequences of parental divorce for children's educational attainment. *Demographic Research* 30, 1653-80.
- Bowers, J. & Drake, K. W. (2005). EDA for HLM: visualization when probabilistic inference fails. *Political Analysis* 13, 301-326.
- Buis, M.L. (2010) "Stata tip 87: Interpretation of interactions in non-linear models", *The Stata Journal*, 10(2), pp. 305-308
- Bryan, M.L., and Stephen P. Jenkins. (2016). Multilevel modelling of country effects: A cautionary tale. *European Sociological Review* 32(1), 3-22.
- Bumpass, L.L., and Rindfuss, R. (1979). Children's experience of divorce. *American Journal of Sociology*, 85, 49-65.

- Callens, M., & Croux, C. (2009). Poverty dynamics in Europe: A multilevel recurrent discrete-time hazard analysis. *International Sociology* 24(3), 368-96.
- Cherlin, A.J., Furstenberg, F.F. Jr., Chase-Lansdale, P.L., Kiernan, K.E., Robins, P.K., Morrison, D.R., and Teitler, J.O. (1991). Longitudinal studies of effects of divorce on children in Great Britain and the United States. *Science*, 252, 1386-89.
- Cronemo, I. (2012). Chilean diaspora in Sweden. Department of Spanish, Portuguese and Latin American Studies, Stockholm University.
- Darvishpour, M. (1999). Intensified gender conflicts within Iranian families in Sweden. *NORA: Nordic Journal of Feminist and Gender Research*, 7(1), 20–33.
- DiPrete, T. A., & McManus, P. A. (2000). Family change, employment transitions, and the welfare state: Household income dynamics in the United States and Germany. *American Sociological Review* 65(3), 343-70.
- Dribe, M., and Lundh, C. (2012). Intermarriage, value context and union dissolution: Sweden. 1990-2005. *European Journal of Population*, 28(2), 139-158.
- Dronkers, J. (1999). The effects of parental conflicts and divorce on the well-being of pupils in Dutch secondary education. *European Sociological Review*, 15(2), 195-212.
- Fomby, P., & Cherlin, A. J. (2007). Family instability and child well-being. *American Sociological Review* 72(2), 181-204.
- Frisco, M.L., Muller, C., and Frank, K. (2007). Parents' union dissolution and adolescents' school performance: comparing methodological approaches. *Journal of Marriage and Family*, 69(3), 721–41.
- Grätz, M. (2015). When growing up without a parent does not hurt: Parental separation and the compensatory effect of social origin. *European Sociological Review* 31(5), 546-557.
- Hannemann, T., & Kulu, H. (2015). Union formation and dissolution among immigrants and their descendants in the United Kingdom. *Demographic Research* 33, 273-312.
- Härkönen, J. (2014). Divorce: trends, patterns, causes, consequences. In J. Treas, J. Scott, and M. Richards (Eds.), *The Wiley-Blackwell Handbook of the Sociology of Families*. Chichester: John Wiley and Sons, 303-332.
- Härkönen, J., & Dronkers, J. (2006). Stability and change in the educational gradient of divorce: A comparison of seventeen countries. *European Sociological Review* 22(5), 501-17.
- Haxton, C. L., & Harknett, K. (2009). Racial and Gender Differences in Kin Support a Mixed-Methods Study of African-American and Hispanic Couples. *Journal of Family Issues* 30(8), 1019–40.
- Heard, H.E. (2007). The family structure trajectory and adolescent school performance: Differential effects by race and ethnicity. *Journal of Family Issues*, 28(3), 319-354.
- Heath, A. F., Rethon, C. & Kilpi, E. (2008). The second generation in Europe: Education, unemployment, and occupational attainment. *Annual Review of Sociology*, 34, 211-35.
- Hunter, A.G. (1997). Counting on grandmothers: black mothers' and fathers' reliance on grandmothers for parenting support. *Journal of Family Issues*, 18, 251–269.

- Jarvis, S., and Jenkins, S.P. (1999.) Marital splits and income changes: evidence from the British Household Panel Survey. *Population Studies*, 53(2), 237-254.
- Jonsson, J.O., and Gähler, M. (1997). Family dissolution, family reconstitution, and children's educational careers: Recent evidence for Sweden. *Demography*, 34, 277-293.
- Jonsson, J.O., and Rudolphi, F. (2011). Weak performance—strong determination: School achievement and educational choice among children of immigrants in Sweden. *European Sociological Review* 27(4), 487-508.
- Kalmijn, M. (2010). Racial differences in the effects of parental divorce and separation on children: Generalizing the evidence to a European case. *Social Science Research*, 39, 845-856.
- Kalmijn, M. (forthcoming). Family structure and the well-being of immigrant children in four European countries. *International Migration Review*.
- Korkiasaari, J., and Söderling, I. (2003). Finnish emigration and immigration after World War II. Turku: Siirtolaisuusinstituutti.
- Kreidl, M., Štípková, M., and Hubatková, B. (2014). Does the effect of parental breakup on children's education depend on the divorce rate? Paper prepared for the PAA meeting in Boston, May 1-3, 2014.
- Lee, D., & McLanahan, S. S. (2015). Family structure transitions and child development: Instability, selection, and population heterogeneity. *American Sociological Review* 80(4), 738-63.
- Lemaître, Georges. (2007). The integration of immigrants into the labour market: The case of Sweden. OECD Social, Employment and Migration Working Papers No. 48.
- Levels, M, J. Dronkers & G. Kraaykamp, 2008. "Immigrant Children's Educational Achievement in Western Countries: Origin, Destination, and Community Effects on Mathematical Performance." *American Sociological Review* 73, 835-853.
- Lyngstad, T., & Jalovaara, M. (2010). A review of the antecedents of union dissolution. *Demographic Research*, 23, 257 – 292.
- McLanahan, S. S., & Bumpass, L. L. (1988). Intergenerational consequences of family disruption. *American Journal of Sociology* 94(1), 130-152.
- McLanahan, S. S., & Sandefur, G. (1994). *Growing up with a single parent: What hurts, what helps?* Cambridge, MA: Harvard University Press.
- McLanahan, S. S., Tach, L., & Schneider, D. (2013). The causal effect of father absence. *Annual Review of Sociology*, 39(1), 399-427.
- McLoyd, V.C., Cauce, A.M., Takeuchi, D., & Wilson, L. (2000). Marital processes and parental socialization in families of color: a decade review of research. *Journal of Marriage and Family*, 62, 1070–1093.
- Migrationsverket. (2015). Residence permits granted. 1980-2014 – refugees. Source: http://www.migrationsverket.se/download/18.36084ac214622cf65991380/1426062975856/Ta_b+3+-+Residence+permits+granted+1980-2014-refugees.pdf

- Mood, C. (2010). Logistic regression: why we cannot do what we think we can do, and what can we do about it. *European Sociological Review* 26(1), 67-82.
- Panico, L., and Nazroo, J. (2011). The social and economic circumstances of mixed ethnicity children in the UK: Findings from the Millennium Cohort Study. *Ethnic and Racial Studies*, 34(9): 1421-44.
- Platt, L. (2012). How do children of mixed partnerships fare in the United Kingdom? Understanding the implications for children of parental ethnic homogamy and heterogamy. *The Annals of the American Academy of Political and Social Science* 643(1), 239-266.
- Pong, S., Dronkers, J., & Hampden-Thompson, G. (2003). Family policies and children's school achievement in single- versus two-parent families. *Journal of Marriage and Family* 65(3), 681-99.
- Reher, D. S. (1998). Family ties in Western Europe: Persistent contrasts. *Population and Development Review* 24(2), 203-234.
- Rijken, A. & Liefbroer, A. (2012). European views of divorce among parents of young children: Understanding cross-national variation. *Demographic Research* 27, 25-52.
- Schans, D., & Komter, A. (2010). Ethnic differences in intergenerational solidarity in the Netherlands. *Journal of Aging Studies* 24(3), 194–203.
- Shroder, L. (2007). From problematic objects to resourceful subjects: An overview of immigrant-native labor market gaps from a policy perspective. *Swedish Economic Policy Review*, 14, 7-31.
- Smith, T.E. (1997). Differences between black and white students in the effect of parental separation on school grades. *Journal of Divorce and Remarriage*, 27, 25–42.
- Sobotka, T., and Toulemon, L. (2008). Changing family and partnership behaviour: Common trends and persistent diversity across Europe. *Demographic Research*, 19, 85–138.
- Statistics Sweden. (2015). Foreign-born persons in Sweden by country of birth, age and sex. Source: <http://www.scb.se/en /Finding-statistics/Statistics-by-subject-area/Population/Population-composition/Population-statistics/Aktuell-Pong/25795/Yearly-statistics--The-whole-country/26040/>
- Sun, Y., and Li, Y. (2007). Racial and ethnic differences in experiencing parents' marital disruption during late adolescence. *Journal of Marriage and Family*, 69, 742–762.
- Thomson, E., and Eriksson, H. (2013). Register-based estimates of parental separation in Sweden. *Demographic Research*, 29, 1153-1186.
- Thomson, E., Hanson, T.L., and McLanahan, S. (1994). Family structure and child well-being: economic resources versus parental behaviors. *Social Forces*, 73, 221–242.
- United Nations. (2009). World marriage data 2008. Department of Economic and Social Affairs, Population Division. Source: <http://www.un.org/esa/population/publications/WMD2008/Main.html>

United Nations. (2013). Divorces and crude divorce rates by urban/rural residence: 2002-2006. United Nations Statistics Division. Source: <http://unstats.un.org/unsd/Demographic/products/dyb/dyb2006/Table25.pdf>

Uunk, W.J.G. (2004). The economic consequences of divorce for women in the European Union: the impact of welfare state arrangements. *European Journal of Population*, 20, 251–285.

Van Tubergen, F., & Volker, B. (2015). Inequality in access to social capital in the Netherlands. *Sociology* 49(3), 521-38.

Verhaeghe, P., Van der Bracht, K., & Van de Putte, B. (2015). Inequalities in social capital and their longitudinal effects on the labour market entry. *Social Networks* 40, 174-84.

Wu, L. L., & Thomson, E. (2001). Race differences in family experience and early sexual initiation: Dynamic models of family structure and family change. *Journal of Marriage and Family* 63(3), 682-96.

Figures and Tables

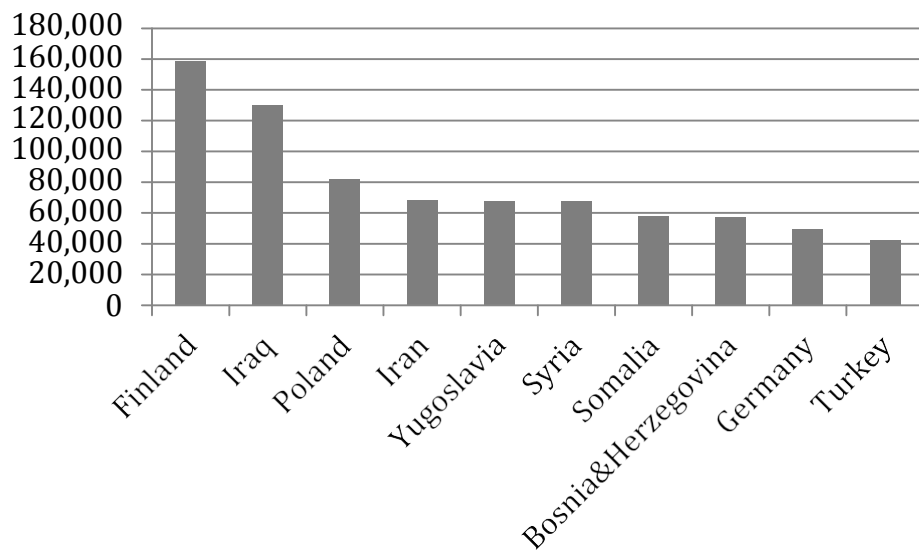


Figure 1. Ten largest foreign-born populations in Sweden, 2014.

Source: Statistics Sweden (2015)

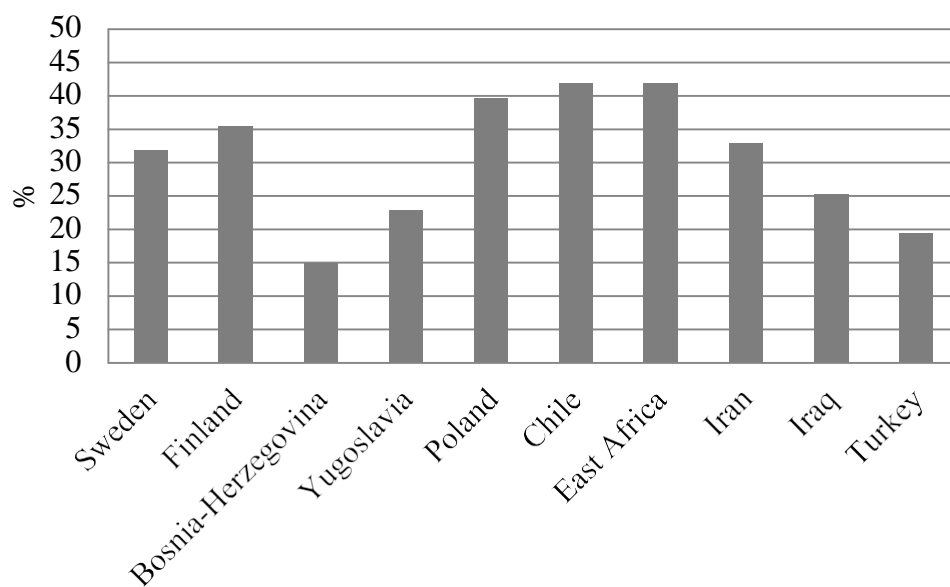


Figure 2. Parental separation by age 15, by ancestry (%).

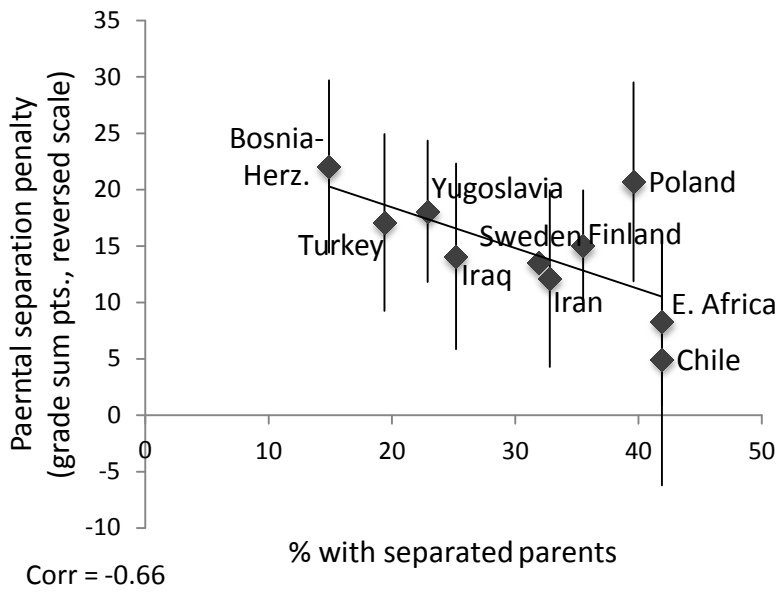


Figure 3. Parental separation occurrence and parental separation penalty (in GPA pts, from model 2, Table 3).

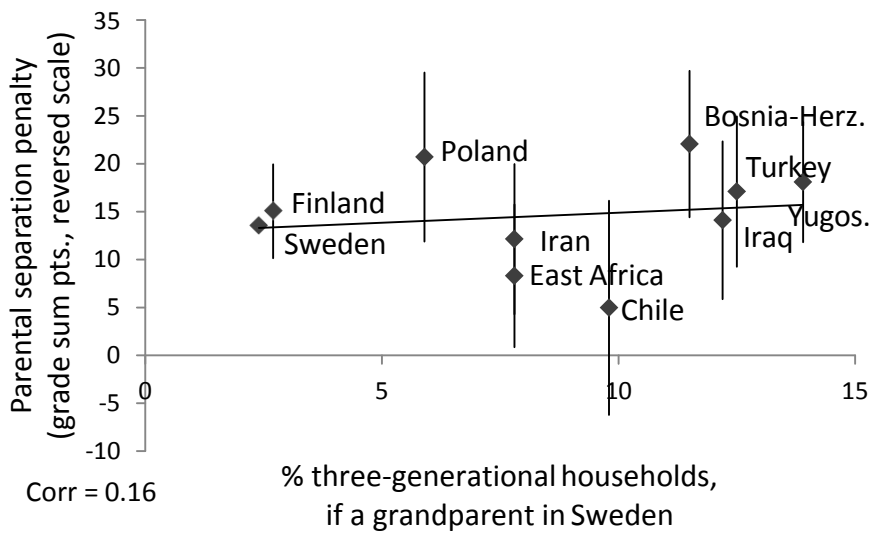


Figure 4. Prevalence of three-generation households and parental separation penalty (in GPA pts, from model 2, Table 3).

Table 1. Descriptive statistics of the data.

<i>Categorical variables</i>	<i>%</i>	<i>N</i>
No incomplete grades	92.1	140,113
At least one incomplete grade	7.9	12,072
Parents separated	31.6	48,108
Parents not separated	68.4	104,777
Mother's country of birth		
Sweden	91.3	138,960
Bosnia-Herzegovina	1.1	1,703
Chile	0.4	587
East Africa	0.8	1,141
Finland	1.8	2,783
Iran	0.7	1,087
Iraq	0.9	1,294
Poland	0.5	826
Turkey	1.0	1,487
Yugoslavia	1.5	2,317
Father born in Sweden	87.9	133,680
Father born abroad	12.1	17,459
Girl	48.9	74,451
Boy	51.1	77,734
Born in 1995	52.5	79,960
Born in 1996	47.5	72,225
Mother's education		
Compulsory or missing	7.2	10,889
Short secondary	29.4	44,728
Secondary	21.1	32,105
Lower tertiary	18.2	27,667
Tertiary	24.2	36,796
Father's education		
Compulsory or missing	13.2	20,065
Short secondary	40.9	62,260
Secondary	13.4	20,447
Lower tertiary	15.6	23,661
Tertiary	16.9	25,752
Mother employed	6.6	9,987
Mother not employed	93.4	142,198
<i>Continuous variables</i>	<i>Mean</i>	<i>s.d.</i>
Grade sum	216.0	60.8
Age of the mother at birth	29.4	4.8
N siblings	1.6	1.1
Birth order	1.9	1.0
Logged disposable income	7.6	0.5

Table 2. Grade sums means and share (%) receiving one of more incomplete grades, by parental separation and ancestry.

	Grade sum			One or more incomplete grades			OR
	Intact family	Parents separated	Δ	Intact family	Parents separated	Δ	
Bosnia-Herzegovina	221.9	189.2	-32.7	6.6	19.0	12.4	3.3
Chile	196.6	179.9	-16.7	17.9	21.5	3.6	1.3
East Africa	210.0	193.9	-16.1	12.0	19.2	7.2	1.7
Finland	220.9	194.0	-26.9	7.7	13.7	6.0	1.9
Iran	234.4	211.5	-22.9	5.2	12.4	7.2	2.6
Iraq	208.0	187.1	-20.9	13.4	19.6	6.2	1.6
Poland	226.9	198.3	-28.6	6.0	14.1	8.1	2.6
Sweden	225.3	198.5	-26.8	5.5	12.0	6.5	2.3
Turkey	202.3	183.9	-18.4	15.1	22.2	7.1	1.6
Yugoslavia	206.4	178.7	-27.7	12.8	24.3	11.5	2.2

Table 3. Regression analysis of grade sums (Ordinary Least Squares) and incomplete grades (Linear Probability Models) by ancestry.

	Grade sum (OLS regression)		Incomplete grades (LPM)	
	Model 1	Model 2	Model 1	Model 2
Bosnia-Herzegovina	-26.34***	-22.06***	0.099**	0.076**
Chile	-10.86*	-4.96	0.023	0.003
East Africa	-13.14**	-8.30*	0.060**	0.040
Finland	-19.05***	-15.04***	0.040**	0.031*
Iran	-16.02***	-12.13**	0.058**	0.049*
Iraq	-16.17***	-14.07**	0.038	0.036
Poland	-22.53***	-20.70***	0.055*	0.050*
Sweden	-17.70***	-13.55***	0.045***	0.035***
Turkey	-20.67***	-17.10***	0.079**	0.068*
Yugoslavia	-24.08***	-18.09***	0.103***	0.075***

Notes: Model 1 controls for gender, birth year, mother's and father's education, mother's age at birth of the child (linear and squared), number of siblings (mother's side), birth order (mother's side), and whether the father was born abroad; Model 2 additionally controls for logged disposable incomes and mother's employment status.

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

Table 4. Full interaction models between ancestry and the independent variables, OLS regression (grade sums) and logistic regression (incomplete grades).

	Grade sum (OLS)			Incomplete grade (logistic, OR)		
	Model 0	Model 1	Model 2	Model 0	Model 1	Model 2
Par. Separation (Ref. Bosnia-Herz.)	-32.75***	-26.54***	-22.37***	3.34***	2.66***	2.05**
* Chile	16.06*	16.53**	18.87**	0.38**	0.41**	0.44**
* East Africa	16.65**	13.56**	14.25**	0.52*	0.61	0.67
* Finland	5.93	7.84	7.88	0.57*	0.59*	0.68
* Iran	9.32	10.17	9.77	0.77	0.85	0.97
* Iraq	11.90*	10.87*	8.90	0.47**	0.52*	0.65
* Poland	4.11	4.06	1.85	0.77	0.75	0.91
* Sweden	5.93	8.96*	8.90*	0.72	0.69	0.79
* Turkey	14.34*	5.97	5.38	0.48**	0.66	0.77
* Yugoslavia	5.00	1.76	3.73	0.66	0.80	0.83

Notes: Model 0 is without control variables; Model 1 controls for gender, birth year, mother's and father's education, mother's age at birth of the child (linear and squared), number of siblings (mother's side), birth order (mother's side), and whether the father was born abroad; Model 2 additionally controls for logged disposable incomes and mother's employment status. Ancestry interacted with all independent variables.

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