Immigrant-native Exogamy in Sweden. A Longitudinal Study of the Determinants of Intermarriage among Immigrants 1990-2005

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A longitudinal study of the determinants of intermarriage among immigrants 1990–2005

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ABSTRACT

Intermarriage with natives can be seen as a key indicator of immigrant integration into host societies. Previous research has mostly dealt with North America and Australia, and has been based on cross-section data. In this paper, intermarriage between immigrants and natives is studied for more than 140 immigrant groups in Sweden using longitudinal individual level data from the population registers. We analyze the total immigrant population residing in Sweden anytime between 1990 and 2005 and born between 1942 and 1989. Data on income and employment status is available on a yearly basis throughout the period. In addition we include standard human capital variables, such as sex, age, level and field of education, and time since immigration, as well as having children and characteristics of the place of residence. The results support hypotheses about the importance of human capital variables such as time since migration and education for intermarriage, but show only small effects of income for immigrants outside the extreme positions of very low or very high income. Also after controlling for these factors there remains large differences in intermarriage propensities between immigrants from different countries of origin. To a large extent these differences are related to the degree of cultural, linguistic and religious distance between these immigrant groups and native Swedes.

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Introduction

The issue of immigrant societal integration has received enormous attention all over Europe at least since the early 1990s. The main focus has been on labor market related integration concerning employment and income (e.g., Zimmermann 2005), as well as on problems of residential segregation and its possible effects on education and cultural integration of immigrants into host societies (e.g., Schönwälder 2007). More recently growing attention has been devoted to the demographic integration of immigrants, for example in terms of fertility behavior (e.g. Andersson and Scott 2005) and health (McGee et al 1999; Sundquist 2002). Considerably less attention, however, has been paid to the possible role of intermarriage between immigrants and natives as an indicator of societal integration of immigrants in Europe (see Furtado 2006; Furtado and Theodoropoulos 2008; Dribe and Lundh 2008; Meng and Gregory 2005).

Marriage is an intimate and long-term relationship that does not only concern the married spouses but also relatives and children. From a social science point of view, marriage reveals the pattern of social interaction. In a heterogeneous society intermarriage indicates social interactions across group boundaries. Thus, such a society could be described as open and equal rather than as characterized by group closure (Kalmijn 1998).

Through a process of gradual acculturation and educational and economic integration the immigrant group adapts to the characteristics of the majority population. A high frequency of inter-ethnic marriages indicates that there are no major perceived differences between the two groups (Alba and Golden, 1986; Lieberson and Waters, 1988; Pagnini and Morgan, 1990). Besides being a measure of social integration in itself, intermarriage is a factor that potentially influences these kinds of integration processes (Lieberson and Waters, 1986; Kantarevic 2004, Meng and Gregory, 2005).

Since America has experienced racial and ethnic heterogeneity as a consequence of immigration for a much longer period than Europe, it is not surprising that there has been a large number of studies on intermarriage dealing with the United States, while the issue has received much less attention in Europe. To a large extent, these studies deal with larger ethnic groups, including both immigrants (foreign born) and descendants (Drachsler 1920; Davis 1941; Gordon 1964; Wildsmith, Gutmann and Gratton 2003). Most of Europe experienced net emigration to the New World (especially to the United States) until about 1930, but have turned into net-immigration areas in the post-World War II period. Compared to the United States, refugees are more common among immigrants in Europe and the integration of immigrants in European labor markets and societies in general has been difficult. Especially immigrants from developing countries seem to be more socially marginalized and excluded from the labor market in Europe than in the United States (for an overview, see Rotte and Stein 2002; Zimmermann 2005). These apparent differences in immigration patterns and immigrant integration between the United States and Europe make it difficult to draw conclusions about intermarriage and its impact on immigrant integration in Europe on the basis of American results. This calls for detailed European studies of intermarriage patterns and the relation, more generally, with immigrant integration.

The aim of this paper is to study partner selection among immigrants (endogamy and exogamy) in Sweden in the period 1990-2005. More specifically, we analyze the relationships between gender, education (level and field), income, time spent in Sweden and country of origin on the one hand, and the likelihood of marrying different types of partners (natives, same origin, or other immigrants) on the other, controlling for age and structural factors like group size, sex ratio and characteristics of the place of residence. The analysis focuses in particular on the determinants of exogamy with natives, or what is referred to as intermarriage.

Most previous research in this field has been based on cross-section data, which makes it impossible to study the impact of conditions before marriage on the likelihood of different types of marriages. Here we study the determinants of exogamy among immigrants in Sweden using longitudinal data at the individual level from the Swedish population registers. We analyze the total immigrant population residing in Sweden anytime between 1990 and 2005 and born between 1942 and 1989. We are able to distinguish not only between Swedish born and foreign born (first generation immigrants), but also between Swedish born with at least one foreign born parent (second generation immigrants) and Swedish born with two Swedish born parents (natives).

Theoretical background and previous research

Empirical studies of partner selection strongly support the view that people in general prefer a spouse who is similar with regard to race, ethnicity, religion, education or socioeconomic status. The phenomenon of marital endogamy could be attributed to individual preferences, group norms and marriage market constraints (Kalmijn 1998). Endogamy results from the competition among marriage candidates for the best match with regard to socioeconomic and cultural resources (including personal attraction), given the level of group identification and group sanctions against exogamy. It is also dependent on the distribution of potential partners in the marriage market.

American studies of ethnic and racial intermarriage raised the question of whether various immigrant groups would integrate with one another and the native population (Drachsler 1920; Wirth & Goldhamer 1944). Assimilation theory has for a long time been the most influential way to explain immigrants' gradual integration and possible assimilation (i.e. complete integration) into the host society. It has successfully predicted the path of integration and marriage pattern of ethnic groups of European origin in the United States (Alba and Golden, 1986; Alba and Nee 2003; Lieberson and Waters, 1988; Pagnini and Morgan, 1990). According to the assimilation perspective, immigrants initially possess cultural and socioeconomic features that distinguish them from natives, which hinder interethnic marriages. The process of integration includes acculturation (e.g. learning the native language or adopting the cultural patterns of the native group) and structural integration (e.g. achieving socioeconomic status that is comparable to that of the native population). This process is completed when there are no perceived differences between the immigrant group and the native group (Gordon, 1964). Integration weakens the ethnic attachment and increases contacts with potential partners from other groups, which increases the propensity of exogamy. In this way, intermarriage is seen as the logic outcome of the integration process (Lieberson and Waters, 1988).

The length of the adaptation period of individual immigrants is of great importance in the assimilation model. The general idea is that individual characteristics of immigrants gradually change towards the native standard. Over time, immigrants acquire language skills, knowledge about host society institutions and behavior codes, and they will also establish themselves in the labor and housing markets. Immigrants with socioeconomic status and income similar to the native population can be expected to be more likely to intermarry than immigrants who are unemployed or have low income. Reaching the educational level of the native population can also be expected to be an important factor for intermarriage, both for first-generation and second-generation immigrants. Since both natives and immigrants in general seem to prefer similarity rather than dissimilarity when it comes to prospective marriage partners, the process of assimilation increases the willingness to intermarry in both groups by decreasing the perceived differences between groups. Consequently, it could be hypothesized that immigrants will be more likely to intermarry, the longer they stay in the host society.

Education could be expected to have a positive effect on intermarriage for different reasons. Education and the educational system promote universalistic and democratic norms among natives and immigrants, thereby breaking down group barriers (Gordon 1964; Greasley and Sheatsley 1971; Lieberson and Waters 1988; Kalmijn 1998). Hence, the propensity to marry across ethnic lines could be expected to increase with higher education. Some empirical studies find a positive relation between education and interracial marriages (Lieberson and Waters 1988; Wong 1989; Sung 1990; Hwang, Saenz and Aguirre 1995).

Education may also have a positive effect on individuals' exposure to people of different ethnic origins. Educated immigrants are, for instance, more likely to move out of ethnic enclaves for further education or to get a job. They are also likely to possess better language skills. Therefore, they are more exposed to prospective partners of various ethnic backgrounds (Furtado, 2006; Furtado and Theodoropoulos, 2008). Moreover, colleges and universities provide an integrated local marriage market where young men and women of different ethnic groups meet (Blau 1977; Blau and Schwartz 1984; Feld 1981; Gullickson 2006).

Exchange theory provides a specific argument about the way that education influences intermarriage. The idea is that highly educated people of low status ethnic origin could trade their educational status for the benefits of a higher ethnic status through their spouse (Merton 1941; Davis 1941). Empirically this theory has found support in studies of mixed marriages of African Americans and Whites in the United States (Kalmijn 1993; Qian 1997; Fu 2001; Wirth and Goldhamer, 1944; Monahan, 1976; Heer, 1974; Shoen and Wooldredge, 1989; Gullickson 2006). It has been suggested that well educated immigrants with higher education could bargain in the marriage market for natives who are willing to trade ethnic endogamy for a spouse with high education (Furtado, 2006; Furtado and Theodoropoulos, 2008). Studies of other ethnic groups than African Americans, e.g. Asians, give less or no support to the exchange theory (Hwang et al 1995; Liang and Ito 1999; Qian et al 1999; Jacobs and Labov 2002).

Numerous studies have shown that most marriages are educationally homogamous (Mare 1991; Kalmijn 1998; Henz and Jonsson 2003), including interethnic marriages (Bernard 1966; Heer 1974; Monahan 1976; Porterfield 1978; Rosenfeld 2005). Since education signals productivity and future income potentials, educational homogamy partly reflects the pooling of resources and income maximization of spouses. However, educational homogamy is not the same thing as economic homogamy. Education also implies cultural preferences, tastes and lifestyles that are specific for the group and closed to outsiders (Bourdieu 1979/1984). Both the level and type of education could be important in the formation of such group identities. Because marriage is a long term union based on solidarity, empathy and compassion, personal affinity is important in partner selection (Byrne 1971; Buston and Emlen 2003; Rosenfelt 2005).

Most of the literature deals with the influence of the level of education on intermarriage. However, the field of education may also be important for partner selection, through values and exposure. For instance, the field of education could be associated with particular values and lifestyles that may influence the propensity to intermarry with a native. Furthermore, certain fields of education involve a lot of intercommunication with surrounding society and people from different backgrounds, something that is also likely to influence the probability of intermarriage. This adaptation of host country-specific human capital could be achieved either in schools or working life after immigration. At the same time, immigrants in such fields are more exposed to meeting prospective partners of native origin.

Immigrant integration also depends on the *initial* differences in socioeconomic and cultural features between immigrants and natives, and such differences might therefore also influence the likelihood of intermarriage. According to human capital theory, an immigrant's human capital is partly devalued upon arrival in the host society because formal and informal skills are invalid or hard to evaluate. Such skill deficiencies make the labor market careers of immigrants more difficult, but gradually a revaluation of the human capital can take place through improved host country language proficiency, job search activities and on-the-job training (Chiswick, 1978). Consequently, the more education and occupation in the home country of the immigrants deviate from host country standards, the more adaptation will be needed in order to reach the standards in the receiving country. As both level and structure of education and occupation are similar in more developed countries, we expect immigrant from these countries to reach the Swedish levels sooner than immigrants from less developed countries, who will adapt in a slower pace. Consequently, we expect immigrants from more developed countries to be more likely to intermarry with natives.

In a similar way, acculturation depends on the initial cultural deviation from the host country standards of different immigrant groups (Gordon 1964), either to differences in spoken and written language or in culturally embedded family values. The linguistic preconditions for adaptation vary across immigrant groups depending on the dominant spoken and written language of the home country. Immigrant groups who speak the host country language already upon arrival can be expected to integrate faster than those who do not, and the ability to speak a closely related language or a world language probably also increases the pace of integration and likelihood of intermarriage. The ability to understand the written language/alphabet of the host country could also be assumed to speed up the adaptation process and thus the probability of intermarriage.

Similarly, large cultural differences regarding family values and relations between family members could also be hypothesized to influence the likelihood of intermarriage. American studies have found lower rates of intermarriage among immigrant groups with highly familistic cultures, for instance among Mexicans (Alvirez, Bean and Williams, 1981; Hurtado, 1995) and immigrants of Asian background (Hwang, Saenz and Aguirre, 1987; Liang and Naomi, 1999; Qian, 1999; Qian, Blair and Ruf, 2001). Many studies have also shown a general pattern of religiously homogamous marriages (Bumpass, 1970; Johnson, 1980; Kalmijn, 1998). Such a tendency does not only indicate widespread preferences for similarity in religious beliefs but also for similarity in norms and codes for everyday life and relations within and between families. In some cases the tendency towards endogamy is even more pronounced and could be related to obvious group identification, interference of parents and other types of group pressure.

Barriers towards intermarriage such as family pressure and state or Church sanctions could be assumed to be correlated with the general level of economic development and modernization of society. The development of Western society over the last 200 years has led to a relatively open, secular and individualistic society, where the formal influence of the family, state or Church on individual marriage decisions is small or non-existent. In less developed economies, including the newly industrializing countries, institutions like religion and the family in the role of carriers and guardians of traditional values, have a much stronger position. Therefore, it could be assumed that immigrants from countries that are economically less developed than Sweden differ more from natives with respect to family-related values than immigrants from countries of the same level of economic development and modernization. Consequently, we expect immigrants from economically more advanced countries to be more likely to intermarry with natives.

Traditional cultural norms and existing institutions and organizations tend to structure the lives of men and women differently. Therefore, the process of partner selection may differ between the sexes depending on gendered norms on post-marriage residence (virilocal, uxirolocal, neolocal), hypogamy vs. hypergamy, and exposure to prospective partners outside the own group. The cultural norms of a patrilineal joint family system which was dominant in China and other parts of Eastern Asia usually implies the inclusion of married male children and their spouses into the parental household and the marrying off of daughters (Skinner 1997). In the immigrant context, where preferred ethnic spouses are not always available, it may be easier to marry off a daughter to a native than to accept the intermarriage of a son. Several findings of high frequencies of intermarriage among Asian women in the United States (see e.g. Hwang, Saenz and Aguirre 1995; Liang and Ito 1999; Qian, Blair and Ruf 2001) could be interpreted in this direction. In general, hypogamy (marrying down) is more common among men for many reasons. Through marriage a woman of lesser social rank would achieve the status of her husband. When it comes to ethnicity the ranking is not so clear cut and the hypergamous party will not be able to achieve the ethnic features of the spouse, nor will the descendants. Therefore, families who prefer to keep the family line within the ethnic core might be more willing to accept an outmarriage of a daughter than of a son. However, exposure to potential spouses outside one's own group could also result in the opposite. As men usually are more independent from family control than women, male immigrants from these groups would generally be more exposed to meeting prospective marriage partners.

Finally, intermarriage depends not only on preferences and group identification and sanctions; there are also restrictions to endogamous marriages due to the structure of the local marriage market. The size of the minority group, availability of prospective partners and degree of ethnic, socioeconomic and residential heterogeneity influence the individual's likelihood of intermarriage (Blau, 1977; Blau, Blum and Schwarz, 1982; Blau and Schwarz, 1984; Blau, Beeker and Fitzpatrick, 1984; South and Messner, 1986).

Based on the preceding discussion, we formulate nine hypotheses that will be tested in the multivariate analyses below. Hypotheses 1 – 5 concern the general determinants of intermarriage while hypotheses 6 – 9 deal with variations between immigrant groups that could be associated with differences in linguistic and cultural ancestry.

Since the roles of marriage partners are highly gendered, for instance with regard to occupational careers, we expect women to be more likely to marry exogamously with a native than are men *(hypothesis 1)*. Furthermore, since gender is a social construction depending for instance on culture and migration context, we expect gender differences to vary across immigrant groups. Educational level is expected to have a generally positive effect on the likelihood of intermarriage among immigrants *(hypothesis 2)*, partly through its general influence on values and exposure, and partly as an asset that could be traded in the marriage market. Moreover, the field of education can be expected to have an additional effect. We expect immigrants educated within fields associated with an open lifestyle and high degree of intercommunication to be more likely to intermarry than immigrants with more narrow educations leading to work with less intercommunication *(hypothesis 3)*. As to income, we hypothesize that immigrants with a higher income are more likely to marry exogamously to natives than immigrants with a lower income *(hypothesis 4)*, because a higher income helps to shrink the socioeconomic difference to the native population. To the extent that immigrants would trade a higher status for the benefits that is associated with a native spouse, a higher income would also improve the bargaining position of immigrants. Turning to the length of the adaptation period, we expect a general positive effect *(hypothesis 5)*. After controlling for individual income and education, the time immigrants spent in Sweden reflects the general level of acculturation, including the accumulation of Sweden-specific human capital, and also a longer period of exposure to intermarriage.

However, also when controlling for these individual factors, we still expect to find great variations between different immigrant groups in the likelihood of intermarriage, because of large variations in the *initial* linguistic and cultural differences compared to the Swedish population. We expect immigrants from countries that are more similar to Sweden with regard to the dominant spoken and written language (including English), cultural ancestry, and degree of influence of parents, families and religion on marriage decisions to be more prone to intermarriage than immigrants from countries that are more different in these respects *(hypothesis 6)*. Furthermore, we expect that these linguistic and cultural differences between immigrant groups to give rise to large variations across groups in the effects of the determinants of intermarriage. Immigrants from countries that linguistically and culturally are more dissimilar to Sweden benefit more from a higher educational level, an educational field associated with an open lifestyle and more communication with natives, more income, and a longer period of adaptation than immigrants form more similar backgrounds *(hypothesis 7)*.

Data and method

The data used come from the Swedish population registers maintained by Statistics Sweden. From a dataset consisting of all individuals in the birth cohorts 1942–89 who resided in Sweden at any time from 1961 onwards, we select immigrants (foreign born) first entering Sweden after the age of 15 and who came after 1967. We only include unmarried immigrants and follow them from entry until they marry for the first time, or until they are censored because of out-migration, death, age 45 or the end of the study period. We study the period 1990-2005 for which we have full information on income, level and field of education, municipality as well as basic demographic measures such as children, country of birth, parent immigrant status etc. This implies that only immigrants who were never married in 1990, or who came after 1989 as unmarried, are included in the analysis. From 1990 onwards, the Swedish population registers record non-marital cohabitation in cases where the couple has common children (RTB-families), which enable us to include information on pre-marital cohabitation for couples with common children.

Because the aim is to study marriage and partner selection *in* Sweden, we exclude marriages that were the possible results of matches abroad. From the data, we have excluded individuals who married during their first year in Sweden, and hence also excluded the first year of observation for the risk population.

The event of interest is a registered marriage which is divided into four different types: endogamy (marrying someone from the same country of origin), exogamy with a native (marrying a Swedish born with two Swedish born parents), exogamy with a second generation immigrant (Swedish born with at least one parent foreign born) and exogamy with another foreign born from a different country of origin. In the analysis the latter two are merged into a single category (exogamy with others).

We have information on country of birth for a total of 141 different countries and 7 country groups (for which fewer than 100 immigrants are present in the original sample). In the analysis we exclude the small number of immigrants belonging to these 7 groups because it is impossible to decide whether or not the marriage was endogamous. The coding of type of marriage is based on all unique countries, while in the analysis we group all countries with fewer than 100 marriages into larger aggregates. It should be noted, however, that this does not affect the outcome variable (endogamy vs. exogamy), but only the background variables.

Split-up of countries (e.g. the Soviet Union, or Yugoslavia) or mergers of previously independent countries (e.g. DDR and BRD) forced us to adjust the country grouping to create as coherent units of analysis as possible. Because a majority of immigrants from the Soviet Union came from Russia we include the former in the category 'Russia' while all independent states in the former USSR are kept separate, such as the Baltic countries, Ukraine, etc. As regards former Yugoslavia it is included with Serbia-Montenegro, while Bosnia-Herzegovina, Macedonia, Slovenia and Croatia are kept separate. It has also been possible for immigrants from Yugoslavia to change their country of birth after arriving in Sweden, and a considerable number of them has chosen to do so (see Dribe and Lundh 2008). Czechoslovakia is merged with the Czech Republic, keeping Slovakia separate. In the case of merging, countries are kept together for the whole period (i.e. DDR and BRD to Germany, North and South Vietnam to Vietnam, Congo and the Democratic Republic of Congo to Congo). Finally Palestine, the West Bank and Gaza have been merged into a single unit called Palestine.

In total we have about 1.4 million observations on 252411 unique individuals (148766 men and 103645 women), and a total of 67062 marriages (see table 1 below).

We model partner selection among immigrants in two ways. First we estimate a multinomial logit model on the transformed probability of marriage, where we follow unmarried immigrants from arrival until marriage, or until they are censored. The model simultaneously estimate the impact of a set of explanatory variables on three different marriage outcomes – endogamy, exogamy with natives, and exogamy with other immigrants – compared to the base outcome of no marriage. These estimations indicate the differential impact of the explanatory variables on the different types of marriages. We also estimate an ordinary (binary) logit model on the transformed probability of marrying a native (intermarriage) vs. all other marriages for the sample of immigrants who marry in the study period. These estimates provide a clearer picture of the importance of the explanatory variables on intermarriage for those immigrants who actually marry. In these estimations all values of the explanatory variables refer to the year of marriage.

Variables

Table 1 displays the distributions of the variables used in the analysis. The variables of main interest in the analysis are income, level and field of education, time since immigration and country of origin or country group. In addition, we also control for age as a categorical variable, presence of children, type of settlement (municipality), the relative country group size by age, and the sex ratio of the country group by age. All control variables are time-varying.

Table 1 here

Individual income is the total income received from labor or labor induced activities. It includes income from employment or self-employment, unemployment benefits, sickness insurance, and pre-retirement benefits. Thus, all kinds of welfare state transfers not related to previous work, such as social assistance, student benefits, housing cost transfers, etc, are not included in the income measure, which explains the considerable proportion of immigrants lacking income altogether. To allow comparisons over time, and thus eliminate the impact of inflation, we relate the annual income to the so called price base amount (hereafter simply called base amount) of the year. The base amount is set for each calendar year on the basis of changes in the Consumer Price Index (KPI). Its main purpose is to adjust different kinds of public benefits (pensions, student aid, sickness insurance, etc.) to account for inflation. In 2005, the base amount was 39,400 SEK and for the total population (including natives) aged 20–64 the median income was about 220,000 SEK, which corresponds to about 5.5 base amounts. The 25th percentile corresponded to about 3.5 base amounts and the 75th percentile to about 7.5 base amounts.

Educational level is a time-varying measure of the highest education attained, as recorded in the education register. Frequently immigrants have no recorded education in the registers for a period after arrival, which explains the high frequency of missing information on this variable. The variable has been categorized from basic level less than nine years to having a post-graduate degree (PhD, PhLic). Higher education is expected to be connected to a higher likelihood of intermarriage.

Educational field indicates the orientation of education, regardless of the level. As previously mentioned, it could be expected that the choice of a specific education is associated with certain values and lifestyles that also may influence the partner choice. For instance, it could be assumed that the educational fields of arts and humanities or social science are associated with more open lifestyles and values, and that immigrants with this educational orientation are more open to intermarriage. It might also be expected that immigrants educated in fields where the degree of intercommunication and interaction with surrounding society is greater are more likely to intermarry than other immigrants. Jobs requiring education in teaching, arts and humanities, social science, as well as health and services can be assumed to be characterized by higher frequencies of this kind of interaction than those in technology, manufacturing, farming and forestry. Through Swedish schools and jobs, immigrants in more communicative and interactive fields get better chances to increase their Sweden-specific human capital and are more exposed to meeting a prospective native partner. Hence, we expect immigrants in the educational fields of arts and humanities and the social sciences to be most prone to intermarriage, followed by those in the fields of teaching, health and services. Immigrants with an educational orientation to science/math/data, technology/manufacturing or farming/forestry are expected to be more endogamous.

Time since immigration is time-varying in the multinomial logit estimations and defined as the time in years since first immigration to Sweden. In the logit model of the subsample of married it refers to time between first immigration and marriage. It serves as a proxy for the adaptation time, thus increasing the level of Sweden-specific knowledge. It is hypothesized to increase the likelihood of intermarriage with natives compared to marrying spouses from other countries.

We control for country of origin of the immigrants in the sample. As already explained, only countries from which we have at least 100 marriages are included as variables, while immigrants from other countries have been coded into different country groups (Rest of Southern Europe, etc).

To estimate the influence of linguistic and cultural characteristics on intermarriage more directly, we grouped the countries of origin into ten country groups based on the dominant religion and spoken and written language in the home country.[1] As to religion, we distinguished between Christian[2], Muslim and others (Hindu, Buddhist, Shinto, Daoist, Jewish, and different indigenous beliefs).

The linguistic features of sender countries were classified according to the dominant spoken language or official language and the dominant alphabet or system for written language. As far as spoken language is concerned, we classified the countries into four categories: Danish and Norwegian is generally understood by natives and Swedish is understood by Danes and Norwegians, so these groups communicate with natives in their own language. English has been studied in primary and secondary schools in Sweden since the 1960s, and most Swedes are able to understand and speak English. This is especially true for younger generations. Other languages than Danish/Norwegian or English is not generally spoken or understood by native Swedes, even though some have learnt German, French, Spanish, Italian or other second or third foreign languages at school for some years. Therefore we classify all other countries into one and the same spoken language category, except Finland. There are two reasons to treat Finland separately. Firstly, there is a Swedish minority in Finland, and Swedish is a secondary language with official status. Secondly, Finland has been part of the Swedish labor migration system of the post-war period, and Finns constitute the largest immigrant group in Sweden. For practical reasons, too, it is therefore reasonable to analyze Finland separately.

Turning to the dominant alphabet or system for written language we classified the countries into two groups: those whose dominant language is based on the Latin alphabet, and those who use other alphabets (Arabic, Cyrillic, etc) or non-alphabetic systems (e.g., Chinese). We have also distinguished between economically more and less developed regions following the

[1] The main sources are: Religion: https://www.cia.gov/library/publications/the-world-factbook/fields/2122.html; Language/alphabet: https://www.cia.gov/library/publications/the-world-factbook/fields/2098.html; http://www.omniglot.com/writing/languages.htm; Development: http://esa.un.org/unpp/index.asp?panel=5.

[2] In order to restrict the number of country groups, we made no difference between Protestant, Roman Catholic and Orthodox Christian countries. Denmark, Norway and Finland are Protestant countries though, while all countries included in the CHOTH group (see table in the text) are Orthodox. Other Christian groups (CHENMD, CHENLD, CHLAMD, CHLALD) contain both Protestant/Anglican and Roman Catholic countries and in some cases countries where these religions are equally important or where other versions of Christian beliefs dominate.

classification of the United Nations. The more developed regions comprise all regions of Europe plus Northern America, Australia/New Zealand and Japan. We expect the influence of traditional institutions like religion or the family to be less important in modern industrialized Western countries than in the rest of the world. By combining these three types of classifications, we ended up with ten country groups (see appendix for the detailed grouping):

Country group	Religion	Language	Alphabet	Developed
DK/NO	Christian	Danish, Norwegian	Latin	More
FIN	Christian	Finnish	Latin	More
CHENMD	Christian	English	Latin	More
CHENLD	Christian	English	Latin	Less
CHLAMD	Christian	Other	Latin	More
CHLALD	Christian	Other	Latin	Less
CHOTH	Christian	Other	Other	More/less
MOLA	Muslim	Other	Latin	Less
MOOTH	Muslim	Other	Other	Less
OTHER	Other	Other	Other	More/less

The control variable of relative country group size is time varying and is calculated for three broader age groups (17-24, 25-34, 35-44) for Sweden as a whole. It is a necessary control variable when estimating models of relative rather than absolute endogamy, because immigrants from larger immigrant groups will face a higher likelihood of marrying a spouse of the same origin at a random search, compared to an immigrant from a small country group. Sex ratio is calculated as the ratio of males to females in the country group by age. It is included to control for imbalances in the availability of prospective marriage partners between the sexes within each group.

The categorization of Swedish municipalities comes from the Swedish Association of Local Authorities and Regions (SKL) and is commonly used in regional analyses. It captures both population density and character of the municipality. Here, the main purpose of the variable is to control for potential differences in marriage behavior among immigrants in different types of municipalities, rather than to test specific hypotheses on the impact of location on intermarriage probabilities.

Results

Tables 2 and 3 display the distributions of type of marriages by country group and individual country of origin. These figures indicate the level of absolute exogamy and endogamy in the different groups, without any controls for the relative size of the immigrant group in the population or for group-specific sex ratios. The percentages are based on the coding of marriages at the individual level using information on individual countries of birth. Overall men are more endogamous (55 percent) than women (37 percent), and they are also less likely to marry a native (21 percent) than are women (39 percent). 6 and 8 percent, respectively, marry exogamously with second generation immigrants in Sweden and 18 and 15 percent marry exogamously with another foreign-born spouse from a different country of origin.

It is clear that there are large differences across countries in partner selection, in the overall level as well as in the gender pattern. These differences clearly show the importance of language, religion and level of development for marriage outcomes. Immigrants from Muslim countries (MOLA, MOOTH) are the most endogamous among both men and women, with 65-73 percent marrying a spouse from the same origin. Male immigrants from other non-Christian countries (OTHER) are equally endogamous, while women from these countries show much lower endogamy. Good examples here are immigrants from Thailand and the Philippines, where over 60 percent of men, but only 5 percent or less of women, marry endogamously (see table 3).

Table 2-3 here

Turning to intermarriage (exogamy with natives) immigrants from more developed English-speaking Christian countries (CHENMD) have the highest frequencies (over 70 percent of all marriages), followed by immigrants from Denmark and Norway, and from more developed non-English speaking Christian countries (CHLAMD). Immigrants of both sexes from Muslim countries (MOLA, MMOTH) and from Christian non-Latin alphabet countries (CHOTH) have the lowest proportions of intermarriage.

The frequency of intermarriage also varies a lot within country groups, as shown in table 3. For instance, the intermarriage frequency for men from Finland is much lower than for men from the other Nordic countries. Intermarriage is also much more frequent among immigrants from Spain and Italy than among immigrants from the Balkan countries, with Greeks somewhere in between. Other immigrant groups with relatively high proportions of intermarriage come from Mexico, South Africa and Israel and women from Brazil, Philippines, Japan, Malaysia and Thailand.

Turning to the multivariate analysis, most of the country-specific differences that show up in the raw frequencies of endogamy and exogamy in table 3 remain also after controlling for income, the level and field of education, time since immigration, age, presence of children, relative country group size by age, sex ratio in country group by age, and municipality in the regressions (results not shown). This result support *hypothesis 6*, that the linguistic and cultural ancestry of immigrant groups has a big impact on the likelihood of intermarriage.

Table 4 shows the estimated gender effects controlling for all variables displayed in table 1 and individual country dummies. Women are more likely to marry exogamously, especially with natives, which is evident in both regressions. This supports *hypothesis 1* that marriage, including intermarriage, is highly gendered in a way that makes women more prone to intermarriage. As shown below, the gender difference is remarkably large for some immigrant groups, which is associated with both contextual and cultural factors.

Table 4 here

Given the highly gendered pattern of partner selection we estimate the models for men and women separately (see table 5). The results support *hypothesis 2* of a positive association between the educational level and intermarriage. The multinomial logit estimates show a clear and positive impact of education on the propensity for exogamy with natives, while the effects on the other marriage types are much less pronounced, with the exception of having a post-graduate degree, which increases the probabilities for all marriage types. The relative risks of post-high school and university degrees indicate a 25-50 percent higher probability of marriage in these groups compared to immigrants with a two year high school degree. The effects are quite similar for men and women pointing to a similar impact of education regardless of gender. The logistic regressions also show that a higher level of education is associated with a higher propensity for intermarriage among married men and women, except for having a post-graduate degree.

Table 5 here

If we instead look at the field of education it is more difficult to see a fully consistent pattern. The multinomial logit estimates indicate that immigrants educated in arts and the humanities are somewhat less likely to marry endogamously, and women in this group are a bit more likely to marry exogamously with Swedes, while no corresponding effect is visible for men. Men and women with an education in social sciences, economics and law are also somewhat more likely to marry exogamously than those with a general educational orientation, but there are no differences between exogamy with natives and other immigrants. Men educated in services (transportation, security, environment, etc) are also more inclined to marry natives, while women with this kind of education are more likely to marry endogamously or with other immigrants. The logit estimates show that men with an education in science, technology or manufacturing have a lower likelihood of intermarriage than those with a general field of education. For women the same is true for those with education in science and services. Thus, even though we find some indications of higher rates of intermarriage among immigrants with education in fields that could be associated with a more open lifestyle or higher levels of communication and interaction with other groups (consistent with *hypothesis 3*), the picture is far from clear. On the whole, the differences in intermarriage seem to be less pronounced between fields of education than between levels of education.

It is clear from the multinomial estimates that the propensity to marry increases with income, but there seems to be only small differences in the effects by marriage type. The only possible exceptions are immigrants with no income or below one base amount, who seem to be less likely to marry a native, and female immigrants with high income who are more inclined to intermarry. The effect of income on intermarriage is similar in the logit estimates. Immigrants of both sexes with the lowest income, or no recorded income at all, are considerably less likely to marry a native, which indicates that at least some basic economic integration is required for intermarriage. There are no big differences above this threshold level and below the highest category. In the highest income group (7 percent of the males and 4 percent of the females) men are less likely to intermarry, while women are more likely to marry a native compared to the reference category. Thus, among the majority of immigrants outside the extreme categories (58 percent of the men and 59 percent of the women) there is little evidence that income is an important predictor of intermarriage. This result is contrary to the expectation of *hypothesis 4.*

The likelihood of marriage decline with time spent in Sweden as unmarried, regardless of marriage type. The relative risks are larger for endogamy than for exogamy which shows that longer time spent in Sweden increases the chances of exogamy relative to endogamy. Generally speaking, this result is borne out in the logistic regressions as well. The longer time spent in Sweden before marriage the higher the likelihood of marrying a native relative to someone else, a result which is valid for both men and women. Since we control for level and field of education as well as income, the positive effect on intermarriage of time spent in Sweden could be interpreted as an additional effect of acculturation and the building of Sweden-specific human capital, which supports *hypothesis 5.*

Table 6 shows estimates for the 10 country groups measuring language, religion, and level of economic development. The estimates are based on models controlling for the same variables as previously. As is clear from the table, the likelihood of intermarriage varies a lot across country groups, supporting *hypothesis 6*, that the linguistic and cultural ancestry is important for the propensity to intermarry. The pattern itself is also quite as expected: Similarities in language, alphabet or general culture and values are associated with more intermarriage, and dissimilarities in these respects are correlated with more endogamy. Firstly, immigrants from more developed countries are generally more likely to marry exogamously with a native than immigrants from less developed countries.[3] Secondly, immigrants from Christian countries are generally much more prone to intermarry with natives than immigrants from Muslim countries. Male immigrants from countries dominated by other non-Christian religions are also less likely to marry exogamously with a native. Thirdly, similarity in spoken language increases the likelihood of intermarriage. This is valid for immigrants from Denmark or Norway who communicate with natives in their mother tongue, as well as for immigrants from English speaking countries, given the level of economic development. Fourthly, immigrants from countries where the dominant language is based on the Latin alphabet are more likely to intermarriage than immigrants with languages based on other alphabets or systems.

Table 6 here

Thus, we find that immigrants from more developed Christian countries with a spoken language that is close to Swedish (or English that is understandable for most Swedes as dominant language) using the Latin alphabet are more prone to intermarry with natives than immigrant from Muslim countries or countries with other non-Christian cultures and/or non-Latin alphabets. This result supports *hypothesis 7,* that linguistic and cultural similarity with the native standards promote intermarriage. It should be noted that even though we control for factors such as educational level and field, income and time since immigration, which should capture some of the adaptation to native standards, we find strong support for the importance of linguistic and cultural ancestry. This, in turn, underlines the fact that the main preference in partner selection is similarity rather than dissimilarity.

Until now we have mainly looked at basic associations between the explanatory variables and the marriage outcomes. Next we explicitly study to what extent the effects of the main variables – level and field of education, income and time between migration and marriage – varies across the ten country groups. To do this we estimate four different interaction models on the transformed probability of intermarriage vs. all other marriages using a logit model. We control for the same covariates as before. Table 7 displays the net effects of the main covariates by country group of origin. Denmark/Norway is the reference category for country group and thus odds ratios and p-values in this group are from the base effects, while in the other groups the odds ratios are net effects (exp[base effect + interaction effect]) and the p-values refer to the interaction effects (i.e. tests the null hypothesis of no interaction).

Table 7 here

As is clear from panel A of table 7, most immigrant groups show higher odds of intermarriage with longer education, especially when comparing individuals with high school education to those with lower levels of education. There are exceptions, though. For male immigrants from

[3] Japan is included in the last category of table 6 (OTHER). However, in logit estimations of the specific country effects, the odds ratio of Japan is much more than average of the country group reported in table 6.

Denmark and Norway the net effect of higher education is very small, and for females from this group and CHENMD the net effect of high school or longer education is even negative. Compared to high school education, female immigrants of the group OTHER with lower educational level were more likely to marry exogamously, which probably is due to partner related immigration (e.g., women from Thailand). For some immigrant groups, we find large net effects of post-high school and university (and sometimes also postgraduate) education on the likelihood of intermarriage, e.g. for immigrants of CHOTH, CHLALD and MOOTH, and female immigrants of MOLA. The net effect of a postgraduate degree is also large for male immigrants of Finland. Thus, there is a general positive association between a higher level of education and intermarriage, but there seems to be systematic variation across country groups. For immigrants from Denmark and Norway and more developed English speaking countries, the influence of higher educational level is substantially less than for immigrants from countries that deviate more from Sweden with regard to spoken and written language, culture and general level of economic development.

As was previously shown, the are some indications of higher rates of intermarriage among immigrants with education in fields that could be associated with a more open lifestyle or higher levels of communication and interaction with other groups (teaching, arts and the humanities, social sciences, health, and services). In the interaction model (panel B) this pattern becomes clearer. The positive net effects of these fields of educations are larger for immigrants from countries that differ from Sweden regarding religion, language and/or alphabet and level of economic development. For women, the strongest net effects are for the country groups of MOLA, MOOTH and CHOTH, and for men for the groups of OTHER, CHOTH and MOLA. Male immigrants from Finland, too, are more likely to marry exogamously with a native if their educational field was teaching, arts and the humanities and health. This result could be interpreted in different ways. One possible explanation is that the variation in lifestyle and values across educational fields is larger for these groups than for groups that are more similar to Swedes. It is also possible that the positive influence on Sweden-specific human capital of intercommunication and interaction is larger for these groups, or that exposure to meeting a prospective Swedish spouse means more to them.

It has already been shown that income is relatively unimportant for intermarriage outside the extreme positions of very low or very high income. The interaction model (panel C) shows that this picture is quite similar across country groups. One interesting exception is that low-income women from countries belonging to the groups of OTHER and CHLALD are more likely to marry natives than medium income women from these country groups. Interestingly, we also find a large positive effect on intermarriage of very high income for female immigrants of the MOLA and MOOTH groups. This result may indicate that economically independent Muslim women are in a better position to make an independent partner choice challenging the general pattern of Muslim endogamy.

From panel D it is obvious that the expected positive effect on intermarriage of time between migration and marriage is present only for some of the country groups. There is a powerful and almost linear positive effect for immigrants from Denmark/Norway, Finland and female immigrants of the MOOTH group. There is also a delayed positive effect for male immigrants of the MOOTH (5-9 years onwards) and CHOTH groups (10+ years). This is the type of pattern that could be expected for immigrants without a marriage commitment upon arrival, who gradually adapts to Swedish conditions and marries after some time. The pattern is different for immigrants of the CHLALD, MOLA and OTHER groups, male immigrants of the CHENLD group and female immigrants of the CHOOTH group: a gradual decrease in the likelihood of intermarriage with years spent in Sweden. Variations on this theme is an initial increase in the intermarriage rate, and after that a decrease (CHENMD and female CHLALD), or very small effects of time since immigration (CHLAMD). This pattern can most likely be accounted for by partner related migration. Thus, even though they are not marriage-migrants in a proper sense, because they do not marry upon, or soon after, arrival, these immigrants in many cases probably moved to Sweden because they had a partner there, and married within a rather short time.

In conclusion, the results of the interaction models give clear support for *hypothesis 7*. We find large variations across immigrant groups in the effects of the determinants of intermarriage, for instance educational level and field, income and time since immigration. The propensity to intermarry among immigrants from countries that linguistically and culturally are more dissimilar to Sweden seem to be more affected by higher education, educational fields associated with a more open lifestyle or more communication and interaction with natives, and a long period of adaptation than other immigrants.

Conclusion

In this paper we analyze the patterns of partner selection among immigrants in Sweden distinguishing endogamy from exogamy with natives and exogamy with other immigrants. It shows great variation across immigrant groups ranging from over 85 percent endogamy in some immigrants groups to as low as below one percent in other groups. Similarly the proportion of marriages between immigrants and natives ranges from around 80 percent of all marriages in the country groups with the highest propensity to intermarriage to 1-3 percent in the least intermarriage-prone groups. To a large extent, these differences stem from differences in individual characteristics, group norms and marriage market restrictions. However, for some groups high rates of intermarriage is associated with partner related immigration and selective outmigration of unmarried immigrants.

Our multivariate analyses test different hypotheses regarding the determinants of intermarriage. Some results are consistent with assimilation theory, for example that higher educational level and longer time spent in Sweden are both associated with higher frequencies of intermarriage with natives. However, we find no effects of higher income on intermarriage except for very low, and very high, levels, which seems to contradict simple assimilation theory.

Interestingly, controlling for structural factors and other explanatory variables, we find strong effects of country of origin on the likelihood of intermarriage. Using a 10-category country grouping, capturing differences in language, religion and level of development we find big differences in the likelihood of both endogamy and intermarriage, and also in the determinants of intermarriage. In short, the results highlight the importance of the linguistic and cultural ancestry for immigrants' likelihood of intermarriage. Consequently, variations between different immigrant groups in intermarriage cannot be attributed only to the standard variables suggested by structural or assimilation theory.

One major finding is that immigrants from more developed Christian countries with a spoken language and alphabet that makes immediate communication with natives possible are more likely to marry exogamously with natives than immigrants from Muslim countries or countries with other non-Christian cultures and/or non-Latin alphabets. Thus, our results indicate that the difference between immigrant groups in intermarriage propensities could be brought back to their linguistic and cultural ancestry. Important factors structuring intermarriage seem to be the possibility of communication with natives, and the way that culturally embedded values influence preferences, group norms and exposure to people for diverse backgrounds.

Generally speaking, intermarriage is more common among immigrant women than among immigrant men, with the exception of immigrants from Arab speaking Muslim countries. The most distinguished gender differences concern immigrants from Christian orthodox countries in the Balkans, Eastern Europe and former Soviet republics, and non-Muslim Asian countries. For some of the included countries, these big differences partly depend on partner related immigration to Sweden.

The level of education has a profound impact on the chances of intermarriage up to the post-graduate level for both men and women, which is consistent with assimilation theory. Higher education promotes intermarriage because of higher tolerance towards individuals with a different ethnic background among the better educated, through increased exposure to people of different origins, better language ability, or an outright exchange of status between immigrants and native spouses. It is impossible at this stage to determine which of these mechanisms that is the most important explanation for the association between educational level and intermarriage. However, the positive association between higher education and intermarriage varies across immigrant groups. For immigrants from Denmark and Norway and more developed English speaking countries, the influence of higher educational level is substantially lower than for immigrants from countries that deviate more from Sweden with regard to spoken and written language, culture and general level of economic development. This is consistent with the basic ideas of exchange theory.

The field of education seems to matter much less than the level of education for the propensity to intermarry. Nevertheless, there are some indications of higher rates of intermarriage among immigrants with educations in fields that could be associated with a more open lifestyle or higher levels of communication and interaction with other groups (teaching, arts and the humanities, social science, health, service). The positive net effects of these fields of educations on intermarriage are larger for immigrants from countries that differ from Swedish standard regarding religion, language and/or alphabet, e.g. immigrants from Muslim or Christian orthodox countries.

From an assimilation perspective, employment and income should be important indicators of societal integration that increase the propensity of immigrants to marry a native. We find some support for this association in that immigrants with no, or very low, income are considerably less likely to marry exogamously with a native compared to marry endogamously or exogamously with an immigrant of different origin. However, above this threshold level income does not seem to affect the intermarriage probability to any greater extent, with two exceptions. Firstly, female immigrants from non-Muslim Asian countries and less developed Christian non-English speaking countries with low income are more likely to intermarry than medium-income earners from the same backgrounds. As already mentioned, this is probably due to selective immigration of individuals with partner relations to natives. Secondly, female immigrants from Muslim countries with very high income are much more likely to marry exogamously with a native than medium-income earners of the same origin. One possible interpretation could be that a high income is an asset that Muslim women could use in order to make an individual partner choice that challenges the general pattern of

Muslim endogamy, including group norms and group pressure. Such an interpretation would be consistent with predictions from exchange theory.

The design of this study makes it possible to deepen the discussion on what it is that the variable of educational level really signals. In most intermarriage studies, education is used as a proxy for individual capacity and future earnings, even though it is usually also believed to capture individual values and preferences for specific life styles. Since we use actual income as an explanatory variable and find no or little effect on the likelihood of intermarriage, educational level should be interpreted only or mostly as a measure of cultural preferences, tastes and lifestyles. This is also further strengthened by the impact of educational field on intermarriage. Thus, at least regarding marriage outcomes, education should be viewed mainly as a cultural resource rather than a socioeconomic one.

Since we control for level and field of education as well as income, time since immigration should reflect the additional effect of acculturation (e.g. adopting host country values and culture), adaptation of Sweden-specific human capital (e.g. learning Swedish) and exposure to prospective native partners. We find a general positive effect of time spent in Sweden on the likelihood of intermarriage, but the interaction models show that this is valid only for some immigrant groups: Nordic immigrants, Arab speaking Muslim immigrants and male immigrants from non-Arabic speaking Muslim countries and from orthodox Christian non-Latin alphabet countries. Other immigrant groups seem to have a fixed or diminishing effect of time spent in Sweden. Most probably, this pattern reflects the incidence of partner related immigration.

In conclusion, this study clearly shows the importance of both group structure and individual adaptation for intermarriage. However, the effects differ a lot across immigrant groups, which make it difficult to speak of one pattern common to all immigrants. Language, religion and the more general value systems play a crucial role in determining partner choice, and to the extent that intermarriage with a native is an important assimilation characteristic, it is clearly also important for the integration of immigrants into the new society.

Appendix: Country groups

DK/NO	Denmark, Norway
FIN	Finland
CHENMD	Ireland, Great Britain, Canada, USA, Australia, New Zeeland
CHENLD	Ghana, Cameroon, Kenya, Liberia, Namibia, Rwanda, South Africa, Uganda, Zambia, Zimbabwe
CHLAMD	Iceland, Belgium, France, Luxemburg, The Netherlands, Austria, Switzerland, Germany, Cyprus, Italy, Croatia, Malta, Portugal, Slovenia, Spain, Estonia, Latvia, Lithuania, Moldavia, Poland, Romania, Slovakia, Czech Republic, Hungary
CHLALD	Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Cuba, Mexico, Nicaragua, Panama, Peru, Trinidad & Tobago, Uruguay, Venezuela, Angola, Burundi, Cap Verde, Congo, Mozambique, Philippines
CHOTH	Ethiopia, Armenia, Georgia, Greece, Macedonia, Serbia, Bulgaria, Russia, Ukraine, Belarus
MOLA	Gambia, Nigeria, Sierra Leone, Tanzania, Ivory Coast, Guinea, Guinea-Bissau, Senegal, Somalia, Turkey, Azerbajdjan, Indonesia, Malaysia, Turkmenistan, Uzbekistan, Albania
MOOTH	Algeria, Egypt, Eritrea, Libya, Morocco, Sudan, Tunisia, UAE, Iraq, Jordan, Kuwait, Lebanon, Palestine, Saudi Arabia, Syria, Yemen, Afghanistan, Bangladesh, Iran, Kazakhstan, Kuwait, Pakistan, Tajikistan, Bosnia-Herzegovina
OTHER	Mauritius, Madagascar, Togo, Singapore, Vietnam, Israel, Hong Kong, India, Cambodia, China, North Korea, South Korea, Laos, Mongolia, Myanmar, Nepal, Sri Lanka, Taiwan, Thailand, Japan

References

Alba R.D. and Golden, R.M. 1986 ‘Patterns of Ethnic Marriage in the United States’, *Social Forces* 65:202-223.

Alba, R., and Nee, V. 2003. *Remaking the American Mainstream. Assimilation and Contemporary Immigration*. Cambridge, MA. Harvard University Press.

Alvirez, D., Bean, F. D. and Williams, D. 1981 ‘The Mexican American Family’, in C. H. Mindel and R.W. Haberstein (eds) *Ethnic Families in America. Patterns and Variations*, pp. 269-292. New York: Guilford Press.

Andersson G. and Scott K. 2005. “Labour-market Attachment and Parenthood: The Experience of Immigrant Women in Sweden.” *Population Studies* 59: 21-38.

Bernard, J. 1966. ‘Note on Educational Homogamy in Negro-White and White-Negro Marriages, 1960’. *Journal of Marriage and the Family* 28:274–76.

Blau, P. M. 1977 *Inequality and Heterogeneity*. Glencoe: The Free Press.

Blau, P. M. and Schwartz, J. E. 1984 *Crosscutting Social Circles. Testing a Macrostructural Theory of Intergroup Relations*. New York: Academic Press.

Blau, P. M., Beeker, C. and Fitzpatrick, K. M. 1984 ‘Intersecting Social Affiliations and Intermarriage’, *Social Forces* 62:585-606.

Blau, P. M., Blum, T. C. and Schwartz, J. E. 1982 ‘Heterogeneity and Intermarriage’, *American Sociological Review* 47:45-62.

Bourdieu, P. 1979/1984 *Distinction: A Social Critique of the Judgment of Taste*. Cambridge, MA: Harvard University Press.

Bumpass, L. 1970 ‘The trends of interfaith marriage in the United States’, *Social Biology* 17:253-259.

Buston, P.M. and Emlen, S.T., 2003, ‘Cognitive Processes Underlying Human Mate Choice: The Relationship between Self-Perception and Mate Preference in Western Society’. *Proceedings of the National Academy of Science* 100:8805-10.

Byrne, D. 1971 *The Attraction Paradigm.* New York: Academic Press

Davis, K. 1941 ‘Intermarriage in Caste Societies’, *American Anthropologist* 43:376-395.

Drachsler, J., 1921. *Intermarriage in New York City: A Statistical Study of the Amalgamation of European Peoples.* New York.

Dribe, M. & Lundh, C. 2008. “Intermarriage and Immigrant Integration in Sweden”. *Acta Sociologica* 51: 329-354.

Feld, S.L. 1981. ‘The Focused Organization of Social Ties’. *American Journal of Sociology* 86(5):1015-35.

Fu, Vincent Kang. 2001. ‘Racial Intermarriage Pairings’. *Demography* 38:147-159.

Furtado, D. 2006 ‘Human Capital and Interethnic Marriage Decisions’, *IZA Discussion Paper*, No. 1989.

Furtado, D. and Theodoropoulos, N. 2008 ‘Interethnic Marriage: A Choice between Ethnic and Educational Similarities’, *IZA Discussion Paper*, No. 3448.

Gadberry, James H., and Richard Dodder. 1993. ‘Educational Homogamy in Interracial Marriages—An Update’. *Journal of Social Behavior and Personality* 8 (6): 155–63.

Gullickson, A., 2006. ‘Education and Black-White Interracial Marriage’. *Demography* 43(4): 673-689.

Gordon, M. M. 1964 *Assimilation in American Life*. New York: Oxford University Press.

Greasley, A.M. and Sheatsley, P.B., 1971. ‘Attitudes Towards Racial Integration’. *Scientific American* 225:13-19.

Heer, D. 1974 ‘The Prevalence of Black-White Marriage in the United States, 1960 and 1970’, *Journal of Marriage and the Family* 36:246-258.

Henz, U. and Jonsson, J. O. 2003 ‘Who Marries Whom in Sweden?’, in H.-P. Blossfeld and A. Timm (eds.) *Who Marries Whom? Educational Systems as Marriage Markets in Modern Societies*, pp. 235-266. Dordrecht: Kluwer.

Hurtado, A. 1995 ‘Variations, Combinations, and Evolutions. Latino Families in the United States’, in R.E. Zambrana (ed) *Understanding Latino Families*, pp. 40-61. London: Sage.

Hwang, S., Saenz, R. and Aguirre, B.E., 1995. ‘The SES Selectivity of Interracially Married Asians’. *International Migration Review* 29:469-91.

Hwang, S.-S., Saenz, R. and Aguirre, B. E. 1997 ‘Structural and Assimilationistic Explanations of Asian American Intermarriage’, *Journal of Marriage and the Family* 59:758-772.

Hwang, S.-S., Saenz, R. and Aguirre, B.E. 1994. ‘Structural and Individual Determinants of Outmarriage among Chinese-, Filipino-, and Japanese-Americans in California’. *Sociological Inquiry* 44:396-414.

Jacobs, J.A. and Labov, T.G. 2002. ‘Gender Differentials in Intermarriage among Sixteen Race and Ethnic Groups’. *Sociological Forum* 17(4): 621-646.

Johnson, R.A. 1980 *Religious Assortative Marriage in the United States*. New Your: Academic Press.

Kalmijn, M. 1991 ‘Shifting Boundaries: Trends in Religious and Educational Homogamy’. *American Sociological Review*, Vol. 56, No. 6 (Dec., 1991), pp. 786-800

Kalmijn, M. 1998 ‘Intermarriage and Homogamy. Causes, Patterns, Trends’, *Annual Review of Sociology* 24:395-421.

Kalmijn, M. 1993. ‘Trends in Black/White Intermarriage’. *Social Forces* 72:119–46.

Kalmijn, M. 1998. ‘Intermarriage and Homogamy: Causes, Patterns, Trends’. *Annual Review of Sociology* 24:395-421.

Kantarevic, J. 2004 ‘Interethnic Marriages and Economic Assimilation of Immigrants’, *IZA Discussion Paper*, No. 1142.

Liang, Z. and Naomi, I. 1999. ‘Intermarriage of Asian Americans in the New York City Region: Contemporary Patterns and Future Prospects’, *International Migration Review* 33:876-900.

Lieberson, S. and Waters, M. C. 1986 ‘Ethnic Groups in Flux: the Changing Ethnic Responses of American Whites’, *Annual American Academy of Political and Social Science* 487:79-91.

Lieberson, S. and Waters, M. C. 1988. *From Many Strands. Ethnic and Racial Groups in Contemporary America*. New York: Russell Sage Foundation.

Mare, R. D. 1991 ‘Five Decades of Educational Assortative Mating’, *American Sociological Review* 56:15-32.

McGee et al. 1999. ‘Self-reported Health Status and Mortality in a Multiethnic US Cohort’. *American Journal of Epidemiology* 149:1

Meng, X. and Gregory, R. G. 2005 ‘ Intermarriage and the Economic Assimilation of Immigrants’, *Journal of Labor Economics* 23:135-175.

Merton, R.K. 1941. ‘Intermarriage and Social Structure: Fact and Theory’. *Psychiatry* 4:361-374.

Monahan, T. 1976. ‘An Overview of Statistics on Interracial Marriage in the United States, with Data on Its Extent from 1963-1970’. *Journal of Marriage and the Family* 38:223-231.

Nielsen, H. S., Smith, N. and Celiakaksoy, A. 2007 ‘The Effect of Marriage on Education of Immigrants: Evidence from a Policy Reform Restricting Spouse Import’, *IZA Discussion Paper*, No. 2899.

Pagnini, D. L. and Morgan, S. P. 1990. ‘Intermarriage and Social Distance among U.S. Immigrants at the Turn of the Century’. *American Journal of Sociology* 96:405-432.
Porterfield, E. 1978. *Black and White Mixed Marriages*. Chicago: Nelson-Hall.
Portes, A. 1995 ‘Children of Immigrants. Segmented Assimilation and its Determinants’, in A. Portes (ed), *The Economic Sociology of Immigration. Essays on Networks, Ethnicity, and Entrepreneurship*, pp. 248-280). New York: Russel Sage Foundation.
Qian, Z. 1999 ‘Who Intermarries? Education, Nativity, Region, and Interracial Marriage, 1980 and 1990’, *Journal of Comparative Family Studies* 30:579-597.
Qian, Z. 1997. ‘Breaking the Racial Barriers: Variations in Interracial Marriage Between 1980 and 1990’. *Demography* 34:263-276.
Qian, Z., Blair, S. L. and Ruf, S. D. 2001 ‘Asian American Interracial and Interethnic Marriages. Differences by Education and Nativity’, *International Migration Review* 35:557-586.
Rosenfeld, Michael J. 2005. ‘A Critique of Exchange Theory in Mate Selection’. *American Journal of Sociology* 110:1284-1325.
Rotte, R. and Stein, P. (Eds.) 2002 *Migration Policy and the Economy: International Experiences*. Munich.
Schoen, R., Wooldredge, J. and Thomas, B. 1989. ‘Ethnic and Educational Effects on Marriage Choice’. *Social Science Quarterly* 70:617–30.
Schoen, R. and Wooldredge, J. 1989 ‘Marriage Choices in North Carolina and Virginia, 1969-71 and 1979-81’, *Journal of Marriage and the Family* 51:465-481.
Schönwälder, L. (ed.), 2007. ‘Residential Segregation and the Integration of Immigrants: Britain, the Netherlands and Sweden’. Berlin: *WZB Discussion Paper* Nr. SP IV 2007-602.
Skinner, W.G. 1997. ‘Family Systems and Demographic Process’, In D.I. Kertzer and T. Fricke, *Anthropological Demography. Towards a New Synthesis*. Chicago: The University of Chicago Press.
Skop, E. 2001. ‘Race and Place in the Adaptation of Mariel Exiles’, *International Migration Review* 35:449-471.
South, S.J. and Messner, S.F. 1986 ‘Structural Determinants of Intergroup Association. Interracial Marriages and Crime’. *American Journal of Sociology* 91:1409-1430.
Sundquist, J. (Ed.) 2002. *Födelselandets betydelse. En rapport om hälsan hos olika invandrargrupper* [The relevance of birthplace. The health of various immigrant groups in Sweden]. Stockholm: Statens folkhälsoinstitut.
Sung, B.L. 1990. ‘Chinese American Intermarriage’. *Journal of Comparative Family Studies* 21:337-52.
Wang, Y., 2006 ‘A Critique of the Status Exchange Theory of Merton and Davis in Mate Assorting’. Paper presented at the annual meeting of the American Sociological Association, Montreal Convention Center, Montreal, Quebec, Canada, Aug 11, 2006
Wildsmith, E., Gutmann, M. P. and Gratton, B. 2003 ‘Assimilation and Intermarriage for U.S. Immigrant Groups, 1880-1990’, *History of the Family* 8:563-584.
Wirth, L. and Goldhamer, H. 1944 ‘The Hybrid and the Problem of Miscegenation’, in O. Kilenberge (Ed.), *Characteristics of American Negro*, pp. 249-260. New York and London: Harper & Brothers.
Wong, M.G. 1989. ‘A Look at Intermarriage Among Chinese in 1980’. *Sociological Perspectives* 32:87-107.
Zhou, M. 1997 ‘Segmented Assimilation: Issues, Controversies, and Recent Research on the New Second Generation’, *International Migration Review* 31:975-1008.
Zimmermann, K.E. (Ed.) 2005 *European Migration: What Do We Know?* Oxford: Oxford University Press.

Table 1. Distribution of covariates (%).

	Men	Women
Age		
17-19	2.92	3.82
20-23	9.59	12.10
24-27	17.44	18.15
28-31	21.19	18.84
32-35	18.93	16.66
36-39	15.27	14.61
40-44	14.67	15.82
Time s. first immig. (years)		
1-2	23.28	26.33
3-4	17.63	17.83
5-9	29.14	26.36
10+	29.96	29.49
Children		
No children	77.02	69.54
Cohab w child	12.86	17.87
Single w child	10.12	12.59
Education level		
Basic<9	7.78	8.13
Basic 9	12.53	10.79
High school<3	20.17	18.24
High school 3	16.59	15.59
Post-high school <3	10.98	13.56
University 3+	12.34	16.48
Post-graduate	1.57	1.31
NA	18.04	15.91
Education field		
General	29.37	28.74
Teaching	1.23	3.87
Arts and Humanities	3.05	5.39
Soc sci, Econ, Law	7.08	13.07
Science, Math, Data	4.49	3.33
Tech, Manufac	20.43	5.05
Farm, forest	0.94	0.71
Health	3.50	11.46
Services	2.51	3.10
NA	27.40	25.28
Income (base amounts)		
<1	11.16	14.12
1-2	6.90	7.40
2-3	6.30	7.47
3-4	7.66	10.78
4-5	10.71	13.55
5-6	11.34	10.60

6-7	8.89	6.21
7-8	5.62	3.29
8+	7.34	3.99
No income	24.09	22.58
Rel group size (%)	0.75	0.88
Sex ratio (M/F)	1.21	0.97
Municipality		
Metro cities	37.20	34.68
Metro suburbs	15.98	19.16
Big cities	26.53	25.03
Commuter	2.83	3.08
Rural	1.35	1.77
Manufacturing	3.89	3.78
Other>25000	7.28	7.18
Other12500-25000	3.20	3.36
Other<12500	1.73	1.95
Country of birth		
Denmark	3.19	2.98
Finland	11.22	19.89
Iceland	0.61	0.90
Norway	5.27	7.04
Belgium	0.13	0.18
France	1.47	1.02
Ireland	0.42	0.20
The Netherlands	0.66	0.62
Austria	0.33	0.29
Switzerland	0.30	0.30
Great Britain	3.36	1.53
Germany	2.00	2.92
Bosnia-Herzegovina	5.75	5.48
Greece	1.04	0.49
Italy	0.98	0.44
Croatia	0.40	0.44
Macedonia	0.13	0.13
Serbia	4.18	4.01
Spain	0.92	0.78
Rest of SE	0.41	0.30
Bulgaria	0.22	0.34
Estonia	0.22	0.78
Latvia	0.09	0.33
Lithuania	0.10	0.28
Poland	1.72	3.73
Romania	0.93	1.11
Russia	0.69	1.65
Czech Republic	0.32	0.44
Ukraine	0.07	0.30
Hungary	0.62	0.82

Rest of EE	0.12	0.21
Argentina	0.30	0.28
Bolivia	0.27	0.24
Brazil	0.28	0.80
Chile	2.93	2.98
Colombia	0.39	0.58
El Salvador	0.54	0.61
Cuba	0.28	0.17
Mexico	0.20	0.17
Peru	0.55	0.72
Rest of LA/CA	0.67	0.72
Canada	0.37	0.42
USA	1.91	2.05
Algeria	0.28	0.07
Egypt	0.19	0.06
Eritrea	1.10	1.01
Ethiopia	2.97	2.55
Gambia	0.32	0.18
Ghana	0.20	0.11
Kenya	0.15	0.20
Morocco	0.55	0.19
Somalia	2.34	2.02
South Africa	0.18	0.17
Tunisia	0.40	0.05
Uganda	0.34	0.42
Rest of Africa	1.32	1.03
Iraq	7.97	3.32
Israel	0.41	0.14
Kuwait	0.16	0.06
Lebanon	2.99	1.05
Syria	1.60	0.94
Turkey	1.81	1.19
Rest of ME	0.34	0.09
Afghanistan	0.60	0.34
Philippines	0.25	1.21
India	0.53	0.32
Iran	11.16	4.73
Japan	0.23	0.45
China	0.67	1.08
Malaysia	0.11	0.11
Pakistan	0.27	0.08
Sri Lanka	0.37	0.21
Thailand	0.53	3.92
Vietnam	1.16	1.38
Rest of Asia	1.06	0.96
Australia	0.63	0.53
New Zeeland	0.24	0.12

Country group		
DK/NO	8.46	10.02
FIN	11.22	19.89
CHENMD	6.95	4.86
CHENLD	1.14	1.10
CHLAMD	12.25	15.78
CHLALD	7.02	8.88
CHOTH	9.39	9.64
MOLA	5.25	3.97
MOOTH	33.97	17.71
OTHER	4.35	8.16
Number of marriages		
Endogamous	20951	10702
Exogamous natives	8189	11282
Exogamous others	9280	6658
No of observations	855280	544372

Table 2. Type of marriages by country group. (%)

A. Men

	Endogamy	Exogamy native	Exogamy 2nd gener.	Exogamy other	Total	
DK/NO	21	54	11	14	100	2698
FIN	49	26	14	11	100	1940
CHENMD	3	72	14	11	100	2771
CHENLD	36	35	6	23	100	341
CHLAMD	33	40	11	17	100	3815
CHLALD	42	26	7	24	100	1761
CHOTH	56	9	10	25	100	3331
MOLA	72	9	4	15	100	2124
MOOTH	71	8	3	19	100	17826
OTHER	70	12	3	14	100	1813
All	55	21	6	18	100	38420

B.Women

	Endogamy	Exogamy native	Exogamy 2nd gener.	Exogamy other	Total	
DK/NO	20	62	10	8	100	2827
FIN	29	44	14	13	100	3328
CHENMD	3	75	12	10	100	1531
CHENLD	32	43	9	16	100	257
CHLAMD	24	48	9	19	100	4318
CHLALD	22	53	10	16	100	2741
CHOTH	42	27	8	24	100	2696
MOLA	65	16	3	15	100	1275
MOOTH	73	8	2	17	100	6648
OTHER	19	60	9	11	100	3021
All	37	39	8	15	100	28642

Table 3. Type of marriage (%) by country of birth for immigrants, 17-44 years, 1990-2005

A. Men

	endog	exoswe	exo2nd	exoth	Total	N
Denmark	25	48	11	17	100	1174
Finland	49	26	14	11	100	1940
Iceland	33	47	7	13	100	175
Norway	19	58	11	12	100	1524
Belgium	6	69	10	14	100	49
France	3	66	13	18	100	378
Ireland	1	72	17	9	100	148
The Netherlands	11	65	10	14	100	316
Austria	3	54	19	23	100	94
Switzerland	6	74	7	14	100	88
Great Britain	4	71	14	11	100	1346
Germany	22	45	14	19	100	627
Bosnia-Herzegovina	74	5	5	16	100	2555
Greece	16	39	33	12	100	289
Italy	5	63	15	17	100	291
Croatia	24	8	24	44	100	168
Macedonia	52	3	25	20	100	89
Serbia	59	7	11	23	100	1664
Spain	6	60	14	20	100	185
Rest of SE	6	51	19	24	100	109
Bulgaria	69	12	3	16	100	75
Estonia	53	16	8	24	100	51
Latvia	33	28	6	33	100	18
Lithuania	62	17	0	21	100	29
Poland	70	16	8	7	100	509
Romania	80	6	3	11	100	480
Russia	54	17	4	25	100	191
Czech Republic	50	24	8	18	100	74
Ukraine	38	4	8	50	100	26
Hungary	52	22	10	17	100	157
Rest of EE	38	26	13	23	100	47
Argentina	19	40	14	27	100	70
Bolivia	34	21	15	30	100	53
Brazil	32	44	11	14	100	73
Chile	51	22	7	20	100	728
Colombia	37	28	6	28	100	110
El Salvador	56	14	3	27	100	130
Cuba	9	25	5	60	100	110
Mexico	7	62	3	28	100	29
Peru	39	30	6	26	100	137
Rest of LA/CA	19	43	13	25	100	150
Canada	2	70	14	14	100	160

USA	4	73	14	10	100	752
Algeria	46	29	9	17	100	138
Egypt	46	18	7	30	100	122
Eritrea	62	1	0	36	100	287
Ethiopia	62	4	1	33	100	968
Gambia	54	26	9	11	100	99
Ghana	62	21	1	17	100	78
Kenya	34	34	2	30	100	44
Morocco	44	35	7	15	100	246
Somalia	86	2	1	11	100	708
South Africa	6	69	11	14	100	70
Tunisia	49	27	9	15	100	216
Uganda	57	13	4	26	100	70
Rest of Africa	42	27	6	25	100	461
Iraq	77	3	1	19	100	5064
Israel	10	56	14	20	100	156
Kuwait	19	7	1	73	100	84
Lebanon	64	8	3	25	100	2130
Syria	69	5	3	23	100	1206
Turkey	74	7	4	15	100	1052
Rest of ME	22	11	5	61	100	166
Afghanistan	80	2	0	18	100	393
Philippines	68	19	7	7	100	59
India	65	15	5	14	100	249
Iran	71	12	3	14	100	4673
Japan	64	23	4	9	100	56
China	86	4	1	9	100	311
Malaysia	21	18	18	44	100	34
Pakistan	67	8	6	19	100	154
Sri Lanka	86	6	1	7	100	278
Thailand	63	21	5	11	100	107
Vietnam	84	2	0	14	100	522
Rest of Asia	65	10	4	20	100	486
Australia	1	75	12	13	100	252
New Zeeland	2	82	9	7	100	113
All	55	21	6	18	100	38420

Type of marriage (%) by country of birth for immigrants, 17-44 years, 1990-2005

B. Women

	endog	exoswe	exo2nd	exoth	Total	N
Denmark	29	52	9	10	100	992
Finland	29	44	14	13	100	3328
Iceland	37	41	7	16	100	152
Norway	15	68	11	7	100	1835
Belgium	4	79	11	7	100	57
France	5	61	14	19	100	257
Ireland	3	77	7	14	100	73
The Netherlands	18	55	11	16	100	193
Austria	3	75	11	11	100	63
Switzerland	5	71	11	13	100	84
Great Britain	7	71	12	11	100	474
Germany	21	52	10	17	100	672
Bosnia-Herzegovina	76	4	2	18	100	1714
Greece	45	24	22	10	100	114
Italy	8	65	12	15	100	131
Croatia	26	16	11	46	100	122
Macedonia	32	16	26	26	100	62
Serbia	60	8	9	23	100	1040
Spain	6	71	8	14	100	224
Rest of SE	6	63	8	23	100	64
Bulgaria	35	36	8	22	100	106
Estonia	8	49	16	27	100	206
Latvia	2	67	10	22	100	114
Lithuania	9	63	11	16	100	117
Poland	34	42	7	17	100	1037
Romania	48	29	3	20	100	433
Russia	10	58	8	24	100	683
Czech Republic	27	46	7	20	100	150
Ukraine	3	65	6	27	100	141
Hungary	45	29	12	14	100	191
Rest of EE	9	48	8	34	100	96
Argentina	14	64	8	14	100	72
Bolivia	34	36	6	25	100	53
Brazil	4	75	12	8	100	365
Chile	46	28	6	20	100	662
Colombia	21	47	13	19	100	152
El Salvador	50	27	3	20	100	119
Cuba	21	48	4	27	100	56
Mexico	0	70	16	14	100	77
Peru	26	42	9	23	100	205
Rest of LA/CA	13	57	12	18	100	231
Canada	2	77	10	11	100	168

USA	1	77	13	9	100	658
Algeria	44	15	4	37	100	27
Egypt	44	22	11	22	100	27
Eritrea	68	5	1	26	100	153
Ethiopia	63	11	1	24	100	498
Gambia	73	22	2	4	100	55
Ghana	56	35	0	9	100	34
Kenya	22	52	15	12	100	60
Morocco	30	34	6	29	100	102
Somalia	79	5	1	15	100	473
South Africa	3	67	9	21	100	33
Tunisia	73	7	3	17	100	30
Uganda	59	15	4	21	100	71
Rest of Africa	26	45	8	22	100	292
Iraq	83	3	1	13	100	1510
Israel	3	44	33	19	100	63
Kuwait	19	14	0	67	100	21
Lebanon	60	6	2	32	100	523
Syria	61	7	1	32	100	583
Turkey	78	6	4	13	100	484
Rest of ME	19	9	3	69	100	32
Afghanistan	84	3	0	13	100	100
Philippines	5	74	12	8	100	657
India	49	27	6	18	100	85
Iran	77	13	2	7	100	1681
Japan	6	73	13	9	100	193
China	42	37	5	16	100	431
Malaysia	7	69	12	12	100	68
Pakistan	60	13	0	28	100	40
Sri Lanka	62	28	1	10	100	94
Thailand	2	79	11	8	100	1587
Vietnam	70	16	2	11	100	338
Rest of Asia	22	46	9	24	100	396
Australia	1	76	13	11	100	123
New Zeeland	6	66	20	9	100	35
All	37	39	8	15	100	28642

Table 4. Effects of gender on edodogamy and exogamy (women vs. men)

	OR/RR	p	N	Wald Chi2	Overall p
Logit					
Exogamy native vs. other marriages	1.78	0.00	67062	14855	0.000
Multinomial (vs. no marriage)					
Endogamy	1.10	0.00			
Exogamy native	1.85	0.00	1399652	3.45E+07	0.000
Exogamy other	1.22	0.00			

Note: Models control for age, time since immigration, presence of children, level and field of education, income, sex ratio by immigration country age age, relative country group size by age, type of place of residence, and country of origin.

Table 5. Regression estimates of endogamy and exogamy, immigrants 17-44 years, 1990-2005

A. Men

	Multinomial logit (vs. No marriage)						Logit exog.-native vs. all other marr.	
	Endogamy		Exog.- native		Exog. - other			
	RR	p	RR	p	RR	p	OR	p
Time s. first immig. (years)								
1-2	1.00	rc	1.00	rc	1.00	rc	1.00	rc
3-4	0.82	0.00	0.84	0.00	0.77	0.00	1.02	0.66
5-9	0.65	0.00	0.71	0.00	0.70	0.00	1.15	0.00
10+	0.39	0.00	0.63	0.00	0.58	0.00	1.42	0.00
Edu level								
Basic<9	1.17	0.00	0.83	0.02	1.28	0.00	0.63	0.00
Basic 9	1.11	0.00	0.98	0.69	1.16	0.01	0.84	0.02
High school<3	1.00	rc	1.00	rc	1.00	rc	1.00	rc
High school 3	0.98	0.45	1.17	0.00	1.03	0.38	1.13	0.03
Post-high sch. <3	0.91	0.00	1.31	0.00	1.06	0.20	1.32	0.00
University 3+	1.04	0.14	1.53	0.00	1.15	0.00	1.34	0.00
Post-graduate	1.41	0.00	1.57	0.00	1.51	0.00	0.93	0.51
NA	0.78	0.00	0.96	0.44	0.86	0.00	1.17	0.03
Edu field								
General	1.00	rc	1.00	rc	1.00	rc	1.00	rc
Teaching	1.17	0.02	1.25	0.02	0.96	0.70	1.10	0.45
Arts and Human.	0.86	0.01	1.09	0.22	1.09	0.24	1.08	0.43
Soc sci, Econ, Law	1.07	0.10	1.19	0.00	1.16	0.01	0.98	0.84
Sci., Math, Data	1.09	0.07	0.91	0.19	1.23	0.00	0.76	0.00
Tech, Manufac	1.10	0.00	0.97	0.59	1.09	0.07	0.85	0.02
Farm, forest	1.24	0.00	1.06	0.62	1.04	0.75	0.86	0.30
Health	1.10	0.04	1.09	0.26	1.12	0.10	0.94	0.55
Services	1.05	0.41	1.28	0.00	1.11	0.16	1.13	0.23
NA	1.12	0.00	0.94	0.31	1.13	0.01	0.78	0.00
Income (base amounts)								
<1	0.86	0.00	0.73	0.00	0.83	0.00	0.89	0.09
1-2	0.91	0.00	0.88	0.02	0.89	0.02	0.97	0.66
2-3	0.95	0.09	0.91	0.09	1.05	0.30	0.89	0.10
3-4	0.97	0.37	0.97	0.61	1.05	0.34	0.99	0.86
4-5	1.00	rc	1.00	rc	1.00	rc	1.00	rc
5-6	1.08	0.01	0.99	0.86	1.03	0.43	0.98	0.69
6-7	1.08	0.01	0.95	0.33	1.09	0.06	0.94	0.35
7-8	1.13	0.00	1.02	0.65	1.03	0.56	1.00	0.98
8+	1.32	0.00	1.16	0.00	1.27	0.00	0.87	0.03
No income	0.63	0.00	0.35	0.00	0.53	0.00	0.69	0.00
Number of obs	855280						38420	
Wald chi2	2.7E+07						8222.06	
Prob > chi2	0						0	
Pseudo R2	0.124						0.292	
Log pseudolik.	-171094						-14098	

Note: Estimates based on models also controlling for age categories, presence of children, type of place of residence, relative group size and sex ratio in age and origin group and country of birth.

B. Women

	Multinomial logit (vs. No marriage)						Logit exog.-native	
	Endogamy		Exog.- native		Exog. - other		vs. all other marr.	
	RR	p	RR	p	RR	p	OR	p
Time s. first immig. (years)								
1-2	1.00	rc	1.00	rc	1.00	rc	1.00	rc
3-4	0.59	0.00	0.65	0.00	0.61	0.00	1.12	0.01
5-9	0.41	0.00	0.46	0.00	0.47	0.00	1.19	0.00
10+	0.24	0.00	0.35	0.00	0.37	0.00	1.42	0.00
Edu level							NA	NA
Basic<9	1.17	0.00	0.99	0.87	1.02	0.76	0.73	0.00
Basic 9	1.07	0.13	0.92	0.16	1.00	0.99	0.77	0.00
High school<3	1.00	rc	1.00	rc	1.00	rc	1.00	rc
High school 3	0.98	0.50	1.17	0.00	1.02	0.73	1.18	0.00
Post-high sch. <3	0.88	0.00	1.25	0.00	1.00	0.96	1.42	0.00
University 3+	1.01	0.85	1.53	0.00	1.23	0.00	1.50	0.00
Post-graduate	1.46	0.00	1.20	0.03	1.37	0.00	0.93	0.53
NA	0.89	0.01	0.87	0.01	0.77	0.00	1.06	0.38
Edu field								
General	1.00	rc	1.00	rc	1.00	rc	1.00	rc
Teaching	1.25	0.00	1.20	0.00	1.19	0.03	0.91	0.30
Arts and Human.	0.85	0.02	1.18	0.00	1.10	0.19	1.17	0.06
Soc sci, Econ, Law	1.04	0.36	1.22	0.00	1.15	0.02	1.07	0.33
Sci., Math, Data	1.10	0.15	0.93	0.30	1.06	0.49	0.84	0.09
Tech, Manufac	1.03	0.55	1.09	0.15	1.06	0.43	0.95	0.58
Farm, forest	0.99	0.96	0.83	0.13	1.03	0.82	0.80	0.21
Health	1.21	0.00	1.11	0.05	1.11	0.11	0.93	0.34
Services	1.28	0.00	1.03	0.71	1.20	0.04	0.84	0.08
NA	1.10	0.02	1.02	0.77	1.10	0.10	0.91	0.21
Income (base amounts)								
<1	0.95	0.24	0.87	0.00	0.87	0.00	0.86	0.01
1-2	0.80	0.00	0.88	0.00	0.86	0.01	0.97	0.68
2-3	0.94	0.18	1.05	0.20	0.91	0.07	1.13	0.05
3-4	0.97	0.43	0.98	0.67	0.98	0.66	0.96	0.43
4-5	1.00	rc	1.00	rc	1.00	rc	1.00	rc
5-6	1.03	0.57	1.04	0.35	1.02	0.66	1.00	0.95
6-7	1.05	0.41	1.10	0.05	0.96	0.57	1.11	0.14
7-8	0.93	0.38	1.21	0.00	1.08	0.36	1.15	0.12
8+	1.00	0.99	1.33	0.00	0.99	0.89	1.39	0.00
No income	0.66	0.00	0.42	0.00	0.52	0.00	0.70	0.00
Number of obs	544372						28642	
Wald chi2	1.5E+07						6483.46	
Prob > chi2	0						0	
Pseudo R2	0.137						0.268	
Log pseudolik.	-123435						-14052.2	

Note: Estimates based on models also controlling for age categories, presence of children, type of place of residence, relative group size and sex ratio in age and origin group and country of birth.

Table 6. Effects on intemarriage of country group

Men	Logit (vs other marr.)		Multinomial (vs. No marriage)					
	exoswe		endogamy		exoswe		exooth	
	OR	p	RR	p	RR	p	RR	p
DK/NO	1	rc	1	rc	1	rc	1	rc
FIN	0.36	0.00	1.92	0.00	0.61	0.00	1.89	0.00
CHENMD	1.77	0.00	0.20	0.00	1.50	0.00	1.05	0.42
CHENLD	0.39	0.00	2.07	0.00	0.65	0.00	1.06	0.62
CHLAMD	0.55	0.00	1.68	0.00	0.73	0.00	1.00	0.97
CHLALD	0.29	0.00	1.98	0.00	0.45	0.00	1.03	0.59
CHOTH	0.09	0.00	3.88	0.00	0.27	0.00	2.02	0.00
MOLA	0.09	0.00	6.77	0.00	0.34	0.00	1.28	0.00
MOOTH	0.07	0.00	8.07	0.00	0.37	0.00	2.12	0.00
OTHER	0.14	0.00	5.78	0.00	0.44	0.00	1.04	0.56
Women								
	Logit (vs other marr.)		Multinomial (vs. No marriage)					
	exoswe		endogamy		exoswe		exooth	
	OR	p	RR	p	RR	p	RR	p
DK/NO	1	rc	1	rc	1	rc	1	rc
FIN	0.52	0.00	0.90	0.18	0.69	0.00	1.87	0.00
CHENMD	2.57	0.00	0.22	0.00	2.38	0.00	1.88	0.00
CHENLD	0.52	0.00	1.99	0.00	0.83	0.06	1.36	0.02
CHLAMD	0.49	0.00	1.61	0.00	0.78	0.00	1.59	0.00
CHLALD	0.58	0.00	1.88	0.00	1.14	0.00	1.82	0.00
CHOTH	0.21	0.00	2.74	0.00	0.55	0.00	2.24	0.00
MOLA	0.18	0.00	5.19	0.00	0.70	0.00	1.90	0.00
MOOTH	0.08	0.00	6.30	0.00	0.33	0.00	2.34	0.00
OTHER	0.65	0.00	2.03	0.00	1.18	0.00	1.58	0.00

Note: Models control for age, time since immigration, presence of children, level and field of education, income, sex ratio by immigration country age age, relative country group size by age, type of place of residence, and country of origin.

Table 7. Net effects of intermarriage (exogamy with native vs all other marriages) from interaction models between country group and different covariates.

A. Time since immigration

	DK/NO		FIN		CHENMD		CHENLD		CHLAMD		CHLALD		CHOTH		MOLA		MOOTH		OTHER	
Men	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
1-2	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
3-4	1.18	0.14	1.76	0.12	1.09	0.64	0.81	0.27	1.18	0.98	0.87	0.14	0.63	0.00	0.48	0.00	0.97	0.20	0.57	0.00
5-9	2.13	0.00	2.55	0.43	0.79	0.00	0.40	0.00	1.05	0.00	0.71	0.00	0.60	0.00	0.31	0.00	1.32	0.00	0.45	0.00
10+	2.35	0.00	3.77	0.04	0.57	0.00	0.41	0.00	1.16	0.00	0.81	0.00	1.36	0.01	0.31	0.00	1.98	0.24	0.46	0.00
Women																				
1-2	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
3-4	1.74	0.00	1.39	0.19	1.22	0.07	1.44	0.59	0.95	0.00	0.90	0.00	0.70	0.00	0.59	0.00	1.36	0.19	0.78	0.00
5-9	1.90	0.00	1.47	0.11	1.09	0.01	0.44	0.00	1.11	0.00	0.58	0.00	0.61	0.00	0.44	0.00	1.76	0.65	0.57	0.00
10+	2.08	0.00	2.07	0.98	0.67	0.00	0.74	0.03	0.98	0.00	0.38	0.00	0.81	0.00	0.54	0.00	3.40	0.01	0.48	0.00

B. Education level

	DK/NO		FIN		CHENMD		CHENLD		CHLAMD		CHLALD		CHOTH		MOLA		MOOTH		OTHER	
Men	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
Basic<9	0.61	0.07	0.69	0.73	0.29	0.10	0.57	0.93	1.05	0.10	0.97	0.24	0.73	0.64	0.57	0.88	0.48	0.43	0.47	0.54
Basic 9	0.72	0.04	0.85	0.48	0.70	0.91	0.75	0.95	1.78	0.00	0.98	0.22	1.08	0.14	0.75	0.89	0.75	0.81	0.72	1.00
High school<3	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
High school 3	0.76	0.05	1.55	0.00	1.68	0.00	1.06	0.47	1.37	0.00	1.69	0.00	1.16	0.08	1.16	0.15	0.95	0.17	2.86	0.00
Post-high school <3	1.05	0.77	2.28	0.00	1.17	0.66	1.21	0.76	2.43	0.00	1.80	0.03	1.31	0.42	2.28	0.01	1.17	0.54	2.28	0.01
University 3+	0.87	0.28	1.75	0.00	1.36	0.04	1.35	0.28	2.29	0.00	3.01	0.00	2.47	0.00	1.95	0.01	1.09	0.15	1.72	0.01
Post-graduate	0.87	0.67	2.91	0.02	0.90	0.93	1.05	0.82	1.71	0.06	2.42	0.06	2.55	0.03	0.85	0.98	1.60	0.14	0.72	0.72
NA	0.85	0.24	0.70	0.45	1.45	0.02	1.91	0.08	1.99	0.00	2.48	0.00	1.63	0.02	1.44	0.07	0.97	0.43	1.18	0.27
Women																				
Basic<9	0.29	0.00	0.61	0.06	0.22	0.74	1.17	0.03	0.74	0.02	1.23	0.00	0.15	0.24	0.52	0.22	0.40	0.43	1.56	0.00
Basic 9	0.77	0.11	0.71	0.71	0.74	0.92	0.64	0.71	0.98	0.30	0.77	0.97	0.75	0.93	1.15	0.26	0.61	0.42	1.15	0.08
High school<3	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
High school 3	1.11	0.43	1.23	0.59	0.84	0.45	0.92	0.66	1.19	0.72	1.07	0.85	0.67	0.03	2.33	0.03	1.09	0.91	1.15	0.88
Post-high school <3	1.15	0.34	1.37	0.35	0.87	0.41	0.94	0.67	1.32	0.47	1.50	0.18	2.04	0.01	4.00	0.00	2.01	0.01	1.74	0.07
University 3+	0.93	0.58	1.46	0.01	0.68	0.30	1.45	0.37	1.76	0.00	1.97	0.00	2.95	0.00	6.50	0.00	2.63	0.00	1.21	0.20
Post-graduate	0.49	0.09	1.01	0.20	NA	NA	0.65	0.64	1.59	0.01	1.18	0.09	1.74	0.01	2.06	0.06	4.75	0.00	0.60	0.70
NA	0.74	0.04	0.77	0.86	0.72	0.95	0.41	0.26	1.52	0.00	2.01	0.00	0.82	0.66	0.94	0.46	0.70	0.82	1.23	0.02

C. Field of education

	DK/NO		FIN		CHENMD		CHENLD		CHLAMD		CHLALD		CHOTH		MOLA		MOOTH		OTHER	
Men	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
General	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
Teaching	1.12	0.76	1.20	0.88	1.02	0.85	1.18	0.94	1.26	0.78	0.82	0.54	1.27	0.81	0.42	0.21	0.64	0.20	2.47	0.18
Arts and Humanitie	0.79	0.35	1.91	0.03	0.77	0.95	1.20	0.51	0.85	0.81	1.76	0.03	1.37	0.23	1.42	0.34	1.14	0.22	3.76	0.00
Soc sci, Econ, Law	0.80	0.15	0.91	0.57	0.89	0.63	0.73	0.85	1.23	0.03	1.12	0.19	1.33	0.05	0.97	0.59	0.95	0.34	1.13	0.29
Science, Math, Dat	0.66	0.05	0.67	0.98	0.65	0.91	0.43	0.41	0.62	0.78	0.80	0.56	0.69	0.92	2.64	0.00	0.74	0.65	0.85	0.50
Tech, Manufac	0.63	0.00	0.82	0.16	0.92	0.07	0.51	0.63	0.59	0.68	0.81	0.22	0.81	0.24	1.08	0.05	0.91	0.01	0.66	0.85
Farm, forest	0.73	0.32	0.78	0.90	1.11	0.48	0.49	0.69	0.79	0.85	0.68	0.93	0.65	0.84	NA	NA	0.46	0.30	1.78	0.15
Health	0.65	0.05	1.94	0.00	0.44	0.29	0.53	0.77	0.62	0.85	1.13	0.13	1.31	0.05	0.78	0.75	1.03	0.06	0.95	0.43
Services	1.04	0.88	1.22	0.65	2.12	0.14	0.75	0.69	0.74	0.24	1.37	0.48	1.15	0.81	1.62	0.37	1.20	0.62	1.87	0.26
NA	0.56	0.00	0.50	0.67	0.92	0.01	1.08	0.08	0.69	0.20	1.08	0.00	0.80	0.09	1.23	0.00	0.64	0.36	0.97	0.02
Women																				
General	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
Teaching	0.69	0.08	0.86	0.38	0.67	0.95	0.75	0.91	0.71	0.90	0.79	0.64	3.57	0.00	2.03	0.03	0.83	0.59	0.73	0.87
Arts and Humanitie	0.85	0.40	0.90	0.80	0.63	0.35	0.64	0.72	1.34	0.05	1.05	0.46	4.35	0.00	3.98	0.00	2.12	0.00	0.82	0.91
Soc sci, Econ, Law	0.89	0.38	1.10	0.22	0.67	0.32	0.69	0.52	1.19	0.10	1.06	0.33	2.04	0.00	2.12	0.00	1.22	0.13	0.54	0.01
Science, Math, Dat	0.41	0.00	0.97	0.01	0.44	0.83	1.39	0.16	0.99	0.00	0.86	0.03	2.15	0.00	5.12	0.00	1.55	0.00	0.19	0.02
Tech, Manufac	0.72	0.08	0.89	0.44	0.56	0.57	1.93	0.30	0.68	0.80	0.69	0.87	2.32	0.00	1.83	0.02	1.84	0.00	0.31	0.00
Farm, forest	0.63	0.32	0.91	0.57	0.77	0.87	NA	NA	0.81	0.65	0.88	0.68	2.90	0.02	NA	NA	NA	NA	0.60	0.95
Health	0.86	0.30	0.84	0.90	0.62	0.34	0.26	0.05	0.80	0.71	0.65	0.17	2.24	0.00	0.64	0.46	1.62	0.00	0.41	0.00
Services	0.88	0.51	0.71	0.41	0.73	0.76	0.87	0.99	0.72	0.48	0.89	0.98	1.81	0.07	4.20	0.04	1.22	0.52	0.62	0.30
NA	0.71	0.02	0.82	0.42	0.75	0.84	0.51	0.35	1.04	0.03	1.10	0.01	1.63	0.00	0.81	0.57	0.78	0.65	0.60	0.28

D. Income

	DK/NO		FIN		CHENMD		CHENLD		CHLAMD		CHLALD		CHOTH		MOLA		MOOTH		OTHER	
Men	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
<1	0.85	0.52	0.79	0.84	1.16	0.36	0.44	0.22	0.79	0.79	0.84	0.95	1.11	0.44	0.72	0.64	0.73	0.57	1.89	0.03
1-2	0.96	0.88	1.37	0.36	1.39	0.29	0.99	0.95	0.80	0.56	1.41	0.27	0.97	0.97	0.49	0.11	0.84	0.63	1.51	0.25
2-3	1.11	0.64	0.61	0.14	1.11	1.00	0.74	0.47	0.82	0.28	0.69	0.17	0.73	0.25	0.72	0.26	0.99	0.66	1.15	0.94
3-4	1.02	0.93	1.03	0.97	1.27	0.43	0.63	0.41	1.11	0.75	1.11	0.76	0.99	0.94	0.42	0.03	0.89	0.57	1.07	0.89
4-5	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
5-6	1.30	0.09	0.75	0.03	0.99	0.25	0.50	0.06	1.17	0.61	0.97	0.25	0.63	0.01	0.83	0.18	0.96	0.11	0.71	0.08
6-7	1.00	0.99	1.07	0.80	1.08	0.76	0.29	0.03	0.78	0.23	0.66	0.15	0.91	0.72	0.74	0.44	1.07	0.75	0.90	0.77
7-8	1.35	0.09	1.09	0.44	0.89	0.14	0.50	0.11	1.02	0.24	1.41	0.89	0.48	0.01	0.66	0.14	1.00	0.18	0.90	0.36
8+	0.89	0.43	0.87	0.90	0.72	0.30	1.11	0.65	0.99	0.56	1.36	0.13	1.16	0.37	0.97	0.84	1.18	0.14	1.34	0.23
No income	0.50	0.00	0.99	0.04	1.03	0.00	1.31	0.06	0.81	0.02	1.07	0.01	1.15	0.00	0.51	0.94	0.37	0.16	1.24	0.00
Women																				
<1	0.67	0.03	0.57	0.53	0.98	0.21	0.58	0.77	0.89	0.21	1.51	0.00	0.89	0.26	0.74	0.79	0.42	0.07	1.92	0.00
1-2	0.58	0.00	0.79	0.25	1.05	0.07	0.86	0.50	1.11	0.01	1.77	0.00	1.34	0.00	0.65	0.78	0.53	0.75	1.83	0.00
2-3	1.12	0.48	0.97	0.50	1.29	0.68	1.10	0.97	1.07	0.84	1.73	0.06	1.05	0.80	1.14	0.97	0.67	0.05	2.10	0.01
3-4	0.89	0.41	0.89	0.99	0.94	0.85	0.91	0.96	1.23	0.09	1.12	0.27	0.72	0.39	0.54	0.24	0.81	0.67	1.45	0.02
4-5	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc	1	rc
5-6	0.90	0.50	0.89	0.91	0.86	0.86	0.54	0.48	1.02	0.56	0.96	0.82	1.08	0.48	1.03	0.78	1.22	0.22	1.29	0.13
6-7	0.81	0.21	1.05	0.23	1.49	0.09	0.76	0.93	1.23	0.07	1.08	0.32	0.92	0.67	1.20	0.46	1.47	0.03	0.96	0.56
7-8	0.74	0.17	0.91	0.47	1.42	0.12	0.63	0.85	1.81	0.00	1.11	0.30	1.05	0.33	2.42	0.09	1.47	0.05	1.62	0.05
8+	0.95	0.78	1.18	0.37	1.13	0.59	0.37	0.25	1.68	0.03	1.11	0.65	0.99	0.90	3.57	0.01	3.42	0.00	2.06	0.04
No income	0.27	0.00	0.57	0.01	1.19	0.00	0.71	0.09	0.77	0.00	1.40	0.00	0.81	0.00	0.50	0.09	0.28	0.90	1.48	0.00

Note: Estimates based on interaction models controlling for all covariates. Country group 1 is the reference category and effects in this group base effects. All other effects are net effects (base effects+interaction effects) and p-values in these cases refer to interaction effects, i.e. testing the null-hypothesis of no difference between the effect in the country group under consideration and the effect in country group 1.