

Stockholm Research Reports in Demography | no 2020:16



Kinship, heritage and ethnic choice: ethnolinguistic registration across four generations in contemporary Finland

Jan Saarela, Martin Kolk, Ognjen Obucina

ISSN 2002-617X | Department of Sociology



Stockholm
University

Demography Unit

Kinship, heritage and ethnic choice: ethnolinguistic registration across four generations in contemporary Finland

Jan Saarela¹, Martin Kolk², Ognjen Obucina³

*¹Åbo Akademi University, Finland ²Stockholm University Demography Unit,
Department of Sociology; Stockholm University Centre for Cultural
Evolution; Institute for Future Studies, Stockholm ³INED, France*

Abstract: We study how ethnolinguistic identity relates to ethnolinguistic background in contemporary Finland. This is a society in which two ethnolinguistic groups have coexisted for centuries and mixed unions are increasingly common. Using multigenerational data from the population register, we determine the ethnolinguistic affiliation of children born in 1990-2015, and their parents, grandparents and great grandparents. Our analyses reveal that ethnolinguistic affiliation is a more fluid and complex feature than can be expected when assessed only through own and parental characteristics. We find substantial diversity in ethnolinguistic background within the Swedish-speaking minority group, while most individuals in the Finnish-speaking majority group have a uniform background. There is a strong maternal bias in ethnolinguistic registration, a notable majority bias related to the family tree, and strong lineage persistence, particularly with respect to maternal grandmothers and maternal great grandmothers. We find also that mixed extended kinship networks have more members of the majority group than of the minority group. The underlying process has, thus, reproduced the majority-group identity in the population even when, as in this case, the majority of the couples in mixed unions favour the minority-group affiliation for their children. If this phenomenon is universal, it may explain the rapid decline of ethnic minority groups across the world. If the prevalence of births within mixed unions and the current preferences for ethnolinguistic registration of children within them remain, the Swedish-speaking minority group studied here is nevertheless not under any immediate risk of assimilation into the Finnish-speaking majority group.

Keywords: kinship, lineage, ethnicity, linguistic groups, population registers



1. Introduction

Ethnic identity is fundamentally a trait that is culturally contingent and subjectively defined, typically by individual themselves, but also at a structural level by other actors (Waters, 1990; Nagel, 1994). Most societies around the world are multi-ethnic. With increasing globalization, even some traditionally homogeneous Western nations have seen increasing diversity of ethnic, racial, and non-native born groups. The acquisition of an ethnic identity is a key part of intergenerational socialization, which is typically shared with both parents. However, there is also substantial intermarriage across groups, meaning that over many generations, a substantial share of the population will have a mixed background for whom ethnic identity is not self-evident. Mixed ethnic identification is common and possible (Waters, 2000; Rockquemore and Arend, 2002), but eventually many descendants of mixed marriages will face a choice about which identity is most salient. In some cases, ethnic groups differ in status or importance within society, and specific combinations of multigenerational descent, for example by gender, may shape the ethnic identity.

Although ethnic background and ethnic mixedness are concepts that involve more than two generations, they have traditionally been analysed in terms of the ethnicity of each parent and the offspring. To our knowledge, no study has analysed in detail how ethnic identity relates to that of grandparents and great grandparents. The primary reason is lack of suitable and reliable data. Continuous interaction between ethnic groups and, thus, increasing intermarriage and births within ethnically mixed unions, imply that this is an aspect of growing importance worldwide. A multigenerational perspective on ethnic identity allows for more depth and higher complexity in analyses. Our primary research focus is how ethnic identity is shaped in mixed unions, taking account of more extended kin than parents. This approach makes it possible to make firmer conclusions on how systematic differences in grandparental and great grandparental background shape ethnic identity. We focus on two aspects. One is to compare the importance of mother's kin and father's kin on ethnic identity, that is, the existence of a matrilineal bias as opposed to a patrilineal bias. The other is whether the simple proportion of kin of a specific background is enough to understand the ethnic identity of descendants, or is the association non-linear where the dominant ethnic identity affects ethnic choice more or less than what would be expected from the proportion of extend kin. The first relates to the question of how ethnic identity is driven on the female side and male side of the family, respectively. The other relates to the question of how size differences between ethnic groups relate to ethnic identity across more than two generations, that is, a majority bias versus a minority bias. The second point is particularly salient as intermarriage when groups are of different sizes will produce proportionally more lineages where a large number of kin belong to the majority population group.

The primary aim with this paper is to examine ethnic structure by heritage in contemporary Finland. There are three reasons that are important to highlight and motivate why the case of Finland may be informative and useful for other societies. First, Finland has until recently been a country with basically no immigration, but with two native ethnolinguistic groups, Finnish speakers and Swedish speakers. The coexistence of these two groups dates back nearly a thousand years. Second, these two groups are equal, guaranteed same constitutional rights, and have their own parallel school systems. They are widely described as being status-wide equal, while maintaining coexisting identities and institutions (McRae 1997; Härtull and Saarela 2014). Third, the population registration system in Finland requires that a person is exclusively

registered as either a Finnish speaker, a Swedish speaker, or belonging to some other ethnolinguistic group. Consequently, ethnolinguistic background is assessed in terms of how previous generations are registered, using multigenerational data. For the individual, the registration procedure has some practical consequences for issues related to upbringing and educational choices, as there are two parallel school systems. It determines also the communication language on national government information that an individual receives, and the language(s) used by the municipal authorities. Inter-marriage between Finnish and Swedish speakers has over the past decades and generations been common, while inter-marriage over other ethnic lines has been rare due to the small number of foreign-born immigrants. The number of persons with mixed Swedish-Finnish descent is therefore continuously increasing, in particular as considered from the perspective of the Swedish speakers, who represent a clear minority in numbers.

We are interested in the extent to which kinship beyond the parent is predictive of children's ethnic identity in terms of their ethnolinguistic registration, and how gender interacts with kinship depth in a minority-majority framework. Ethnolinguistic registration in Finland is done at birth and the registration seldom changes afterwards (Obućina and Saarela, 2017), meaning that ethnic identity as studied here is primarily a decision made by the parents and, thus, emphasises the heritage component we are concerned with.

Consequently, we study multigenerational descent in contemporary Finland, where ethnic identity refers to being either a Swedish-speaking Finn or a Finnish-speaking Finn. Using Finnish register data on ethnolinguistic registration, we explore ethnic identity over three and four generations. We document a phenomenon that is of importance all over the world, but in a context of two equal groups of different size, which have been largely demographically stable over several generations. By creating a multigenerational kinship structure by means of the national population register, we apply a time-constant, objective, reliable, and consequential measure of ethnolinguistic identity. Thus, we examine how combinations of ethnolinguistic identity among parents, grandparents, and great grandparents affect and shape the ethnolinguistic identity of their descendants. By doing so, we can make robust and powerful quantifications of topics that previously have been examined primarily in immigration contexts (e.g. Hout and Goldstein, 1994) or through qualitative approaches (e.g. Waters, 1990).

We document the large rate of ethnolinguistically mixed unions in contemporary Finland, and how this has created kinship with great variation of descent patterns. We further illustrate how the different descent patterns over three and four generations affect the ethnolinguistic registration of young men and women. By exploring these issues, we assess how mixed background relates to identity in terms of whether an individual is registered as a Swedish speaker or as a Finnish speaker. We explore also if such patterns are gendered, meaning that they may differ not only by parental ethnolinguistic affiliation, but also with regard to dominantly matrilineal, dominantly patrilineal, or mixed descent. Furthermore, we examine the relative importance of having a different descent pattern, in terms of a stronger, a weaker, or a balanced representation from either ethnolinguistic side.

Beyond furthering the understanding of ethnic identity and its relationship to ethnic fluidity and inter-marriage, our study is relevant for another important contemporary topic, namely the difficulties that demographic minorities face to maintain their cultural identity (De Vries 1990). Linguistic and cultural disappearance of minority cultures has accompanied globalization and

nation-states throughout the last two centuries. The loss of unique linguistic, ethnic and cultural heritages following globalization and the industrial revolution have been described as one of the great tragedies of the 20th and 21st centuries (Maffi, 2005; Harrison, 2008). Such processes do not necessarily take place by the demographic extinction of a distinct sociocultural group, where deaths outnumber births, but by the process in which minority group members gradually abandon their culture for the dominant majority culture. This process is often pioneered by individuals of mixed descent following intermarriage. Understanding the processes are of high relevance, though poor quantitative data sources with reliable longitudinal information on ethnic identity have made the knowledge scarce. There are several bi- and multilingual societies in which the government acknowledges more than one language of the state, and where this situation has deep historical roots, such as Switzerland, Belgium and Canada. There has been quantitative research on such high-income contexts (Kandler, 2009; Kandler et al., 2010; Minett and Wang, 2008; Verdoodt, 2017), but based on a lack of longitudinal data, and generally focused on persons of monolingual rather than mixed identity. Research on intermarriage and language shifts, rather than on ethnic identity, has typically been concerned with immigrant assimilation into the majority culture (Stevens, 1985; 1992), while studies of sociolinguistic change generally miss the intergenerational components. We therefore make a contribution also to linguistic demography.

2. Formation and transmission of ethnic identity

Among social scientists who have studied contemporary western populations, interest for kinship was limited throughout the late 20th century (Johnson, 2000; Kolk, 2014). This has changed in recent years and the prevailing view nowadays is that analyses of social connections beyond parent to child are necessary in order to understand social processes (Mare, 2011). The present paper is inspired by a growing literature that takes a multigenerational approach to study how the kinship structure affects socioeconomic outcomes (Mare, 2011; Song et al., 2015; Kolk and Hällsten, 2017; Chu et al., 2019), how ethnic and racial identity is influenced by sociodemographic processes (Hout and Goldstein, 1994; Loveman and Muniz, 2007; Obućina and Saarela, 2020; Rockquemore and Arend, 2002), together with traditional anthropological studies on kinship and descent (e.g. Evans-Pritchard, 1969; Fox, 1967; Schneider and Cottrell, 1975). We strive to combine the guiding principles of these approaches and analyse how heritage, defined as observable ethnic traits in the kinship history of an individual, is formed and associated with ethnic choice by different generations of ancestors.

The ethnic structure of kinship, henceforth referred to as heritage, is one of the principal determinants of individual ethnic identity. Focusing on the experiences of Mexican Americans, Duncan and Trejo (2011) claim that studies on the intergenerational transmission of ethnic identity should ideally contain complete information on ancestry. Such information has been rarely available to researchers so far. Our data allow us to adopt this multigenerational perspective by taking into account the heritage over three generations of ancestors. By doing so, we obtain a more fine-grained picture of the impact of intermarriage on ethnic awareness and the size of the minority (Swedish-speaking) community in Finland than has been the case in previous studies. The relevance and novelty of our findings will not be confined to the Finnish context only. As this is, to the best of our knowledge, the first study that in detail can assess the ethnic composition of kinship and its importance for the ethnic identity of descendants, we make a significant contribution also to the general contemporary literature on ethnic identity.

In cases where the heritage is homogeneous, the descendants' ethnic identity rarely deviates from that of their ancestors, especially in non-migrant groups. Our results confirm this clearly as well. Preferences are, along with heritage, another major force determining the individual ethnic identity. The importance of preferences is stronger for individuals of mixed ethnic heritage and for individuals who live in social contexts heavily dominated by other ethnic groups, such as the children of immigrants. At early ages, it is mainly parental preferences on ethnic identity that will matter, whereas own preferences are formed at later ages (Xie and Goyette, 1997).

Preferences are most often unobserved in empirical studies, but they can be assumed associated with a number of family-level and contextual characteristics, and they interact with gender and the kinship structure. In mixed couples, each partner is supposed to prefer to transmit his or her own ethnicity, rather than the partner's, to the children, but the partners may not have equally pronounced preferences to share the ethnicity with their descendants. These differences are often gendered, whereby it is believed that the ethnic awareness is higher among women than among men. In some contexts, such as Finland, intermarried mothers transmit their ethnicity more often than fathers (Obućina and Saarela, 2020). This is not a universal pattern, though. When Americans report ethnic heritage they traditionally tend to choose it based on the father instead of the mother (Smith, 1984; Waters, 1990; Qian, 2004). In many cultural contexts, children of mixed couples inherit the father's surname, and this has been nearly universal in Finland as well. This is an important marker of ethnic identity, which is considered to be a significant factor shaping the ethnic heritage pattern (Xie and Goyette, 1997).

Finnish, Swedish and other northwest European kinship systems are bilateral (Moring, 2003). This is in contrast with many other kinship systems in the world where individuals are affiliated to maternal or paternal descent groups (Fox, 1967). In a bilateral kinship system, relationships with kin are traced through both women and men, and ancestries through female kinship and male kinship are given roughly equal weight (Murray, 1983; Parsons, 1943; Schneider, 1968). Research on high-income western populations have nevertheless often stressed that kinship networks are primarily maintained by women (Schneider and Smith, 1973). This is reflected both in the strength of interpersonal relationships (Young and Willmott, 1957; Coall and Hertwig, 2010b), in terms of behaviours responsible for maintaining large kinship networks (Di Leonardo, 1987), and in individuals' recollection of the total size of their kinship networks (Schneider and Cottrell, 1975; Boholm, 1983). This literature shows also that children have a closer relationship with maternal grandparents than with paternal grandparents (Coall and Hertwig, 2010a). The matrilineal bias appears in studies of other kinship members as well. They say that children have the closest relationship, and are most willing to act altruistically, to maternal aunts, and the least willing to act altruistically to paternal uncles (Jeon and Buss, 2007; Pashos and McBurney, 2008).

Consequently, it is likely that looking beyond parental generation may provide additional insights for the understanding of the intergenerational transmission of ethnicity. When parents decide about children's ethnicity, those of mixed heritage themselves will most likely have weaker ethnic awareness than those who grew up in a mono-ethnic family setting. Later in life, a preference for affiliation to one specific ethnic group will then presumably be positively associated with a stronger personal relationship to kinship members of that group. In a population with substantial intermarriage, the bilateral kinship network will by nature include families where descent includes many combinations of mixed heritage, where some families

may have predominantly one type of ancestry on either the male or female side. Exploring gendered expressions of ancestry and kinship over multiple generations of ancestry will be central in our analyses, and in particular for cases in which ancestry is ethnically mixed due to intermarriage in preceding generations.

3. Context

The Swedish-speaking community in Finland currently constitutes 5.2 percent of the total population of 5.5 million, meaning that approximately 290,000 persons are registered as Swedish speakers. Roughly 390,000 persons in the country are foreign-born and practically all others are registered as Finnish speakers. The population of Finland has until recently been very homogeneous. In 1990, the immigrant population consisted of only 25,000 persons. Intermarriage between Finnish or Swedish speakers and persons with other descent has therefore been rare, and so are also persons with other mixed background than Swedish-Finnish.

Swedish has been one of the two official languages of Finland since the very foundation of an independent Finland in 1917, and also well before that. The Swedish-speaking community has therefore developed a considerable political, social and cultural infrastructure. The institutional infrastructure, including the education system and media, has mattered greatly for the maintenance of ethnolinguistic identity. The Swedish language in Finland has been one of the most protected minority languages in Europe throughout the 20th century.

In Finland, a person can be registered with only one mother tongue, which is the principal marker of individual ethnolinguistic affiliation. The registration usually occurs at birth and is made by the parents. It is possible to switch the affiliation in the population register, but quite few persons do so. For later-born cohorts, switches from Finnish to Swedish are more common before age 18, while switches from Swedish to Finnish are somewhat more frequent at age 18 or later (Obućina and Saarela, 2017).

Within endogamous Swedish-speaking and endogamous Finnish-speaking unions, the choice of ethnolinguistic affiliation is straightforward. If the child has an entirely Swedish-speaking background it is registered as a Swedish speaker, and if it has an entirely Finnish-speaking background it is registered as a Finnish speaker. For ethnolinguistically mixed families, on the other hand, the registration procedure is more an issue, and based on a choice made by the parents. In practice, most children in contemporary mixed families can speak both Finnish and Swedish, and the parents' choice of ethnolinguistic affiliation for their child has few, if any, binding and immediate consequences. The child may go to a Finnish-speaking school if Swedish-registered, and to a Swedish-speaking school if Finnish-registered. In this context, Swedish registration can therefore be considered a manifestation of symbolic ethnicity and cultural relations (cf. Gans, 1979). However, in most cases, the ethnolinguistic registration is a strong indicator of whether the parents want Finnish or Swedish to be the dominant language in the child's environment (Saarela and Finnäs, 2016), meaning that the choice may indeed be consequential.

Our study contributes to the contemporary literature on ethnic fluidity and the size of minority groups across generations. Just as they are the principal factors determining the individual ethnic identity, the prevalence of and preference for intermarriage are major forces that affect the size of an ethnic group in the long term. Birth rate within the ethnic group in question is a

third key factor (Hout and Goldstein 1994). In earlier decades, birth rates were lower among Swedish speakers than among Finnish speakers, but today they are slightly higher (Finnäs, 2013; Rotkirch et al., 2018). An increased outmigration can also affect both the absolute and relative size of an ethnic group. Swedish speakers have consistently been overrepresented among emigrants and underrepresented among return migrants (Saarela and Scott, 2017). In the 1950s and 1960s, emigration induced a net loss of approximately 15 per cent of the Swedish-speaking population. Since then, emigration rates have been significantly smaller.

In spite of a long history of peaceful coexistence, intermarriage between Finnish and Swedish speakers was not so common before the second part of the 20th century. This has changed and nowadays around four out of ten Swedish speakers have a Finnish partner (Finnäs, 2015). In spite of a high level of institutional protection, intermarriage was long considered a factor that contributed to a reduction of the Swedish-speaking population in Finland, largely because a majority of children of intermarriage was registered as Finnish speakers. In recent decades, the trend has reversed, and a majority of children of ethnolinguistically mixed unions are registered as Swedish speakers. The composition of the population with some Swedish-speaking heritage has therefore changed. The annual number of births in endogamous Swedish-speaking unions has decreased from about 2,700 in the early 1970s to about 1,700 in the mid-2010s, while the number of births in ethnolinguistically mixed unions has fluctuated around 2,220 per annum.

The Swedish-speaking population has been thoroughly mapped, and there has been research on the parents' choice of ethnolinguistic registration of the children (Finnäs and O'Leary, 2003; Obućina and Saarela, 2020). The studies strongly suggest an important role of gender. Children of intermarriage in Finland are much more likely to be affiliated to the Swedish-speaking community if the mother is Swedish-speaking than if the father is Swedish-speaking. A positive association between parental education and income, on the one hand, and minority affiliation, on the other hand, is another common finding in this literature. Income- or education-based bargaining between the parents does not nevertheless seem to be important strategies when choosing the child's ethnolinguistic affiliation (Obućina and Saarela 2020). The ethnolinguistic structure of the place of residence is, naturally, a significant determinant of the language registration of the children. However, in spite of a sizeable literature on the Swedish-speaking population in Finland, little is known about how group-specific traits are maintained over more than two generations, which is the issue in focus of this paper.

In relation to the increase of ethnolinguistically mixed marriages mentioned above, the prevalence of births in ethnolinguistically mixed families, where one parent is a Swedish speaker and the other is a Finnish speaker, has increased considerably in Finland during the past decades. The share of mixed births in relation to all births with one or two Swedish-speaking parents increased from about 25 per cent in the early 1950s to about 50 per cent in the early 1980s, where after it has fluctuated modestly (Figure 1).

Across all child birth cohorts, the parental combination where the mother is Finnish-speaking and the father is Swedish-speaking is notably more common than the parental combination where the mother is Swedish and the father is Finnish. The asymmetry may have to do with stronger ethnic awareness of and outside pressure on Swedish-speaking women/mothers as compared with Swedish-speaking men/fathers (Saarela and Finnäs, 2014; Obućina and Saarela, 2020). This ratio has fluctuated around 1.25. It was smallest for the child-cohorts born from the mid-1980s to the early 2000s, which coincides with an increased proportion of the new-born

children in mixed families being Swedish-registered, and particularly so if the mother was Swedish-registered. Around a third of the children born in mixed families in the 1950s were registered as Swedish speakers, and over 60 per cent of those born in the early 2010s. Barely half of the children born in mixed families today are registered as Swedish speakers if the father is a Swedish speaker, but almost 80 per cent if the mother is a Swedish speaker. In the early 1970s, a peak in Swedish-registration for children born was predominantly induced by a shift in the registration procedure (Finnäs, 1986; Saarela and Finnäs, 2016).

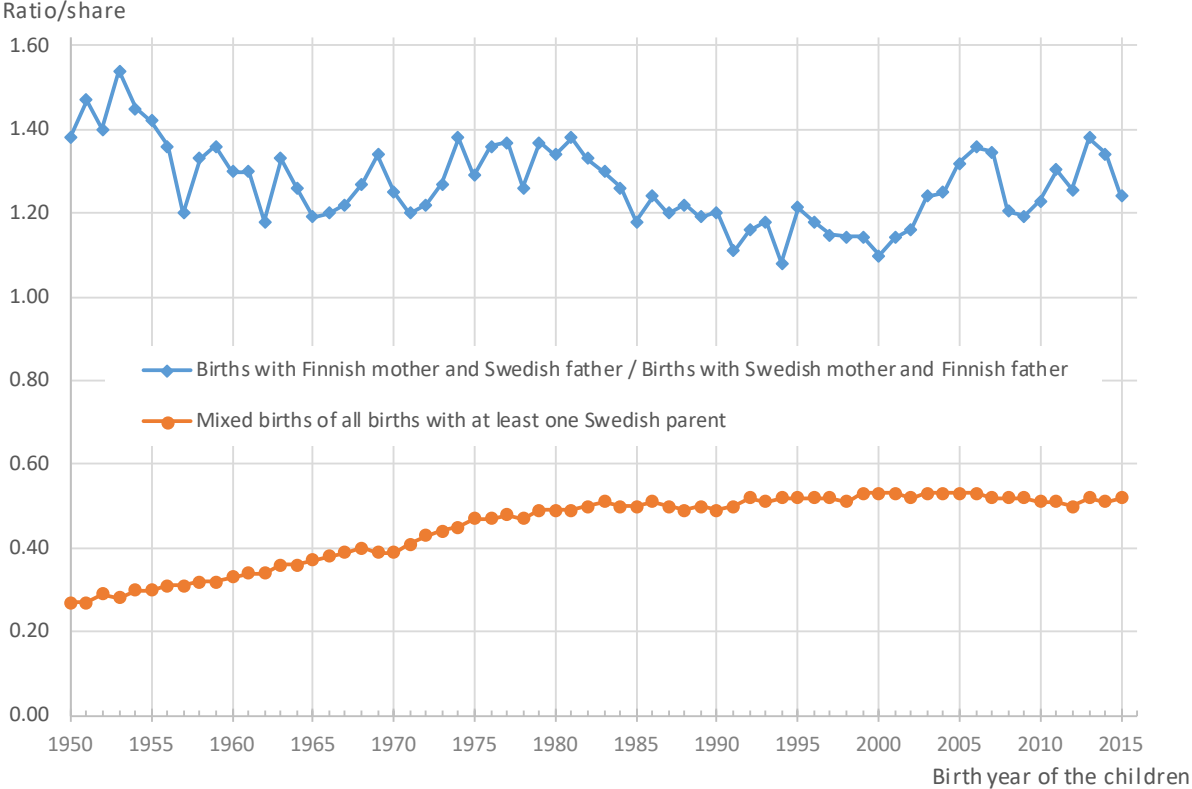


Figure 1. Prevalence of ethnolinguistically mixed births and their parental ethnolinguistic composition by birth year of the children

The above documentation suggests that there are strong reasons to be concerned with ethnolinguistic registration across generations, and the gendered structure associated with it. We are aware of only one previous study (Finnäs, 2015), also based on data from Finland, which has studied how parents and grandparents affect ethnic identity of a child. It was succinct and descriptive in nature, and analysed the cohorts born 1953-1988 based on a 50 per cent sample of Swedish speakers and an eight per cent sample of Finnish speakers. The purpose was to see how own ethnolinguistic affiliation, ethnolinguistic background (mixed or not), and the partner’s ethnolinguistic affiliation affected the Swedish-registration of the first-born child.

4. Data and methods

The data used contain all individuals who lived in Finland in 1971-2015, which means that they were observed in the population register at the end of any year 1970, 1975, 1980, 1985, and 1987-2015. Each person can be observed longitudinally, and there is information about all births and deaths in 1971-2015. All data access, data preparation and analyses are performed within Statistics Finland’s remote access system FIONA (contract number is TK-52-694-18).

Each person in the data can be linked to his or her mother and father, subject to that the parent had not died before the end of 1970. For persons born before 1970, an additional requirement for linkage is that the child lived in the same household as the parent. For all cohorts born after 1952, that is, persons aged under 18 years in 1970, child-parent links can therefore be established with great precision, while there are missing links for older cohorts who had left the parental home before 1970. There are no restrictions on the number of generations that can be linked. Biological and adopted children can be separated, but since the latter group is small, we make no distinction. Foreign-born immigrants cannot generally be linked to their parents. This is not a major impediment for our study, as we are concerned with native Swedish and Finnish speakers and foreign-born immigration to Finland has until recently been rare.

The structure of the data is illustrated by Figure 2. As there is a limit on how far back historically we have parent-child linkages, we get fewer individuals for each subsequent generation. In particular, when we condition on full kinship sets within each generation, our sample size drops quickly. Nevertheless, four-generations analyses are doable, so even when we condition on individuals having full kinship sets, we get substantial numbers of linkages, though these kinship sets will have shorter than average generational lengths. Figure A1 in the Appendix shows that there are in total 7,888,477 persons in the data. The mother can be identified for 4,935,500 of these persons, the father for 4,698,128, the mother’s mother for 2,527,624, the mother’s mother’s mother for 687,409, etc. Figure A2 gives the number of identifiable ancestors in the corresponding manner, and Figure A3 the number of ever-registered Swedish speakers.

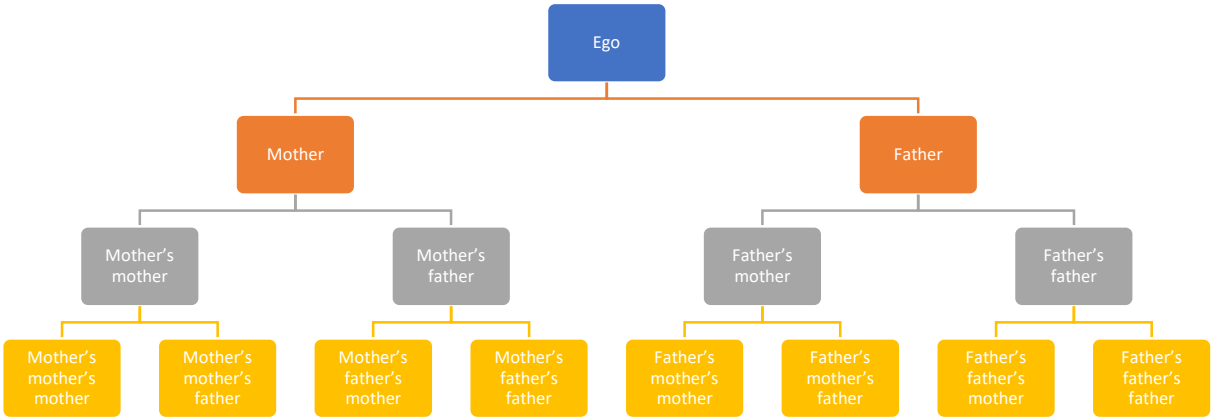


Figure 2. Structure of the data for four generations

In the paper, Swedish speaker means that the person has ever been registered as a Swedish speaker. Shifting the criteria to mean consistently registered as a Swedish speaker will not change the conclusions to any considerable extent. The group would then be reduced with less than 8.5 per cent. Since the data make it possible to link children and parents for persons alive from end-1970, the setup refers to the children and their year of birth, not to marriages or cohabiting unions of (prospective) parents. Where comparable, the patterns as reported here

nevertheless mirror the development of the prevalence of ethnolinguistically mixed marriages as documented by previous research (Finnäs, 1986; 2013).

In order to have reasonably many persons who can be linked across generations, and for whom we have information about all ancestors in two previous generations (Generations 2-3) or three previous generations (Generations 2-4), we study individuals (egos of Generation 1) born in 1990-2015. Of all Finnish- or Swedish registered persons in these birth cohorts, both parents can be linked for 98.5 per cent, all four grandparents for 87.8 per cent, and all eight great grandparents for 12.2 per cent. All analyses are restricted to egos and ancestors who are either Swedish-registered or Finnish-registered. In the analyses of three generations (presented in Section 5.2.), there are 1,220,914 Finnish-registered egos who fulfil the above criteria, and 78,094 Swedish-registered egos. In the analyses of four generations (presented in section 5.3.), the corresponding numbers are 150,525 and 8,809. In the three-generations setup, the median birth year of mothers and fathers was 1972 and 1970, and of mother's mothers, mother's fathers, father's mothers and fathers' fathers 1946, 1944, 1944 and 1942, respectively. In the four-generations setup, the median birth year of mothers and fathers was 1983 and 1981, of mother's mothers, mother's fathers, father's mothers and fathers' fathers 1957, 1955, 1955 and 1953, and of mother's mother's mothers, mother's mother's fathers, mother's father's mothers, mother's father's fathers, father's mother's mother, father's mother's father, father's fathers' mother and father's father's fathers 1929, 1926, 1927, 1924, 1927, 1925, 1925 and 1923, respectively.

The primary goal with the analyses, which are largely descriptive in nature, is to examine ethnolinguistic structure by heritage in contemporary Finland. In particular, we are interested in the extent to which kinship beyond the parent is predictive of ethnolinguistic registration of children, and how gender interacts with kinship depth. Since the ethnolinguistic registration is done at birth and seldom changed afterwards, ethnic choice as studied here is primarily a decision made by the parents, which emphasises the heritage component we are concerned with.

We begin by analysing ethnic choice from the parental perspective (Section 5.1.), and proceed with a more detailed investigation of kinship structure and ethnolinguistic registration over three generations (Section 5.2.) and four generations (Section 5.3.), where the child is the unit of analysis. In a final set of analyses (Section 5.4.), we use regression models on the four-generations setup to estimate how the probability of Swedish-registration, as compared to Finnish-registration, relates to the Swedish-registration of each ancestor. These models help to confirm our descriptive analyses in a regression framework, and give estimates also for associations related to extended kin, net of the associations related to more proximate kin. For the sake of direct comparison across models and groups (Allison, 1999; Mood, 2010), and since the regressions complement the descriptive analyses, we give estimates from linear probability models (OLS models on a binary outcome). Overall conclusions based on non-linear models are similar and available upon request.

5. Results

5.1. Ethnolinguistic affiliation from the parent perspective

Table 1 summarises the patterns for the ethnolinguistic registration of the children (born 1990-2015) of index parents, based on each index parent's ethnolinguistic background (mixed or uniform), sex, and the other parent's ethnolinguistic affiliation. The last column gives the percentage share with a Swedish-registered partner (the other parent) in each category. The

overall results and conclusions are similar to those of Finnäs (2015), who studied older child cohorts with a slightly different dataset. After presenting these results, which illustrate how parents' ethnolinguistic background affect the ethnolinguistic registration of the children, we extend to more generations in Sections 5.2 and 5.3, where we instead use the child as anchor for the analyses.

Table 1. Percentage share Swedish-registered children in the cohorts born 1990-2015 by index person's (the index parent's) sex, ethnolinguistic affiliation and ethnolinguistic background (mixed or uniform) and the other parent's ethnolinguistic affiliation, plus the percentage share with Swedish-registered partner

Background, own affiliation	Sex	% with Swedish-registered children, by partner's ethnolinguistic affiliation			% with Swedish partner
		Finnish	Swedish	Both	
Mixed background, Finnish or Swedish index person	Men	13.8	93.9	31.4	21.9
	Women	21.9	87.6	38.6	25.4
	Both sexes	17.7	90.6	35.0	23.7
Mixed background, Finnish index person	Men	2.8	83.1	11.3	10.6
	Women	3.6	62.0	10.8	12.3
	Both sexes	3.2	71.9	11.0	11.4
Mixed background, Swedish index person	Men	35.2	98.0	58.7	37.4
	Women	57.7	97.3	74.4	42.2
	Both sexes	46.0	97.6	66.6	39.8
Uniform Swedish background, Swedish index person	Men	55.7	99.6	87.0	71.4
	Women	82.2	99.7	95.6	76.4
	Both sexes	67.1	99.7	91.1	73.8
Uniform Finnish background, Finnish index person	Men	0.1	69.9	1.3	1.7
	Women	0.2	47.0	1.1	2.0
	Both sexes	0.1	57.4	1.2	1.9

The description is for the full three-generations setup of the data.

Information about the other parent's ethnolinguistic background is not utilised here.

First, we see that the total effect of ethnolinguistically mixed unions on the Swedish-registered population has been negative. Only one-third (35.0 per cent) of all individuals with mixed background had reproduced Swedish, that is, registered their children as Swedish speakers. This is because only a quarter (23.7 per cent) have a Swedish partner, and there is a large discrepancy in the proportion who register their children as a Swedish speaker between those who have a Finnish partner and those who have a Swedish partner (17.7 vs. 90.6 per cent). Second, for persons with mixed background, own ethnolinguistic affiliation is important. Approximately two-thirds (66.6 per cent) of those registered as a Swedish speaker have registered their children as Swedish speakers, while only one in tenth (11.0 per cent) of those registered as a Finnish speaker have done so. Third, and related to the first point above, own ethnolinguistic affiliation affects partner choice in terms of the other parent's ethnolinguistic affiliation, which in turn affects the ethnolinguistic registration of the children. Approximately 40 per cent of Swedish-registered persons with a mixed background have a Swedish-registered partner, while the corresponding number for Finnish-registered persons with a mixed background is only 11 per cent. In the former group, almost all children (97.6 per cent) are registered as Swedish speakers, while the corresponding number in the latter group is 72 per cent. If the partner is Finnish-

registered, only three per cent of Finnish-registered individuals with mixed background have registered their children as Swedish speakers, while 46 per cent of Swedish-registered individuals with mixed background have done so. Fourth, mother's ethnolinguistic affiliation is more important than the father's for the ethnolinguistic registration of the child. Finnish-registered women with mixed background and a Swedish-registered partner have, thus, reproduced Swedish to a lower extent than Finnish-registered men with mixed background and a Swedish-registered partner (62.0 vs 83.1). Likewise, Swedish-registered women with mixed background and a Finnish-registered partner have reproduced Swedish to a higher extent than Swedish-registered men with mixed background and a Finnish-registered partner (57.7 vs 35.2). Fifth, Swedish-registered individuals with mixed background differ from those with uniform Swedish background. Only two-thirds (66.6 per cent) of the former have reproduced Swedish, as compared to 91 per cent of the latter. This is largely dependent on the choice of partner, as only 40 per cent of the former have a Swedish-registered partner, as compared to 74 per cent of the latter. If the partner is Finnish-registered, 46 per cent of the Swedish-registered individuals with mixed background have registered their children as Swedish speakers, as compared to 67 per cent of the Swedish-registered individuals with uniform Swedish background.

5.2. Ethnolinguistic affiliation over three generations from the descendant perspective

In the three-generations setup, we use children in the youngest generation (G1), instead of the parents (G2), as anchor for the analyses and examine how their ethnolinguistic registration is affected by heritage. We identify three biases: a matrilineal bias, a majority bias in terms of grandparents' origin, and a bias towards the ethnolinguistic minority (Swedish speakers).

Table 2. Coding scheme for grandparent combinations, distribution, and share of Swedish-registered egos

Lineage type	Distribution, per mille	Ethnolinguistic balance	Lineage bias	Proportion Swedish-registered grandparents	Proportion Swedish-registered egos
SSSS	27.5	Entirely Swedish-registered	None	1.00	1.00
SSSF	2.0	Dominant Swedish-registered	Maternal side Swedish-registered	0.75	0.96
SSFS	2.7	Dominant Swedish-registered	Maternal side Swedish-registered	0.75	0.97
SFSS	2.6	Dominant Swedish-registered	Paternal side Swedish-registered	0.75	0.93
FSSS	3.0	Dominant Swedish-registered	Paternal side Swedish-registered	0.75	0.89
SFSF	0.6	Mixed at both sides	None	0.50	0.65
SFFS	0.7	Mixed at both sides	None	0.50	0.68
SSFF	8.5	Half at each side	Maternal side Swedish-registered	0.50	0.81
FFSS	11.5	Half at each side	Paternal side Swedish-registered	0.50	0.55
FSSF	0.7	Mixed at both sides	None	0.50	0.50
FSFS	0.8	Mixed at both sides	None	0.50	0.52
SFFF	8.7	Dominant Finnish-registered	Paternal side Finnish-registered	0.25	0.27
FSFF	11.1	Dominant Finnish-registered	Paternal side Finnish-registered	0.25	0.17
FFSF	9.3	Dominant Finnish-registered	Maternal side Finnish-registered	0.25	0.13
FFFS	11.8	Dominant Finnish-registered	Maternal side Finnish-registered	0.25	0.14
FFFF	898.4	Entirely Finnish-registered	None	0.00	0.00

In the first column, the first letter refer to the maternal grandmother (S for Swedish-registered and F for Finnish-registered), the second letter to the maternal grandfather, the third letter to the paternal grandmother, and the fourth letter to the paternal grandfather.

A child can have 16 different grandparent combinations. This is illustrated in Table 2, which contains the distribution of this variable, together with a coding scheme for ethnolinguistic heritage in terms of the ethnolinguistic balance, the lineage bias, the proportion Swedish-registered grandparents, and the proportion Swedish-registered egos within each category. In

the first column, the first letter refer to the maternal grandmother (S for Swedish-registered and F for Finnish-registered), the second letter to the maternal grandfather, the third letter to the paternal grandmother, and the fourth letter to the paternal grandfather.

Almost 90 per cent of all index persons have an entirely Finnish background, meaning that all four grandparents are Finnish-registered. For the others, we see that persons with dominant Finnish background (three Finnish-registered grandparents) are about four times as many as those with dominant Swedish background (three Swedish-registered grandparents). Approximately half of all persons who do not have an entirely Finnish or dominant Finnish background have an entirely Swedish background (four Swedish-registered grandparents). Persons with the background split half at each maternal and paternal side are about twice as many as those with dominant (and not entirely) Swedish background. Mixed background on both sides is rare. Within the categorisation that refers to the ethnolinguistic balance, mixed background in which the paternal side is Swedish and the maternal side is Finnish is more common than mixed background in which the paternal side is Finnish and the maternal side is Swedish.

Persons with an entirely uniform background close to never deviate in terms of ethnolinguistic registration. If all grandparents are Swedish-registered, the probability that the grandchild is Swedish-registered is 1.00, while it is 0.00 if all grandparents are Finnish-registered. The matrilineal bias is stronger than the patrilineal one from both the Swedish and Finnish perspective. For instance, if only the paternal grandfather is Finnish-registered (SSSF), the child will be Finnish-registered in four per cent of the cases, but if only the maternal grandmother is Finnish-registered (FSSS), the child will be Finnish-registered in eleven per cent of the cases. Similarly, if only the paternal grandfather is Swedish-registered (FFFS), the child will be Swedish-registered in 14 per cent of the cases, but if only the maternal grandmother is Swedish-registered (SFFF), the child will be Swedish-registered in 27 per cent of the cases. The maternal bias is most apparent with respect to the maternal grandmother, and it is extra strong for persons with the background split half at each maternal and paternal side. There is a majority bias in the sense that three Swedish-registered grandparents give a higher than 0.75 probability that the index person will be Swedish-registered, and vice versa from the Finnish perspective. There is an ethnolinguistic bias towards the minority in terms of an over registration of Swedish-speaking egos. That is, for almost all mixed combinations, egos are more likely to be Swedish-registered than Finnish-registered, given the proportion of Swedish-registered grandparents.

5.3. Ethnolinguistic affiliation over four generations from the descendant perspective

We begin the four-generations presentation by providing the unconditional proportion Swedish speakers in each category of parents, grandparents and great grandparents (Figure 3). The status of each other category is consequently not considered. We see that, on the maternal line, but not on the paternal one, there is a higher proportion Swedish speakers among the younger generations. Swedish background is, thus, more frequent on the paternal side than on the maternal side, since mixed unions with a Swedish-registered father and a Finnish-registered mother have been more common than births with a Finnish-registered father and a Swedish-registered mother. Due to the maternal bias the larger share of Swedish speakers among the younger generations is even more marked as compared to the mother's mother's side.

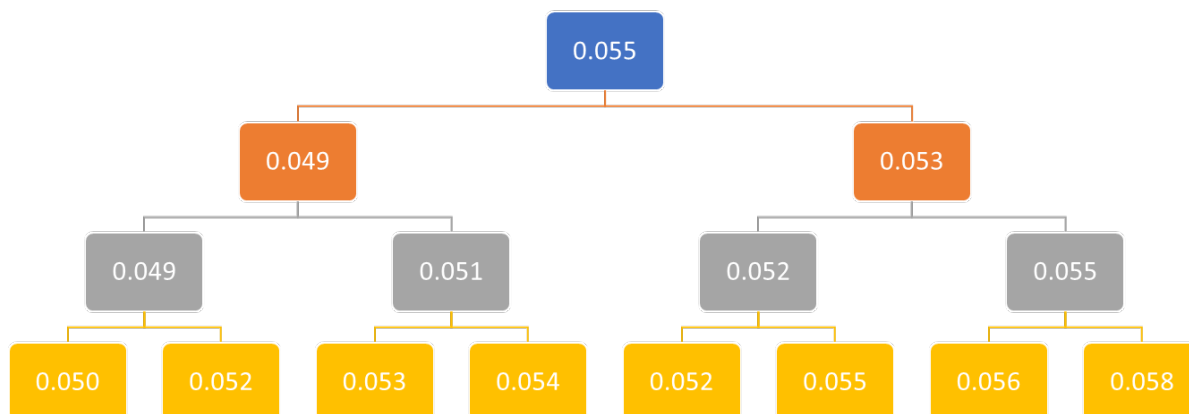


Figure 3. Proportion Swedish-registered persons in the study population

The importance of the maternal bias is further illustrated in Figure 4, which gives the proportion of Swedish-registered ancestors of Swedish-registered children (upper part) and Finnish-registered children (lower part), respectively. Swedish-registered children are more likely to have a Swedish-registered mother than a Swedish-registered father. They are also more likely to have a Swedish-registered maternal grandmother than a Swedish-registered paternal grandmother or any other grandparent that is Swedish-registered. The maternal bias is more important in immediate kinship terms, while it diminishes with lineage distance. There is nevertheless persistence of Swedish-registration across generations. Swedish-registered children are very likely to have remote kin who are Swedish-registered, and the proportion Swedish-registered persons increase over generations on both the maternal and paternal side.

The picture for Finnish-registered children is notably different. The proportion Swedish-registered ancestors is consistently very low, saying that almost all Finnish-registered individuals have a predominantly Finnish background. It is more likely that a Finnish-registered person has a Swedish father and some Swedish heritage on the paternal side, than a Swedish mother and some Swedish heritage on the maternal side. This is, again, related to the maternal bias. Finnish speakers are more likely to have Swedish kin in their remote kinship network than in their close kinship network. This is due to the lower prevalence of Swedish-registration in mixed unions in older generations as compared to younger ones. Finnish speakers are also more likely to have paternal Swedish kin than maternal Swedish kin, because unions of Swedish-registered men and Finnish-registered women have been more common than unions of Finnish-registered men and Swedish-registered women.

The proportion Swedish speakers in Generations 1, 3 and 4 by the four different parental ethnolinguistic combinations (Generation 2) largely mirrors what have been mentioned earlier and will therefore not be discussed at length. These numbers are reported in Figure A4 in the Appendix. In endogamous unions (Swedish mother and Swedish father, and Finnish mother and Finnish father), there are no large differences in ethnolinguistic registration by lineage type. Perhaps most noteworthy still is that, not only are mixed parental unions to a larger extent than

non-mixed parental ones formed by individuals who come from mixed families, but the background of these persons is also more diversified. For instance, Finnish-registered women who partner with Swedish men (and have a child) are more likely to have a Swedish father than a Swedish mother (0.113 vs 0.053). Likewise, Finnish men who partner with Swedish women are more likely to have a Swedish father than a Swedish mother (0.098 vs. 0.047). These patterns might have to do with a more fluid ethnolinguistic identity.

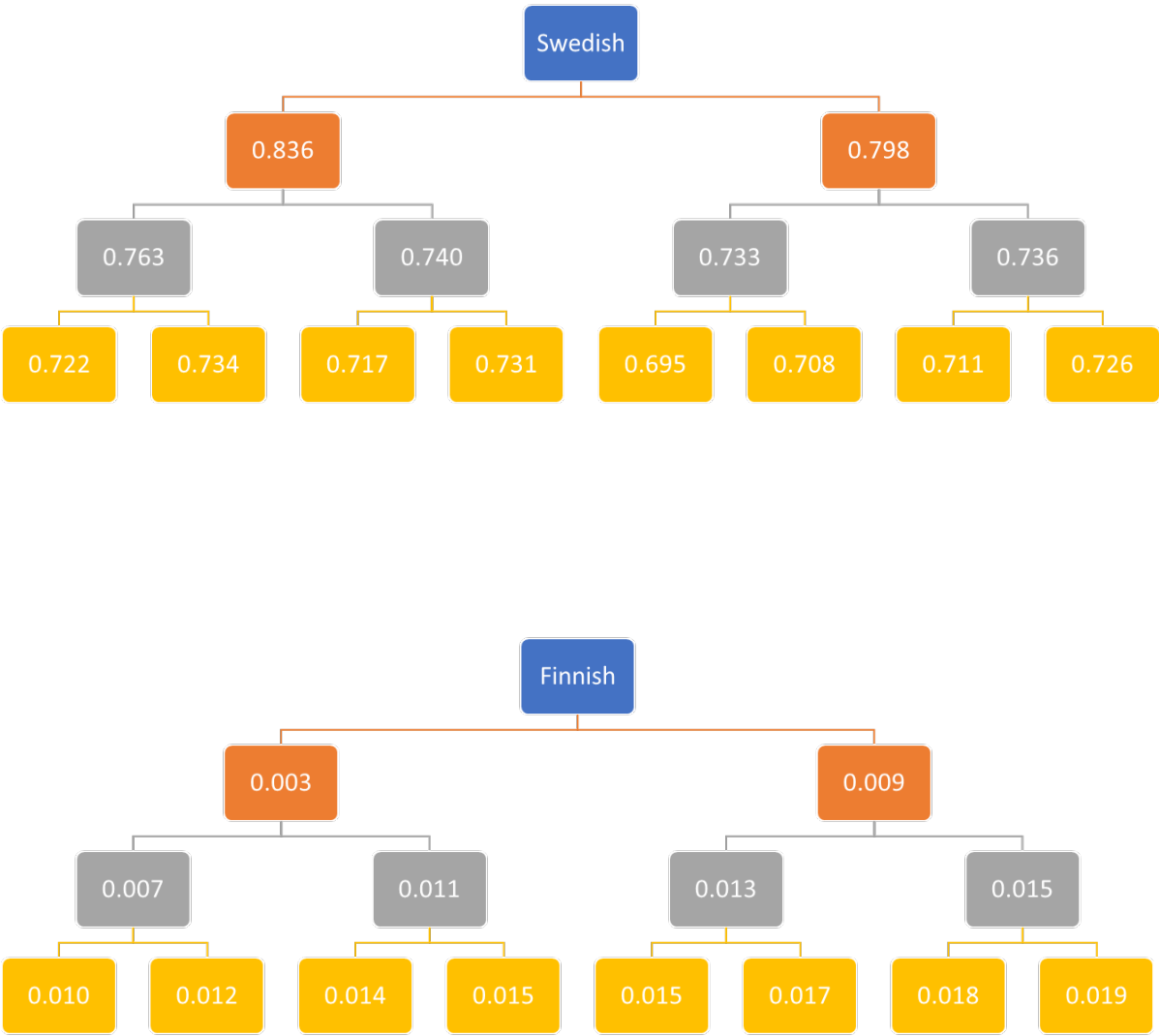


Figure 4. Proportion Swedish-registered ancestors of Swedish-registered and Finnish-registered egos, respectively

The typology has been extended to different types of grandparents, by taking account also for the proportion of great grandparents who are either Swedish- or Finnish-registered (Table 3). The homogeneity of the uniform background then turns out to be reflected in an even higher

proportion of children following their dominant background, as compared with the setting based on grandparents only (Table 2). If all four grandparents and less than six great grandparents were of the same registration, conformity with the dominant background is very high, and such conformity is notably higher for Swedish-registered background than for Finnish-registered background (90-96 vs. 62-81 per cent). This means that individuals with overwhelmingly Finnish-registered background, but some extended family background that is Swedish, are more likely to be Swedish-registered than are individuals with overwhelmingly Swedish-registered background, but some extended family background is Finnish, to be Finnish-registered.

Table 3. Extended typology that accounts for great grandparents, with share of Swedish-registered egos in each category

Lineage type	Group explanation	Proportion Swedish-reg. egos
SSSS	4 Swedish-reg. GPs and ≥ 6 Swedish-reg. GGPs	1.00
3 or 4 S	4 Swedish-reg. GPs and < 6 Swedish-reg. GGPs, or 3 Swedish-reg. GPs and ≥ 6 Swedish-reg. GGPs	0.96
3 S 1 F	3 Swedish-reg. GPs and < 6 Swedish-reg. GGPs; maternal line more Swedish-reg.	0.95
3 S 1 F	3 Swedish-reg. GPs and < 6 Swedish-reg. GGPs; paternal line more Swedish-reg.	0.90
SSFF or FFSS	All combinations where GPs are two endogamous sets	0.67
SFSF or FSFS	All combinations where GPs are two exogamous sets	0.63
3 F 1 S	3 Finnish-reg. GPs and < 6 Finnish-reg. GGPs; paternal line more Finnish-reg.	0.38
3 F 1 S	3 Finnish-reg. GPs and < 6 Finnish-reg. GGPs; maternal line more Finnish-reg.	0.19
3 or 4 F	4 Finnish-reg. GPs and < 6 Finnish-reg. GGPs, or 3 Finnish-reg. GPs and ≥ 6 Finnish-reg. GGPs	0.19
FFFF	4 Finnish-reg. GPs and ≥ 6 Finnish-reg. GGPs	0.00

Letters referred to in the first column are the same as in Table 2.

In the second column, GP is for grandparent and GGP for great grandparent.

We have further examined how ethnolinguistic registration varies by different combinations of grandparents and great grandparents who are Swedish-registered (Table A1 in the Appendix). For individuals with all four grandparents of the same registration, the registration of great grandparents is of practically no importance. For the others there is some association, although the pattern is not completely uniform. Net of the proportion Swedish-registered grandparents, the proportion Swedish-registered great grandparents is positively associated with the proportion Swedish-registered grandchildren. For instance, among individuals with one Swedish-registered grandparent, 13 per cent of those with one Swedish-registered great grandparent are Swedish-registered, while this share is 23, 27 and 28 per cent if the number of Swedish-registered great grandparents is 2, 3 and 4, respectively.

5.4. Results of regressions on four generations

To conclude the four-generations analyses, we use regression models to estimate associations related to extended kin, net of the associations related to more proximate kin. Linear probability models (OLS regressions with a binary outcome) are applied on the outcome Swedish-registration of children, where the alternative is Finnish-registration. We provide estimates for gross effects, that is, the unadjusted associations between kin's and children's registration and net effects, that is, associations related to grandparents' and/or great grandparents' registration on kin's registration when controlling for parents' registration. The results presented are based upon two classes of models. The first uses variables that measure the number of parents, grandparents and great grandparents who are Swedish-registered. The other examines categories of kin separately, using a dummy variable that captures if each ancestor is Swedish-

registered. When we calculate the effects of our independent variables in different generations net of each other they are highly correlated. Even though our sample size is large, this modelling approach make coefficients of higher order kin less stable, and in particular when we model each kin separately. However, they are still informative for the relative size of coefficients within the same generation after controlling for younger generations.

In line with our previous results, the number of Swedish-registered kin predicts Swedish-registration of the children with high precision (Table 4). The gross effects of parents (Model 1) and grandparents (Model 2) are very strong and in line with the descriptive results. Having one Swedish-registered parent, that is, coming from a mixed family, relates to a 0.59 probability of being Swedish-registered. If two grandparents are Swedish-registered, the probability of Swedish-registration is 0.64, and if four grandparents are Swedish-registered it is almost unity. Gross effects of the number of great grandparents who are Swedish-registered are also considerable, and display an almost uniform pattern (Model 3). Such gross effects of great grandparents reflect the overall majority bias we documented earlier. Gross effects for parents and grandparents of equal numbers of Swedish-registered and Finnish-registered grandparents (two of each group) and great grandparents (four of each group) are above 0.5, indicating a bias towards Swedish registration.

Table 4. Estimates for effects of the number of Swedish-registered parents, grandparents and great grandparents on the probability of Swedish-registration of the egos

	Model 1	Model 2	Model 3	Model 4	Model 5
Number of Swedish-registered parents					
0	Ref.			Ref.	Ref.
1	0.591			0.470	0.466
2	0.996			0.730	0.724
Number of Swedish-registered grandparents					
0		Ref.		Ref.	Ref.
1		0.201		0.041	0.033
2		0.640		0.178	0.124
3		0.946		0.280	0.208
4		0.998		0.268	0.202
Number of Swedish-registered great grandparents					
0			Ref.		Ref.
1			0.032		(0.003)
2			0.219		0.013
3			0.395		(0.000)
4			0.677		0.076
5			0.874		0.089
6			0.957		0.078
7			0.983		0.067
8			0.999		0.074
Adjusted R Squared	0.835	0.791	0.784	0.841	0.841

The results are from linear probability models.

All estimates except those within parentheses are statistically significant at the 0.01% level.

The net effect size of grandparental registration is considerable also when adjusting for parental affiliation (Model 4). The probability difference is about 0.24 between one and three Swedish-registered grandparents, which suggests that it is essential to address ethnolinguistic background also in this broader perspective. The associations related to parents are largely

stable, though effect sizes generally become smaller when additional generations' registration is accounted for. Even the net effect size for great grandparents is far from trivial, or about 0.05 between two and six great grandparents (Model 5). However, adding great grandparents' registration changes little in the estimates for associations related to parents and grandparents. When older generations are added to our models adjusted R-squares change little, as parents are the strongest predictor of ethnolinguistic affiliation and a large share of kin backgrounds are homogenous.

One plausible explanation for these patterns is that discordant backgrounds signal weaker and more fluid identities in intermediate generations, which is why they have less predictive power of the registration of the children. With such an interpretation, there is not necessarily any direct causal influence from extended kin to the index child, but rather that ethnolinguistic identity is more fluid and open for renegotiation in mixed unions. Compared to recent research in multigenerational stratification of social status (cf. Anderson et al., 2018), our kin effects net of the parental effects are substantially stronger.

Estimates for the associations related to each individual kin (Table 5) confirm our descriptive findings with regard to a female bias. The association for the mother's Swedish-registration is stronger than that for the father's (0.65 vs. 0.38 in Model 1). The association for the maternal grandmother is stronger than that for the paternal grandmother (0.39 vs. 0.22 in Model 2). For the great grandparents, the estimates on the maternal line are stronger than those on the paternal line. The Swedish-registration of the mother's mother's mother is associated with a 0.21 increase of the probability of the Swedish-registration of the child, as compared to a 0.10 increase if the father's father's father is Swedish-registered (Model 3). The differences in the gross effects are less pronounced for the other gender combinations, but still considerable.

Table 5. Estimates for effects of each Swedish-registered parent, grandparent and great grandparent on the probability of Swedish-registration of the egos

	Model 1	Model 2	Model 3	Model 4	Model 5
Swedish-registered parent					
Mother	0.653			0.551	0.549
Father	0.378			0.304	0.304
Swedish-registered grandparent					
Mother's mother		0.393		0.070	0.064
Mother's father		0.257		0.050	0.031
Father's mother		0.225		0.023	0.028
Father's father		0.192		0.056	0.042
Swedish-registered great grandparent					
Mother's mother's mother			0.208		0.009
Mother's mother's father			0.175		(-0.002)
Mother's father's mother			0.133		(0.006)
Mothers father's father			0.143		0.017
Father's mother's mother			0.122		(0.002)
Father's mother's father			0.106		-0.009
Father's father's mother			0.104		(0.004)
Father's father's father			0.099		0.012
Adjusted R Squared	0.842	0.786	0.768	0.845	0.845

The results are from linear probability models.

All estimates except those within parentheses are statistically significant at the 0.01% level.

The reference group for each kin is Finnish-registered.

When net associations are examined, where every single kin is net of every other kin, the maternal bias becomes less pronounced (Models 4 and 5). Maternal grandmothers are more important than other grandparents, while there are no clear patterns for the great grandparents. When the full kinship background is controlled for, the mother effect, which pertains to mixed unions, is 0.55, and the father effect is 0.30, as compared to the neutral case effect of 0.50 per parent, and 0.65 and 0.38 for the mother and the father effects in Model 1. Thus, when a great deal of adjustment for ethnolinguistic composition of kin is being considered, the effect of parental registration is smaller.

6. Discussion and conclusion

Linguistic and cultural disappearance of minority cultures has accompanied globalization and nation-states throughout the last two centuries. Such processes often take place by a process in which groups gradually abandon a minority culture for the majority culture, and particularly by individuals of mixed descent following intermarriage. The heritage of an individual, here viewed from the perspective of the ethnolinguistic structure of a person's kinship network, is one of the principal determinants of individual ethnic identity.

Studies on the intergenerational transmission of ethnic identity should ideally contain complete information on ancestry, but such information has been rarely available to researchers. The data used in this paper has facilitated such an approach, and thus allowed us to adopt a multigenerational perspective by taking into account the ethnolinguistic heritage of the native Finnish population over three generations of ancestors. Unlike most studies on ethnic groups, those concerned here, Finnish speakers and Swedish speakers, are widely described as being status-wide equal, while maintaining coexisting identities and institutions.

Using register data on ethnolinguistic identity of the entire population of Finland, we document a phenomenon that is of importance all over the world, but in a context of two groups that have been largely demographically stable over several generations. We have consequently created a multigenerational kinship structure by means of the national population register, and applied a time-constant, objective, reliable, and consequential measure of ethnolinguistic identification. By doing so, we have examined how combinations of ethnolinguistic identity among parents, grandparents, and great grandparents affect and shape the ethnolinguistic identity of their descendants.

We find that ethnolinguistic registration of the children is strongly dependent on each parent's ethnolinguistic affiliation, but also on the grandparents' affiliation, and to a lesser extent, on the great grandparents' affiliation. Three main types of biases are identified: a matrilineal bias, a majority bias in terms of grandparents' origin, and an ethnolinguistic minority bias.

Like many other European kinship systems, kinship in Finland is bilateral, meaning that it is traced through both women and men, and that ancestry through female and male kinship should be given roughly equal weight. Research on high-income western populations has nevertheless stressed that kinship networks are primarily maintained by women. Our findings support this argument. Mother's ethnolinguistic affiliation is more important than the father's for the ethnolinguistic registration of the child. There is a clear maternal bias, in particular with respect to maternal grandmothers, as children are more likely to be registered according to the ethnolinguistic affiliation on the mother's side than to that on the father's side. This lineage bias is most apparent with respect to the maternal grandmother, and it is particularly strong for

persons with the ethnolinguistic background split half at each maternal and paternal side. Our finding of a maternal bias is in contrast with the strong paternal bias found for ethnic heritage in US census data (Smith, 1984; Waters, 1990), though we note that, in our case, it seems to have developed over time. The country difference may partly be due to higher gender equality in Finland. A more likely explanation still is that the ethnolinguistic registration in the population register in Finland is a more salient marker of ethnic identity, while the self-assessment in the US censuses may to a large extent be shaped by the patrilineal inherited surname.

The maternal effect is more important in immediate kinship terms, while it disappears with lineage distance. In the great grandparent generation, there is basically no difference in the proportion Swedish-registered persons between mothers and fathers. There is nevertheless persistence of Swedish-registration across generations, and a minority bias in terms of an over registration of Swedish-registered children.

We also see that persons with an entirely uniform background nearly never deviate from their heritage. Thus, if all grandparents are Swedish-registered, the probability that the grandchild is Swedish-registered is unity, while it is zero if all grandparents are Finnish-registered. Furthermore, there is an over registration of Swedish-speaking children in the sense that for almost all mixed combinations, they are more likely to be Swedish-registered than Finnish-registered, given the proportion of Swedish-registered grandparents. There is also a majority bias in the sense that three Swedish-registered grandparents give a higher than 0.75 probability that the grandchildren will be Swedish-registered, and vice versa from the Finnish perspective.

In general, individuals with mixed background are less assertive than those with a uniform background when it comes to the transmission of ethnolinguistic identity. The total effect of ethnolinguistically mixed unions on the Swedish-registered population has therefore been negative. Only one-third of all individuals with mixed background had reproduced Swedish, that is, registered their children as Swedish speakers. This is because only a quarter of all persons with mixed background had a Swedish partner, and there is a large discrepancy in Swedish-registration of the children between those who have a Finnish partner and those who have a Swedish partner. For persons with mixed background, own ethnolinguistic affiliation is important, as it affects partner choice in terms of the other parent's ethnolinguistic affiliation as well as the ethnolinguistic registration of the children. Swedish-registered individuals with mixed background are less likely to reproduce the minority affiliation than those with endogamous Swedish background, which probably is due to a more fluid ethnolinguistic identity.

This development highlights an interesting paradox. Even though a majority of the parents in exogamous unions choose Swedish-registration of the children, the size differences between the two ethnolinguistic groups mean that a large share of persons with mixed descent has mostly Finnish-registered ancestors, and they often choose a partner from the Finnish-registered majority population. Mixed extended kinship networks are consequently more likely to have more members of the majority culture than of the minority culture. We have shown that large differences in group size cause more diverse family trees in the minority group, and that individuals with mixed background strongly biased to either side are more likely to follow the dominant ethnolinguistic identity, that is, to a higher extent than expected on basis of a naïve ratio of descendants. At the aggregate level, this process helps to reproduce the majority ethnic

identity in the population, even when, as in this case, couples in mixed unions favour the minority affiliation. If the phenomenon is universal, which seems likely, as it arises from structural differences in group level sizes, it may be an important explanation for the rapid decline of ethnic minority groups across the world (De Vries, 1990; Kandler, 2009).

The share of Swedish speakers in Finland has diminished during the past decades, but it needs to be stressed that since the mid-1980s, more than half of the offspring born in mixed unions are registered as Swedish speakers. If these preferences and the prevalence of births within ethnolinguistically mixed unions remain, the Swedish-registered minority group in Finland is not under any immediate threat, at least not if the governmental enforced practice of ethnolinguistic registration continues to correspond to a stable ethnic identity in a broader sociological sense. This pattern is reinforced also by the fact that the Swedish-registered population expresses slightly higher birth rates and higher life expectancy than the Finnish-registered population (Rotkirch et al., 2018; Statistics Finland, 2019), and by the existence of robust Swedish language institutions in Finland. The projection is consequently in marked contrast to the situation of many other ethnic minority groups. In those contexts, structural economic factors in terms of industrialization, urbanization and status disparities, and direct government promotion of the majority culture through education and mass media, and occasionally even direct repression, may put additional pressure on minority ethnic cultures and languages (Harrison, 2008; Amano et al., 2014). These are aspects that go well beyond the sociodemographic factors identified in our research.

Some limitations of our research relate to the source material, which consists of administrative data. By design, Finnish administrative records force individuals to have a single ethnolinguistic affiliation, rather than multiple identities. We cannot therefore directly measure either language ability or actual self-identification. The administrative registration of each citizen's mother tongue may for some individuals be influenced by strategic choices for education and upbringing, for instance, a wish to make a political statement, or pressure from family members. If the ethnic identity is gradually blended over time, it will also be unobserved within our setup. No official records on practical bilingualism exist in Finland, but it is evident that bilingualism is much more common among Swedish-registered than among Finnish-registered persons (Saarela and Finnäs, 2003). This difference has presumably also increased over the past decades, and may have blurred ethnolinguistic identities, which often is given as a cause for the disappearance of minority languages (e.g. Minett & Wang 2008). The mixed family backgrounds we have observed might be both a cause and a consequence of increasing bilingualism, and perhaps even resulted in a less salient ethnolinguistic identity among the Swedish-registered persons. Such dynamics are not captured with our register-based approach, although our findings can have implications for processes of this kind. Further research examining how people in Finland express shifting ethnic identities may want to examine identity through ethnographic methods, preferably with a longitudinal comparative perspective. However, for the lion's share of all individuals studied here, the registration has occurred at infancy and relates to the choice, or lack of choice, of the parents, rather than being an expression of any own deliberate action. In the future, an increasing share of foreign-born immigrants may further complicate these matters, but it needs to be stressed that for the individuals studied here, with all ancestors born in Finland, the population is very homogeneous.

This study has used quantitative and representative data which cannot be obtained in many other countries, and we think that our methodological approach and the research findings may generalize beyond Finland. We want to stress that while many of the patterns we have shown for Finland are likely idiosyncratic to the unique ethnolinguistic landscape of this particular country, many other findings are likely more universal. For example, the more diverse heritage background of the average minority individual, and the consequences of such discrepancies, are structural factors that will be found among most minority populations with substantial intermarriage. In particular, we believe that the results are applicable to other democratic countries, such as Switzerland, Belgium, Canada, Taiwan and Spain, where multiple languages coexist with recognition from the state (De Vries, 1990; Tse, 2000; Blommaert, 2011). Our findings should be considered relevant for research on bilingualism, ethnic choice and exogamy in such contexts. Complex mixed ethnic backgrounds will be increasingly more common in Europe due to increasing cross-border migration and intermarriage across migrant groups (Hannemann et al., 2018). In this context of rapidly increasing immigration to and within Europe, ethnic background will become a fundamental factor for researchers and policy makers to be concerned with. We, thus, hope that our efforts can serve as inspiration for future careful empirical studies on ethnic identity, heritage, kinship and ethnic choice in the social sciences.

Acknowledgments:

Funding was received via Riksbankens jubileumsfond (grant no. P17-0330:1) and the "Demographic change and ethnolinguistic identity in an intergenerational perspective: The Swedish-speaking population in Finland (DemSwed)" center of excellence funded by Åbo Akademi University. We also want to acknowledge helpful comments from Martin Hällsten.

References

- Allison, P. D. (1999). Comparing logit and probit coefficients across groups. *Sociological Methods & Research*, 28, 186-208.
- Amano, T., Sandel, B., Eager, H., Bulteau, E., Svenning, J.-C., Dalsgaard, B., Rahbek, C., Davies, R. G. & Sutherland, W. J. (2014). Global distribution and drivers of language extinction risk. *Proceedings of the Royal Society B: Biological Sciences*, 281, 20141574.
- Anderson, L. R., Sheppard, P. & Monden, C. W. S. (2018). Grandparent effects on educational outcomes: A systematic review. *Sociological Science*, 5, 114-142.
- Blommaert, J. (2011). The long language-ideological debate in Belgium. *Journal of Multicultural Discourses*, 6, 241-256.
- Boholm, Å. (1983). *Swedish Kinship: An Exploration into Cultural Processes of Belonging and Continuity*. Gothenburg, Acta Universitatis Gothoburgensis.
- Chu, C. C., Kan, K. & Lin, J. C. (2019). Variations of wealth resemblance by family relationship types in modern Chinese families. *Proceedings of the National Academy of Sciences*, 116, 6548-6553.
- Coall, D. A. & Hertwig, R. (2010a). Toward an integrative framework of grandparental investment. *Behavioral and Brain Sciences*, 33, 40-59.
- Coall, D. A. & Hertwig, R. (2010b). Grandparental investment: Past, present, and future. *Behavioral and Brain Sciences*, 33, 1-58.
- De Vries, J. (1990). On coming to our census: A layman's guide to demolinguistics. *Journal of Multilingual & Multicultural Development*, 11, 57-76.
- Di Leonardo, M. (1987). The female world of cards and holidays: Women, families, and the work of kinship. *Signs*, 12, 440-453.
- Duncan, B. & Trejo, S. J. (2011). Intermarriage and the intergenerational transmission of ethnic identity and human capital for Mexican Americans. *Journal of Labor Economics*, 29, 195-227.
- Evans-Pritchard, E. E. (1969). *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*. New York, Oxford University Press.
- Finnäs, F. (1986). *Den finlandssvenska befolkningsutvecklingen 1950-1980. En analys av en språkgrupps demografiska utveckling och effekten av blandäktenskap*. Doctoral thesis, Åbo Akademi University, Finland. Skrifter utgivna av Svenska Litteratursällskapet i Finland, No. 533. Svenska Litteratursällskapet i Finland, Helsinki.
- Finnäs, F. (2013). *Finlandssvenskarna 2012. En statistik rapport*. Finlandssvensk rapport, No. 45. Svenska Finlands Folkting, Helsinki.
- Finnäs, F. (2015). Tvåspråkiga familjer och deras betydelse för demografin. In Tandefelt, M. (ed.), *Gruppspråk, samspråk, två språk*. *Svenskan i Finland – i dag och i går*. Skrifter utgivna

av Svenska Litteratursällskapet i Finland, No. 799. Svenska Litteratursällskapet i Finland, Helsinki, 201-220.

Finnäs, F. & O'Leary, R. (2003). Choosing for the children: the affiliation of the children of minority-majority group intermarriages. *European Sociological Review*, 19, 483-499.

Fox, R. (1967). *Kinship and Marriage*. Cambridge, UK, Cambridge University Press.

Gans, H. J. (1979). Symbolic ethnicity: The future of ethnic groups and cultures in America. *Ethnic and Racial Studies*, 2, 1-20.

Hannemann, T., Kulu, H., Rahn, L., Puur, A., Hărăguș, M., Obućina, O., González-Ferrer, A., Neels, K., Van den Berg, L., Pailhé, A., Potarca, G. & Bernardi, L. (2018). Co-ethnic marriage versus intermarriage among immigrants and their descendants: A comparison across seven European countries using event-history analysis. *Demographic Research*, 39, 487-524.

Harrison, K. D. (2008). *When languages die: The extinction of the world's languages and the erosion of human knowledge*. New York, Oxford University Press.

Hout, M. & Goldstein, J R. (1994). How 4.5 million Irish immigrants became 40 million Irish Americans: Demographic and subjective aspects of the ethnic composition of white Americans. *American Sociological Review*, 59, 64-82.

Härtull, C. & Saarela, J. (2014). Ethno-linguistic groups during an economic recession: Low-income earners in the 1990s' Finland. *Finnish Yearbook of Population Research*, 49, 87-103.

Jeon, J. & Buss, D. M. (2007). Altruism towards cousins. *Proceedings of the Royal Society B: Biological Sciences*, 274, 1181-1187.

Johnson, C. L. (2000). Perspectives on American kinship in the later 1900s. *Journal of Marriage and Family*, 62, 623-639.

Kandler, A. (2009). Demography and language competition. *Human Biology*, 81, 181-210.

Kandler, A., Unger, R. & Steele, J. (2010). Language shift, bilingualism and the future of Britain's Celtic languages. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365, 3855-3864.

Kolk, M. (2014). *Multigenerational processes in demography*. Doctoral thesis, University of Stockholm, Sweden.

Kolk, M. & Hällsten, M. (2017). Demographic and educational success of lineages in northern Sweden. *Population and Development Review*, 43, 491-512.

Loveman, M. & Muniz, J. O. (2007). How Puerto Rico became white: Boundary dynamics and intercensus racial reclassification. *American Sociological Review*, 72, 915-939.

Maffi, L. (2005). Linguistic, cultural, and biological diversity. *Annual Review of Anthropology*, 34, 599-617.

- Mare, R. D. (2011). A multigenerational view of inequality. *Demography*, 48, 1-23.
- McRae, K. D. (1997). *Conflict and Compromise in Multilingual Societies: Finland*. Waterloo, Ontario, Wilfred Laurier University Press.
- Minett, J. W., & Wang, W. S. (2008). Modelling endangered languages: The effects of bilingualism and social structure. *Lingua*, 118, 19-45.
- Mood, C. (2010). Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European Sociological Review*, 26, 67-82.
- Moring, B. (2003). Nordic family patterns and the north-west European household system. *Continuity and Change*, 18, 77-109.
- Murray, A. C. (1983). *Germanic Kinship Structure: Studies in Law and Society in Antiquity and in the Early Middle Ages*. Toronto, Canada, Pontifical Institute of Mediaeval Studies.
- Nagel, J. (1994). Constructing ethnicity: Creating and recreating ethnic identity and culture. *Social Problems*, 41, 152-176.
- Obućina, O. & Saarela, J. (2017). Intergenerational transmission of ethnic identity in mixed native couples in Finland. *Stockholm Research Reports in Demography*, 2017: 16. Demography Unit, Department of Sociology, Stockholm University.
- Obućina, O. & Saarela, J. (2020). Intergenerational transmission of ethnic identity in mixed native couples in Finland. *Acta Sociologica* 63, 103-123.
- Parsons, T. (1943). The kinship system of the contemporary United States. *American Anthropologist*, 45, 22-38.
- Pashos, A. & McBurney, D. H. (2008). Kin relationships and the caregiving biases of grandparents, aunts, and uncles - A two-generational questionnaire study. *Human Nature*, 19, 311-330.
- Qian, Z. (2004). Options: Racial/ethnic identification of children of intermarried couples. *Social Science Quarterly*, 85, 746-766.
- Rockquemore, K. A. & Arend, P. (2002). Opting for white: Choice, fluidity and racial identity construction in post civil-rights America. *Race and Society*, 5, 49-64.
- Rotkirch, A., Berg, V. & Finnäs, F. (2018). *Svenskspråkigas fruktsamhet i Finland. Vilka är skillnaderna mellan språkgrupperna?* Helsinki, Tankesmedjan Agenda.
- Saarela, J. & Finnäs, F. (2003). Unemployment and native language: The Finnish case: *Journal of Socio-Economics*, 32, 59-80.
- Saarela, J. & Finnäs, F. (2014). Transitions within and from ethno-linguistically mixed and endogamous first unions in Finland. *Acta Sociologica*, 57, 77-92.

Saarela, J. & Finnäs, F. (2016). The ethno-linguistic community and premature death: A register based study of working-aged men in Finland. *Journal of Racial and Ethnic Health Disparities*, 3, 373-380.

Schneider, D. M. (1968). *American Kinship: A Cultural Account*. Chicago, University of Chicago Press.

Schneider, D. M. & Cottrell, C. B. (1975). *The American Kin Universe: A Genealogical Study*. Department of Anthropology, University of Chicago.

Schneider, D. M. & Smith, R. T. (1973). *Class Differences and Sex Roles in American Kinship and Family Structure*. Engelwood Cliff, New Jersey, Prentice-Hall.

Smith, T. W. (1984). The subjectivity of ethnicity. In *Surveying Subjective Phenomena*, Volume 2, C. F. Turner & E. Martin (Eds.). New York, Russell Sage Foundation, pp. 117-128.

Song, X., Campbell, C. D. & Lee, J. Z. (2015). Ancestry matters: patrilineage growth and extinction. *American Sociological Review*, 80, 574-602.

Statistics Finland (2019). *Kuolleet 2018. Elinajanodote*. Official Statistics of Finland. Statistics Finland, Helsinki.

Stevens, G. (1985). Nativity, intermarriage, and mother-tongue shift. *American Sociological Review*, 50, 74-83.

Stevens, G. (1992). The social and demographic context of language use in the United States. *American Sociological Review*, 57, 171-185.

Tse, J. K.-P. (2000). Language and a rising new identity in Taiwan. *International Journal of the Sociology of Language*, 143, 151-164.

Verdoodt, A. F. (2017). The demography of language. In *The Handbook of Sociolinguistics*, F. Coulmas (Ed.). Oxford, Blackwell Publishing, pp. 33-43.

Waters, M. C. (2000). Immigration, intermarriage, and the challenges of measuring racial/ethnic identities. *American Journal of Public Health*, 90, 1735.

Waters, M. C. (1990). *Ethnic Options: Choosing Identities in America*. Berkeley, University of California Press.

Xie, Y. & Goyette, K. (1997). The racial identification of biracial children with one Asian parent: Evidence from the 1990 census. *Social Forces*, 76, 547-570.

Young, M. D. & Willmott, P. (1957). *Family and Kinship in East London*. Glencoe, Illinois, Free Press.

Appendix

Table A1. Share of Swedish-registered egos by the number of grandparents and great grandparents who are Swedish-registered

Number of Swedish-registered grandparents	Number of Swedish-registered great grandparents	Proportion Swedish-registered egos
0	0	0.00
0	1	0.00
0	2	0.03
0	3	0.00
0	4	n.a.
0	5	n.a.
0	6	n.a.
0	7	n.a.
0	8	n.a.
1	0	0.07
1	1	0.13
1	2	0.23
1	3	0.27
1	4	0.28
1	5	n.a.
1	6	n.a.
1	7	n.a.
1	8	n.a.
2	0	0.00
2	1	0.27
2	2	0.54
2	3	0.54
2	4	0.68
2	5	0.72
2	6	0.44
2	7	n.a.
2	8	n.a.
3	0	n.a.
3	1	n.a.
3	2	1.00
3	3	0.75
3	4	0.87
3	5	0.94
3	6	0.96
3	7	0.94
3	8	1.00
4	0	n.a.
4	1	n.a.
4	2	n.a.
4	3	n.a.
4	4	1.00
4	5	1.00
4	6	0.99
4	7	1.00
4	8	1.00

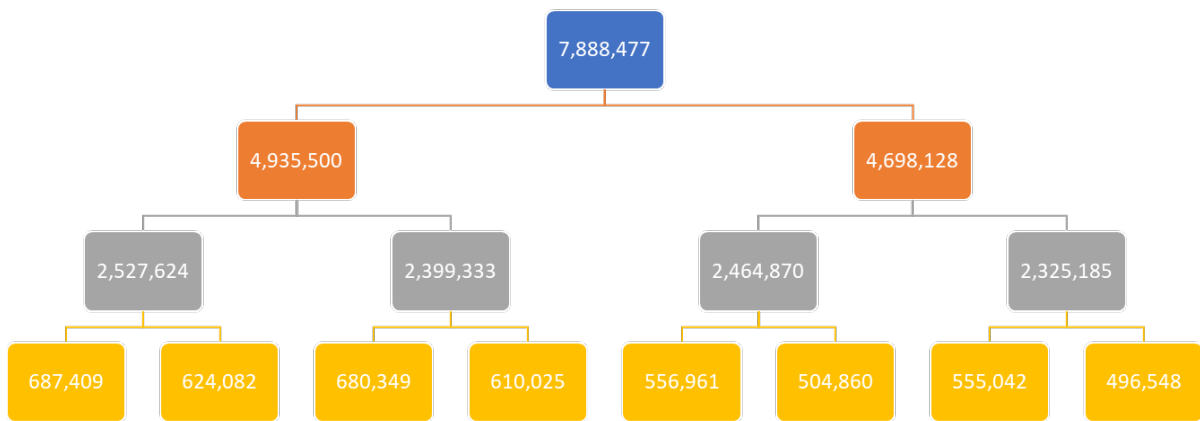


Figure A1. Number of individuals (egos) with identifiable ancestors in three previous generations, total population of Finland 1971-2015

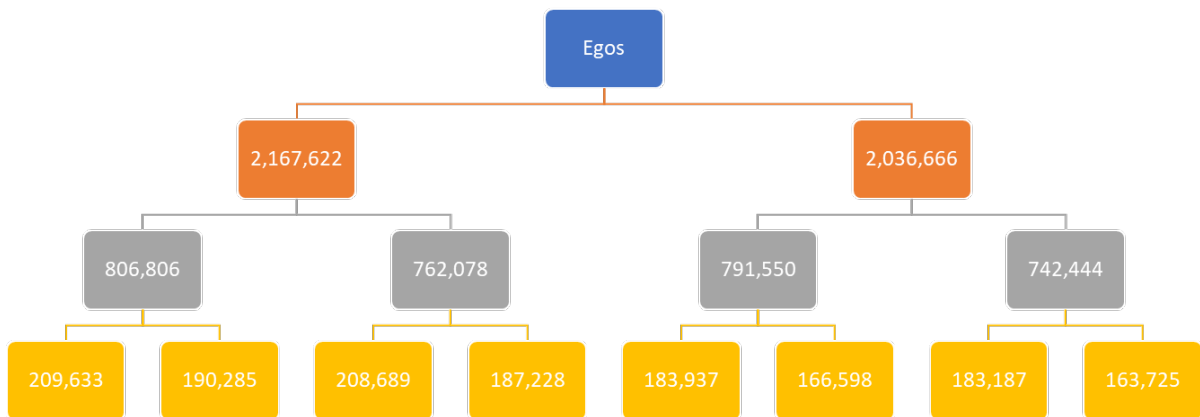


Figure A2. Number of identifiable ancestors in three previous generations, total population of Finland 1971-2015

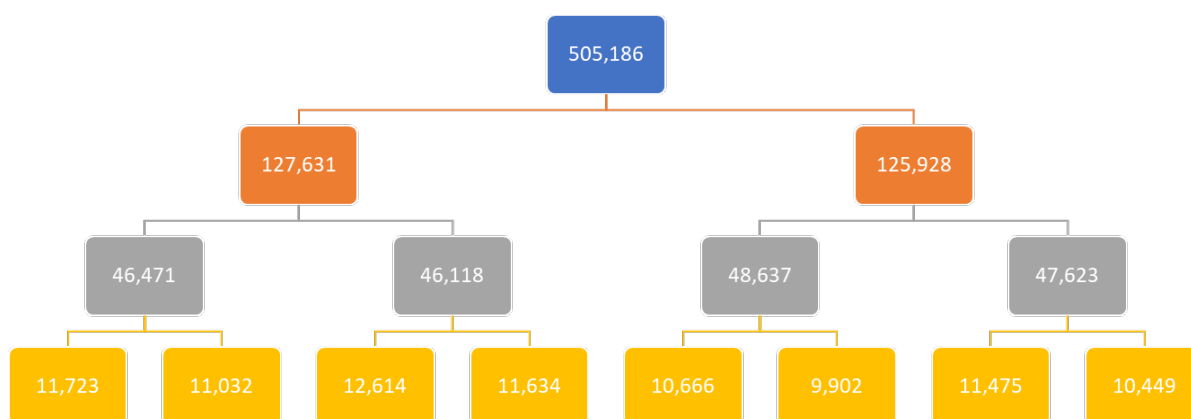


Figure A3. Number of persons ever registered as a Swedish speaker in four different generations, total population of Finland 1971-2015



Figure A4. Proportion Swedish-registered persons in Generations 1, 3 and 4 by ethnolinguistic composition of the parental union

Stockholm Research Reports in Demography

Stockholm University, 106 91
Stockholm, Sweden www.su.se |
info@su.se | ISSN 2002-617X



Stockholm
University

Demography Unit