Dynamics of mixed partnerships in Estonia

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Abstract:
This study investigates the dynamics of ethnically mixed partnerships in Estonia. Despite the relatively high proportion of immigrants and their descendants in the population, existing research into the formation and stability of majority-minority unions between Estonians and ethnic minorities of mainly immigrant background is limited. Whereas earlier analyses drew their evidence from cross-sectional census data, this study uses detailed life-history data. To obtain a sufficiently large sample, we pooled the Estonian Family and Fertility Survey and the Estonian Generations and Gender Survey. The results obtained from employing multiple and single decrement proportional hazards models lend support to the view that the integration of migrant populations through mixed partnering is a prolonged process. In Estonia, the experience of second-generation migrants indicates a stalling trend in the incidence of mixed partnerships between the majority population and migrant groups; the modest incidence of mixed unions extends to the third and higher generations. Second, the results identify multiple factors that can hinder or facilitate interethnic partnering. Apart from the size of the minority groups and their residential proximity to the majority population, the study underscores the salience of early acquisition of the host society language, in the parental home or at school. Third, our results for the majority population highlight the role of increased international mobility, which exposes host populations to mixed partnership formation. Finally, with regard to partnership dissolution, the study contributes evidence pertaining to the reduced stability of interethnic unions. However, it also indicates that the excess risks associated with ethnic exogamy may not extend to all types of mixed partnerships.

Keywords: Partnership formation, partnership dissolution, ethnically mixed partnership, immigrants, second generation, integration, Estonia

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Contents

1. Introduction

Large-scale migration since the Second World War has markedly changed the demographic face of Europe. In receiving countries, arriving migrants have moderated population ageing, and despite persistent sub-replacement fertility, tilted the balance of births and deaths in favour of population growth. Immigrants and their descendants born in the host countries have made European populations increasingly diverse with regard to language, ethnic affiliation and religion (Coleman 2006; 2009; Castles and Miller 2009).

In migration literature, the occurrence of ethnically mixed partnerships between migrants and the native population is considered both an important measure and a factor of integration (Gordon 1964; Hwang, Saenz, and Aquirre 1997; Lieberson and Waters 1988; Alba and Nee 2003; Holloway *et al*. 2005; Fu 2006; Feng *et al*. 2012). Research on partner choice has demonstrated that people usually prefer to choose a partner from their own group, or someone who is similar to themselves in terms of social and cultural characteristics (Kalmijn 1998). In this context, partnering between immigrants and natives is seen as a marker of advanced integration that tends to occur only after immigrants and their descendants have undergone successful structural and cultural integration into the host society, which may take several generations (Kalmijn and van Tubergen 2010; Logan and Shin 2012). However, evidence from several studies suggests that the relationship between intermarriage and other forms of immigrant integration may be reciprocal and mutually reinforcing; for instance, living with a native partner can increase labour market opportunities for migrants (Baker and Benjamin 1997; Meng and Gregory 2005; Tammaru *et al.* 2010).

In this study, we analyse the dynamics of ethnically mixed partnerships in Estonia. Our aim is to gain insight into the formation and stability of mixed partnerships between Estonians and ethnic minorities of mainly immigrant background.[1] More specifically, we are interested in the variation associated with migrant generations, characteristics of parents and early proficiency in the host country language, opportunity structure, and education. The study draws on pooled life-history data from the Estonian Family and Fertility Survey, and the Estonian Generations and Gender Survey. To investigate the formation and dissolution of mixed partnerships, we employ multiple and single decrement proportional hazards models.

[1] Minority-minority partnerships can also be ethnically mixed. Studying exogamous minority-minority partnerships may be interesting in its own right (Kao and Joyner 2006; Çelikaksoy 2012) but goes beyond the scope of this analysis.

Our study contributes to the existing literature in three ways. First, European research on mixed partnerships has focused predominantly on Western countries. By focusing on an Eastern European context, the study contributes to a more comprehensive account of the issue in different socio-economic and cultural settings.[2] Estonia offers a particularly interesting case for studying mixed partnerships because of large-scale postwar immigration, which gave the country one of the highest proportions of migrant-origin minorities in Europe; according to the last census (2011), minorities accounted for 30% of the total population. Second, the early onset of immigration resulted in a foreign-origin population that currently spans several migrant generations. This enables us to study the children of immigrants and to obtain results that can be compared to findings pertaining to the second generation in Northern and Western Europe. The cohort range of the surveys (generations born from 1924 to 1983) provides coverage of an extended period beginning in the middle of the 20th century – a period that includes repeated social upheavals. Third, we investigate the patterns separately for women and men, which permit us to explore the gender patterns in mixed partnerships.

To the best of our knowledge, this is the first study on Estonia that provides an opportunity to observe the formation and disruption of mixed partnerships in a dynamic perspective, based on detailed life-history data. Whereas earlier studies drew their evidence from cross-sectional census data (Van Ham and Tammaru 2011), our analysis ascertains the extent to which the previous results may be dependent on the analytical approach. Similarly to the latter study, we employ an approach that covers the minority as well as the majority population.

Structurally, the case study comprises seven sections. In the next section, we briefly discuss the theoretical approaches to the dynamics of interethnic partnerships, and the main empirical findings to date. We then present some historical and demographic background information on Estonia, which, along with theoretical perspectives, provides a basis for our hypotheses. The following sections explain the data and methods employed in the study, as well as empirical results on the formation and dissolution of exogamous and endogamous partnerships. The final section provides a summary and discussion of the main findings.

[2] For convenience, the foreign-origin population is referred to as the migrant population even though the descendants of such immigrants have not migrated from one country to another.

2. Theoretical perspectives and previous findings on mixed partnerships

2.1. Partnership formation

Research on marriage and partnering indicates that people generally choose partners who are similar to themselves (positive assortative mating) with regard to demographic, socio-economic and cultural characteristics (Kalmijn 1998; Kalmijn and van Tubergen 2006). As a consequence, endogamous unions are the most common, which suggests that such unions best meet the expectations and needs of the partners involved.

Immigrants and ethnic minorities frequently exhibit features that distinguish them from the native majority within the host society. These features, ranging from visible appearance to cultural values and beliefs, are viewed as a major factor that hinders the formation of ethnically mixed minority-majority parterships. However, most of these features are not static but subject to change over time. Assimilation theory has long been the most influential approach to describing the paths which lead to the integration of immigrants into the host society. It has been successfully applied to integration and trends in intermarriage among ethnic groups of European origin in the United States (Alba and Golden 1986; Lieberson and Waters 1988; Alba and Nee 2003; Spörlein, Schlueter, and van Tubergen 2013). The process of integration comprises acculturation (learning the host country language or adopting its cultural patterns) and structural integration (achieving parity with the native majority in socioeconomic status). According to *classical assimilation theory*, complete integration is achieved when there are no perceived differences between the immigrant or minority group and the native population of the host country (Gordon 1964). Integration weakens ethnic attachment and increases contact with potential partners from other groups, which increases the propensity of exogamy. In this context, inter-ethnic partnerships are seen both as an element and a logical outcome of the integration process (Lieberson and Waters 1988).

According to the assimilation perspective, the members of an ethnic minority population who have been in the host country longer, or who, by virtue of belonging to the second (or later) generation, have grown up in the host society, will be more likely to form partnerships with the native majority. Indeed, most studies concerning interethnic partnerships find that second-generation migrants are more likely to partner with natives than their first generation peers (van Niekerk 2007; Muttarak and Heath 2010; Safi 2010). This is hardly surprising, given the cultural and language barriers that many immigrants encounter upon arrival. Their

opportunities to interact with people outside their own group are further reduced if their educational and labour market experience is restricted. That said, recent evidence suggests that in a number of European countries partnership patterns of the descendants of immigrants have proven to be more complex, with intra-group unions being more common than previously expected, due in some measure to the practice of bringing co-ethnic partners from their parents' countries of origin (González-Ferrer 2006; Milewski and Hamel 2010; Hartung *et al*. 2011; Huschek, de Valk and Liefbroer 2012). Research on the descendants of immigrants has also revealed that even in the same destination country different migrant and minority groups can exhibit substantial variation in the rates of partnering with the native majority (Dribe and Lundh 2011; Spörlein, Schlueter, and van Tubergen 2013).

The integration of immigrants is also considered in the framework of the *segmented assimilation theory* (Portes and Zhou 1993; Portes, Fernández-Kelly, and Haller 2005). With reference to the United States, the proponents of this theory distinguished several pathways of integration into the host society. As alternatives to assimilation into the white middle class, they posited assimilation into the urban underclass, leading to downward mobility and the deliberate preservation of the ethnic group's identity and culture, combined with successful structural integration (Zhou 1997; Haller, Portes, and Lynch 2011). Although these specific pathways are not directly transferable to European countries (Crul and Schneider 2010; Vermeulen 2010), the idea of multiple paths to integration has attracted some interest in European studies of ethnic intermarriage (Peach 2005; Muttarak and Heath 2010; Song 2010). From a related perspective, previous research has demonstrated the salience of cultural similarity (in terms of values, language and religion) of migrants to the host society, which increases the rate of partnering with the native majority (Hurtado 1995; Lucassen and Laarman 2009; Dribe and Lundh 2011). On the individual level, intermarriage with a native in the parental generation is reported to significantly enhance the chances that a second (or later) generation migrant will cross cultural barriers and enter a minority-majority union (Monden and Smits 2005; Çelikaksoy 2012; Logan and Shin 2012).

Another factor that has been found to increase the rate of inter-ethnic partnership formation is education (Alba and Golden 1986; Kalmijn 1993; Qian 1997; Kulczyki and Lobo 2002; Fu and Heaton 2008; Hartung *et al* 2011; Huschek, de Valk, and Liefbroer 2012), although some studies have not exhibited this effect (Hwang, Saenz, and Aguirre 1997; Qian, Blair, and Ruf 2001; Gullickson 2006). According to Kalmijn (2012), the mechanisms underlying the

hypothesised positive educational gradient in intermarriage relate to both the cultural and structural perspectives. The cultural explanation relates to people's views and attitudes with regard to various ethnic groups. Overall, high educational attainment is associated with more openness toward different cultures, which leads more highly educated individuals to more readily accept an exogamous partner (Quillian 1995; Wagner and Zick 2006; Tolsma 2009). According to the structural perspective, advanced education increases the opportunities to interact with outgroup members, which may be conducive to inter-ethnic partnerships.

Finally, a popular approach to explaining both exogamy and endogamy is *social exchange theory,* laid out by Merton (1941) and Davis (1941). The social exchange perspective conceptualises union formation as a transaction process in which partners assess the resources and attributes they bring into the union, with each seeking to maximise his or her gains in the process. Since persons with equivalent resources are most likely to maximise the rewards, most unions tend to be homogamous with respect to partners' characteristics (Campell 1971; Schoen 1986). If the characteristics are not similar between potential partners, equivalence can be reached by trading different resources. For instance, a person of old age but great wealth may seek to maximise his or her gains in an exchange with a younger person who has fewer resources, thus correcting the imbalance (Becker 1981). With regard to inter-ethnic unions, exchange theory posits that majority partners must be compensated for their position as members of the dominant group. To ensure equivalence, minority partners are expected to have superior characteristics, such as greater attractiveness or better education, relative to their peers who partner endogamously. Conversely, majority partners who accept minority mates are thought to be selected for characteristics inferior to their counterparts who partner within their group. These predictions have been supported by studies of marriage between black men and white women in the US (Schoen and Wooldredge 1989; Kalmijn 1993; Bankston and Henry 1999; Qian and Lichter 2001) and interracial marriages in Brazil (Gullickson and Torche 2014). However, limited or no support for these predictions was found in studies of mixed marriages between whites and Asians (Schoen and Thomas 1989; Fu 2006; 2008; Liang and Ito 2008).

Finally, structural characteristics of the partner market are important determinants of individual choice (Blau and Schwartz 1984; Kalmijn and van Tubergen 2010; Niedomysl, Östh, and van Ham 2010). According to the *opportunity structure perspective*, the possibilities for inter-group endogamy depend on the group size and sex ratios among ethnic

minorities. Similarly, geographical concentration and segregation in other domains of society (educational system, labour market) play an important role. Related to inter-ethnic contact, proficiency in the host country language is frequently identified as a prominent factor that facilitates the formation of minority-majority partnerships (Stevens and Swicegood 1987; Hwang, Saenz, and Aguirre 1997; Furtado and Theodoropoulos 2001; Kulczycki and Lobo 2002; Huijnk, Verkuyiten, and Coenders 2010).

2.2. Partnership dissolution

Several theoretical perspectives have been developed for explaining the decision to dissolve a partnership. According to the literature, homogamy theory and convergence theory are often regarded as two competing approaches that have guided recent research on the dissolution of inter-ethnic partnerships (Jones 1996; Feng *et al.* 2012; Smith, Maas, and van Tubergen 2012).

The *homogamy theory* builds on the general observation that people prefer a partner who has similar traits with respect to a variety of characteristics, including ethnic background, language and religious affiliation. As discussed in the previous section, the structure of the marriage market (educational institutions, workplaces, neighbourhoods and social networks) also favours homogamy, as opportunities for meeting a partner with similar traits are higher than those for meeting someone with different characteristics. As a consequence, interethnic partnerships tend to be regarded as aberrant, while co-ethnic unions are usually seen as the norm. Applying homogamy theory leads to the prediction that ethnically mixed unions are more prone to disruption than mono-ethnic partnerships (Kalmijn, de Graaf, and Jannsen 2005).

More specifically, the proponents of homogamy theory have identified several mechanisms which may account for the elevated dissolution risk among mixed couples. First, partners in interethnic unions have been socialised in different environments, which makes it less likely that their preferences, values and norms will agree. This is viewed as a source of stress, disagreement and conflict that reduces participation in joint activities and makes it more difficult for partners to meet each other's expectations (Kalmijn, de Graaf, and Jannsen 2005; Dribe and Lundh 2012). Further, marrying across ethnic boundaries may lead to pressure and reduced support from third parties (families of partners, social networks, etc.) and thus put an

additional strain on partners (Kalmijn 1998). With reference to the United States, Yancey (2007) has shown that disapproval may develop into severe discrimination against mixed couples. Consistent with the prediction of homogamy theory, a higher likelihood of union disruption in mixed partnerships has been reported in a number of European studies (Finnäs 1997; Kalmijn, de Graaf, and Jannsen 2005; Dribe and Lund 2012; Smith, Maas and van Tubergen 2012; Milewski and Kulu 2014). However, other studies have not found supportive evidence (Jones 1996; Zhang and van Hook 2009; Feng *et al*. 2012).

The *convergence theory* derives its argument from the fact that divorce risks and related cultural attitudes vary among ethnic groups (Jones 1996). Some groups take a liberal stance towards partnership dissolution while others may be less tolerant. Variation in attitudes is maintained by socialisation mechanisms: attitudes are developed during childhood and adolescence through intergenerational transmission of norms and values. Also, values and norms are imposed and reproduced in social networks (Kalmijn 1998). Based on these considerations, convergence theory posits that in the case of interethnic unions, the dissolution risks of partners are joined: it is expected that the probability of disruption of a mixed union falls between those of the ethnic groups involved. According to Jones (1996), the risk of partnership disruption does not necessarily reflect the average risk of the two groups but rather the higher risk among the groups involved. Support for the convergence theory comes from several studies in Europe and the United States (Jones 1994; 1996; Zhang and van Hook 2009; Feng *et al*. 2012; Smith, Maas, and van Tubergen 2012).

Finally, in addition to the homogamy and convergence theories, the literature on partnership dissolution draws attention to the possibility that individuals who marry endogamously have traits that make them more prone to union disruption than individuals who partner endogamously (Smith, Maas, and van Tubergen 2012). Mixed partnerships may differ with regard to a variety of characteristics, including age at union formation, type of union (cohabitation or registered marriage), number of children, socio-economic characteristics of partners, etc; selection for some of these traits can potentially reduce union stability. Further, individuals who choose an out-group partnership may be more individualistic, which tends to expose them to a higher risk of partnership disruption (Bumpass and Sweet 1972). Finally, in mixed unions the dissimilarity between partners may extend to other characteristics which, in line with the homogamy argument, increases the risk of union disruption. Most recent studies provide some evidence in support of the selectivity argument (Kalmijn, de Graaf, and Jannsen

2005; Dribe and Lundh 2012; Milewski and Kulu 2014). Remarkably, Feng *et al*. (2012), in their study on the United Kingdom, completely disproved the excess risk of partnership disruption associated with ethnic exogamy, after controlling for partner characteristics.

3. The context

3.1. Ethnic minorities in Estonia

Estonia emerged as an independent nation in 1918, in the closing stages of the First World War. According to the last pre-war census (1934), the proportion of ethnic Estonians was 88%; the main historical minority groups were Russians (8%), Germans (2%), Swedes (0.7%), Latvians (0.5%) and Jews (0.4%), which, along with some smaller groups, comprised 12% of the total population (Statistics Estonia 1937). In June 1940, the Soviets occupied Estonia and forcefully incorporated it into the Soviet Union. It was replaced by Nazi German occupation in 1941, after which Soviet rule was restored in 1944 and lasted until 1991. Population data show that the loss of the country's independence, war, and geopolitical re-arrangements took a particularly heavy toll on ethnic minorities. From 1939 to 1944, under a variety of circumstances (complete repatriation of Germans and Swedes, the Soviet and Nazi repressions, the Holocaust, and the annexation of the largely minority-inhabited border regions to the Russian Federation), Estonia lost about three fourths of its historical minority population (Katus, Puur, and Sakkeus 2000). Although the majority population had also suffered large demographic losses, it is estimated that the proportion of ethnic minorities fell to a mere 3% of the population by early 1945 (Katus 1990).

Large-scale immigration to Estonia started shortly after the country was re-incorporated into the Soviet Union, and remained rather high until the late 1980s (Sakkeus 1994). In the Soviet context, central authorities sent communist party administrators, military personnel, and a large industrial workforce to Estonia. This was facilitated by targeted recruitment and housing policies that provided the administration and enterprises with efficient means to attract labour migrants from various regions of the former USSR (Kulu 2003; Kährik 2006). It has also been noted that somewhat higher standard of living made Estonia and the other Baltic countries attractive to immigrants (Misiunas and Taagepera 1993; Kahk and Tarvel 1997). This persistent immigration entailed a major transformation in the population composition. The proportion of the majority population decreased from an estimated 97% in 1945 to 62% in

1989. In contrast, the share of ethnic minority groups more than decupled over the same period and reached 38% at the last Soviet enumeration (1989).

The restoration of Estonia's independence in 1991 halted large-scale immigration and triggered a wave of return migration (Tammaru and Kulu 2003). At the turn of the 21st century, ethnic minority groups constituted 32% of the total population of Estonia. During the 2000s, their share has further decreased slightly, driven by negative net migration and the excess of deaths over births; in 2014 ethnic minority groups constituted 31% of the total population. Unlike in the pre-war period, the contemporary minority population in Estonia is of predominantly migrant origin. However, due to the early onset of large-scale immigration, the balance between migrants and their descendants has tilted in favour of the latter among the ethnic minority population in Estonia. According to the 2011 census, the first generation comprised 40% of the migrant population, while the second and subsequent generations comprised 60% (ESA 2015).[3]

The ethnic origin of minority groups reflects the geography of post-war migration to Estonia. According to the 2011 census, three Slavic groups accounted for an overwhelming 92% of the minority population (Russians 83%, Ukrainians 6% and Belorussians 3%).[4] The fourth largest minority group were Finns with 2%, followed by other relatively small groups, including Tatars (0.5%), Jews (0.5%), Latvians (0.5%), Lithuanians (0.4%), Poles (0.4%), Germans (0.4%) and Armenians (0.4%). In total, the last population census enumerated individuals belonging to 180 different ethnic backgrounds.

Finally, an interesting feature of the Estonian context pertains to the fact that a noticeable proportion of the majority population also has an immigrant background. Following the onset of the demographic transition in the middle of the 19th century, Estonia entered the stage of large scale emigration. The majority of emigrants from Estonia settled in the neighbouring provinces of Pskov, Vitebsk, and the city of St. Petersburg and its surrounding areas, while the farther emigrants settled in the sparsely populated frontiers of the Russian Empire (Kulu 2000). As a result, nearly 20% of Estonians lived outside their ethnic borders in the early 20th century. During the Second World War, a second wave of emigration emerged when about

[3] Note that the census figures comprise all age groups. The surveys on which this case study draws cover adult age groups, which contain a higher proportion of first-generation migrants and a lower proportion of their descendants.
[4] Among the post-1990 arrivals, ethnic origin has become more diverse, but the latter group is still too small to produce a general pattern. For instance, in the intercensal period 2000–2011, the proportion of Russians had decreased to 37% among the enumerated arrivals (ESA 2015).

7% of ethnic Estonians fled to Western countries as refugees. Emigration to Russia was followed by significant return flows, which occurred in the early 1920s after the establishment of the Estonian Republic, and in the 1940s and 1950s following the annexation of Estonia into the Soviet Union. The combined number of returnees in these two waves (former emigrants and their descendants) amounted to 9% of the ethnic Estonians residing in the country on the eve of the Second World War (Kulu 1997). Political repression and deportations during the 1940s and early 1950s added a different layer to the migration history of the majority population.

This migration experience is common to a considerable proportion of the majority covered in this study. Whatever the individual situations involve — foreign-born parents, birth and socialisation in another country, or residence abroad for several years — this complex experience may affect the propensity to enter a mixed partnership, and deserves attention in this study.

3.2. Integration of ethnic minorities

A characteristic feature of the ethnic minority population in Estonia is its relatively limited and uneven integration into the host society. This is most clearly visible in the host country language skills, which, to a large extent, constitutes a legacy of the period when Estonia was under Soviet rule.[5] In the late 1980s, a mere 15% of the minority population residing in the country were fluent in Estonian (Pavlenko 2008). Since then, language proficiency has gradually improved, reflecting the nation-building process in the newly-independent Estonia. The 2011 census reported that 43% of the members of the ethnic minority population could speak the host country language but it should be noted that this figure may include those with a relatively elementary knowledge of the Estonian language. Language proficiency appears highest (about 70%) among the young adult age groups of the ethnic minority population. Language proficiency decreases in the older generations, reaching 20–25% among those aged 70 and over.

Integration is hindered by a very high concentration of ethnic minorities in certain areas of the country. At the time of the last census, 45% of ethnic minorities resided in Tallinn and another 31% lived in urban settlements in Ida-Viru county in the north-east of the country. As

[5] In the former Soviet Union, Russian was promoted as the main language of inter-ethnic communication.

a result, ethnic minorities comprised 45% of the population of the capital city and 88% of the north-eastern industrial towns. In contrast, minorities formed on average 9% of the rural population, with an even lower percentage in most areas. The contemporary spatial distribution of minorities emerged in the 1950s and 1960s, and has undergone relatively little change since then (Tammaru and Kontuly 2011).

Another potent factor that maintains the segregation between the majority and minority population is the linguistic divide in the Estonian educational system (Rannut 2008). During the Soviet period, there were separate schools with Estonian and Russian as the language of instruction: the latter followed the curricula developed for schools in the Russian Federation. Although extensive changes have been introduced into the Estonia education system since 1991, the basic division of general education by language of instruction still persists, restricting contacts between minority and majority youth.[6]

Finally, labour market studies have revealed considerable differences in the structure of the minority and majority workforce in Estonia (Pavelson and Luuk 2002). During the Soviet period, ethnic minorities were strongly over-represented in manufacturing, particularly in large industrial enterprises, the transport, and communication, as well as in sectors implementing Soviet administration. At the same time, the share of ethnic minorities in agriculture, education, culture, health care and services remained low. However, despite large contrasts in the sectoral structure, the difference between the minority and majority workforce in the proportion of manual jobs was small (Puur 2000).

Following the collapse of the centrally planned economy and the restoration of Estonian independence, minorities have experienced greater difficulties in adapting to the new labour market realities (Luuk 2009).[7] Although the structure of the economy has significantly changed since the early 1990s, differences in the structure of the minority and majority workforce persist. Unlike in the past, minority workers are over-represented in manual jobs,

[6] The importance of the Estonian language has increased at all levels of education. Language immersion programmes have become more widespread in Russian basic schools. At the upper secondary level, a current regulation stipulates that 60% of subjects must be taught in Estonian. Also, the proportion of minority children who are enrolled in Estonian schools has increased. At the tertiary level, publicly-funded universities have reduced the number of Russian-language programmes and moved to teaching mainly in Estonian.

[7] Minorities' employment rates and earnings tend to be systematically lower and unemployment rates higher than among the majority population. From 2000 to 2014, the difference in employment and unemployment rates between the majority and minority populations (age groups 15–74) ranged between 2 and 5 percentage points, and 3 and 10 percentage points respectively; net salaries of minority employees were on average 10–15% lower from 1995 to 2007 (Leping and Toomet 2008; ESA 2015).

which closely resembles patterns observed in the countries of Western Europe (Heath and Cheung 2007; Rendall *et al*. 2010). In some areas (e.g. the capital region), the nearly identical size of the minority and majority groups seems to have supported the emergence of a dual, ethnically segmented labour market, which can be viewed as yet another obstacle to integration (Lindemann 2013).

3.3. Evidence pertaining to ethnically mixed partnerships in Estonia

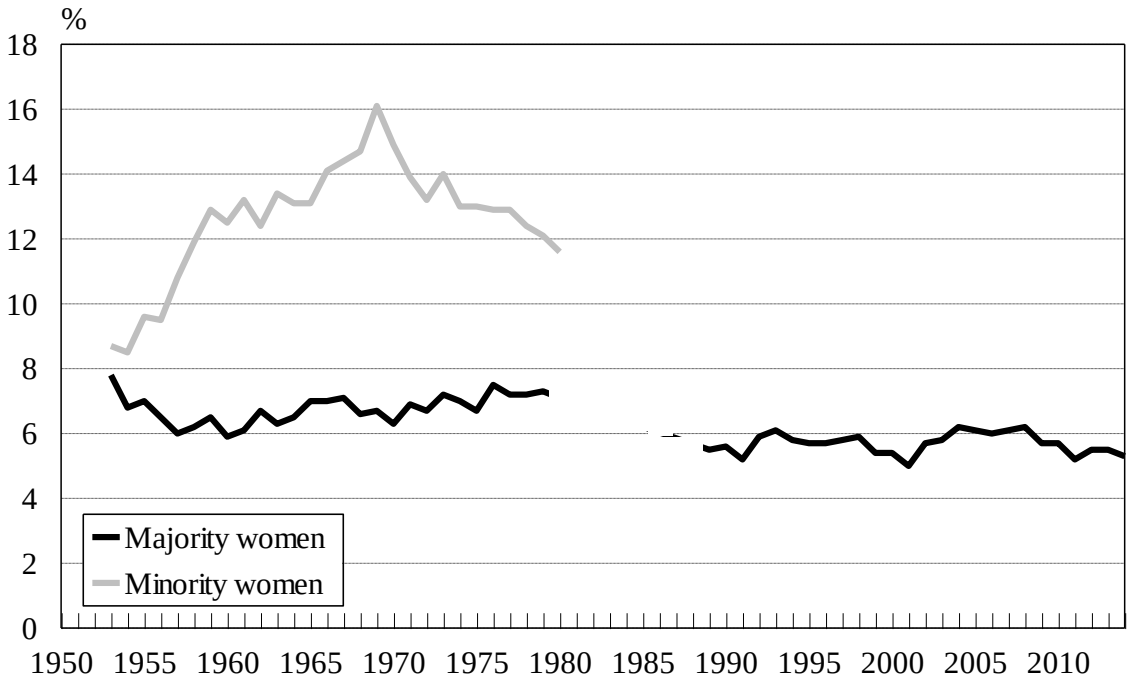
In Estonia, statistical evidence concerning the spread and dynamics of inter-ethnic partnerships is relatively limited for the post-war decades. Although data on the ethnicity of grooms and brides were collected as part of the former Soviet Union's vital registration system, cross-tabulations of marriages by ethnicity of the groom and the bride were produced only for some years; moreover, the tabulations were for official use and were never published (Botev 2002; Katus and Puur 2003). Data from sample surveys were also scarce. Although some studies based on survey data were conducted (Roosson 1984), the samples were too small to draw any detailed conclusions. The most comprehensive statistical estimates concerning ethnic intermarriage are those based on censuses returns. Volkov (1989) reported that between the 1959 and 1979 censuses, the proportion of ethnically mixed couples increased from 10% to 16% in Estonia. According to Volkov's account, among ethnic Estonians, majority-minority couples constituted 13% of all married and cohabiting couples as of the late 1970s. Estonian men were somewhat more likely to have a minority partner than Estonian women (7% and 6% respectively). Reflecting the impact of large-scale immigration, these figures markedly exceed the levels reported for pre-war Estonia.[8] Unfortunately, no comparable figures on the prevalence of minority-majority unions are available for the ethnic minority population for that period.

Surprisingly, the availability of official statistics on mixed partnerships has not significantly improved since 1991. The public database of Statistics Estonia provides no information on the incidence of mixed marriages, although data on the ethnicity of grooms and brides are recorded in the vital registration system. To provide an indirect account of the trend, Figure 1 presents evidence of mixed parentage as reported in birth statistics.[9] For majority women, the data suggests relatively minor changes in the incidence of minority-majority parentage. From

[8] From 1932 to 1934, the proportion of ethnically mixed marriages was less than 3% in Estonia (Roosson 1984).
[9] The account is based on registered births for which information was available on both parents. Births to single mothers were not considered.

1953 to 1980, the level ranged between 8% and 6%, decreasing in the 1950s and increasing slightly in the 1960s and 1970s. The gap in the data for 1980–1988 prevents us from presenting a complete time series but the level reported after the gap suggests that the proportion must have decreased in the 1980s. Despite minor fluctuations, since the turn of the 1990s the incidence of mixed parentage has neither increased nor decreased (on average 6% of children born to majority mothers from 1990 to 2014 have had a minority father). For minority women, we were able to retrieve comparable statistics only for the period 1953–1980. The data reveal a turning point around 1970, when the incidence of mixed parentage began to decline. Although the time series are incomplete, we think that they provide some useful background for interpreting our results.

Figure 1. Proportion of mixed (minority-majority) parentage. Live births, Estonia, 1953–2014



Source: ESA 2015; Estonian Institute for Population Studies, fertility database.

As regards more recent demographic research, within the framework of a comparative study on the situation of historical minority populations in Europe, Katus, Puur, and Sakkeus (2000) provided evidence for the spread of mixed partnerships among Russian and Ingerian minorities. Van Ham and Tammaru (2011), using data from the 2000 census, analysed the formation of minority-majority unions. In accord with the assimilation perspective, they found that mixed ethnic partnerships were more common among second- and third-generation immigrants as compared with the first generation. Members of the three largest groups

(Russians, Ukrainians and Byelorussians) were found to be the least likely to form partnerships with the majority population, while Finns, who are culturally close to Estonians, appeared to be the most likely to form mixed partnerships with the native majority. The rate of mixed partnership formation was highest among members of the minority population who resided in rural areas with the greatest exposure to the native majority. Contrary to expectations derived from the social exchange theory, highly educated members of the ethnic minority population seemed to prefer co-ethnic rather than majority partners. The study applied a two-sided design and analysed mixed partnerships from the viewpoint of the majority population as well. Dissolution of mixed inter-ethnic partnerships was analysed by Katus, Puur and Põldma (2002), who drew their evidence from the Estonian Family and Fertility Survey (female birth cohorts 1924–1973). Controlling for various factors, the results indicated that minority-majority partnerships had a significantly elevated risk of disruption relative to endogamous unions within the native population.

Despite some interesting results, previous research pertaining to mixed partnerships in Estonia has some serious limitations. The analysis of partnership formation was constrained by the cross-sectional nature of the data, which did not allow the authors to account for the bias introduced by the differential rate of union dissolution among inter- and intragroup partnerships. Combined with a limited choice of explanatory variables available from the census, the cross-sectional approach also prevented further elaboration of the observed relationships. The previous research on partnership dissolution was limited to the native majority. This study aims to advance the aforementioned research by taking advantage of a life history dataset that covers both the majority population and minority groups in Estonia.

4. Research aim and hypotheses

The aim of this case study is to analyse the formation and stability of mixed partnerships between the ethnic minority and majority populations in Estonia. The review of theoretical considerations, previous empirical findings, and the country context leads us to the following hypotheses.

Our first hypothesis (H1) is that the likelihood of forming ethnically mixed partnerships increases across migrant generations. This assertion draws mainly on the socialisation argument embedded in the assimilation perspective. As the second- and particularly the third-

generation members of minority groups develop closer ties to the host society, they are expected to partner with the majority population at a higher rate than the first generation. However, considering the relatively slow integration of ethnic minorities in Estonia discussed above, and the contextual factors that have hindered the process, it is also possible that we will find a relatively small difference in the rate of endogamy between migrants and their descendants.

In order to gain insight into the mechanisms that drive the plausible intergenerational change in the occurrence of mixed partnerships, we take advantage of evidence that pertains to parental the home and formative years. Our second hypothesis (H2) posits that the characteristics of the parental family can substantially increase the probability of starting an interethnic union. In accord with the socialisation perspective, we assume that having mixed minority-majority parentage may be particularly influential, as it entails familiarity with the culture and values prevailing in the host society. In testing our second hypothesis, we pay additional attention to early exposure to the majority language in the parental home or at school, which is assumed to significantly facilitate the formation of mixed unions.

Our third hypothesis (H3) derives from the opportunity structure perspective. It posits that in addition to the abovementioned factors, partnership decisions are strongly influenced by characteristics of the local marriage market that affect the probability of a person meeting somebody from another group. As regards ethnic minorities, we expect the group size and share of the majority population in the municipality of residence to be among the important predictors. We expect members of larger minority groups to have better chances of finding a co-ethnic partner, and hence, to have a lower rate of exogamy. By contrast, a higher proportion of the majority population in the municipality of residence is expected to increase the rate of mixed partnership formation among minority groups.

Our fourth hypothesis (H4) relates to socio-economic differentials in mixed partnership formation. In accord with the predictions of social exchange theory, we hypothesise that minority group members with higher educational status can trade their socio-economic status for connections with the majority population. This leads us to expect a positive association between educational level and the rate of ethnic heterogamy among the minority population. A positive relationship also follows from the assimilation perspective, according to which minority group members with high educational attainment should be in a better position to

overcome the sructural and cultural barriers that separate ethnic minorities from the majority population. However, we are aware that other factors, for instance, changes in the relative position of minority groups and the majority population in Estonia during the 20th century may lead to different outcomes.

Our fifth hypothesis (H5) concerns the stability of partnerships. In line with the predictions of homogamy theory, we anticipate that ethnically mixed unions would have a higher likelihood of disruption than endogamous unions. Given the high divorce rates in both Estonia and Russia, from which a large part of the minority population originates, we find it difficult to test hypotheses derived from the convergence theory. However, we can test the selectivity/composition hypothesis (H6), according to which differences between ethnically mixed and endogamous partnerships are partly attributable to differences in the characteristics of the unions and the partners involved in them.

We make use of a two-sided analytical approach to investigate the formation and dissolution of partnerships from the perspective of the majority population as well. For some hypotheses, this leads to the expectation of different, though from the substantive point of view, complementary, results for the latter. For instance, for H1 we anticipate a negative rather than positive association between migrant background and mixed partneship formation among the majority population. For H3, an elevated rather than reduced rate of mixed partnership formation can be expected in areas with a high concentration of the minority population. For H4, social exchange theory leads us to anticipate a negative rather than positive association between educational attainment and the likelihood of forming a mixed union. At the same time, mixed parentage and early proficiency in languages other than that of one's own group are expected to increase the probability of mixed partnership formation among the majority population as well. Likewise, we do not expect much group-specificity in results pertaining to union disruption.

Finally, the inclusion of women and men in the analysis provides evidence for gender-specificity in the dynamics of mixed partnerships. We anticipate that the hypothesised patterns are, to a large extent, similar for both sexes. However, against the backdrop of previous research, some evidence of gender differences seems plausible.

5. Data and analytical approach

The data for this study come from the Estonian Generations and Gender Survey (2004/2005), and the Estonian Family and Fertility Survey (1994/1997).[10] Both surveys collected detailed histories of partnership formation and dissolution, along with childbearing, educational, employment, and migration histories. The surveys were based on nationally representative probability samples of the resident population, with a reduced sampling rate for men. Cases were selected using a single-stage random procedure; the response rates were respectively 70% (GGS) and 85% (FFS). After merging the two datasets, the combined sample includes 10,031 women and 5,327 men born between 1924 and 1983. Further information on the surveys is available from methodological reports and other publications (EKDK 1995; 1999; Katus, Puur, and Põldma 2008).

The ethnic categories are derived from survey questions on the self-reported ethnicity of the respondent and his/her partner. In order to define ethnically mixed partnerships, either cohabitation or marriage, we used the self-reported ethnicity of the respondent and his/her partner. We distinguished three main types of partnerships. A minority-majority partnership was defined as marriage or cohabitation of an ethnic minority individual (non-Estonian) with a member of the majority group (ethnic Estonian). A minority-minority union was defined as a union between partners who both belong to ethnic minority groups; majority-majority unions include unions in which both partners are ethnic Estonians. In most parts of this study, we use the terms ´mixed', ´inter-ethnic', and ´exogamous' partnership interchangeably to denote unions between members of the majority and minority populations.

The empirical analysis is structured in two parts. In the first part, we analyse the formation of exogamous and endogamous first partnerships; the second part focuses on the dissolution of exogamous and endogamous first unions, by divorce or separation. In both parts, we apply a two-sided design. This means that we analyse sub-samples for minority and majority populations separately. For both groups, we investigate the factors that are associated with the likelihood of forming and dissolving endogamous and exogamous unions. From the substantive point of view, the two-sided approach allows us to examine the extent to which

[10] Due to budget constraints, the male survey of the Estonian FFS was carried out three years after the female survey. The survey methodology, including the range of birth cohorts of the target population, was similar in the male and female surveys. In the Estonian GGS, data for women and men were collected simultaneously.

factors shaping the formation and survival of mixed partnerships vary across minority and majority groups.

To analyse the abovementioned transitions, we used proportional hazards event history models. Depending on the transition in question, the models were specified as single decrement (partnership dissolution) or competing risk models (partnership formation). Table 1 presents the number of respondents, exposure time and partnership transitions in the study disaggregated by minority and majority groups.

Table 1. Number of respondents, exposure time and events, Estonia, birth cohorts 1924–1983

	Respondents	Exposure time (person-months)	Events		
			Total	Endo-gamous	Exo-gamous
Transition first partnership					
Minority women	3589	326652	3358	2994	364
Minority men	1791	201546	1614	1459	155
Majority women	6442	658374	5833	5421	412
Majority men	3536	430691	3097	2862	235
Disruption of first partnership					
Minority women	3351	613434	1067		
Minority men	1617	317268	409		
Majority women	5841	1033291	1807		
Majority men	3109	568610	894		

Source: Estonian FFS and GGS, authors' calculations

For each transition investigated, we estimated a series of main effects models. For partnership formation, the first model (M1) included process time, migrant generation, and birth cohort. In the next step (M2a and M2b), covariates pertaining to minority-majority parentage and early exposure to the majority language were added. In the third step (M3), we included covariates in order to account for the influence of opportunity structure (size of the minority group, the proportion of the majority population in the municipality of residence, and type of settlement). In the fourth step (M4), we added controls for parity/pregnancy status, educational attainment, and labour market status. In the final step (Model M5), we included a control for migration history (time before and after arrival in Estonia). The proportion of the majority population in the municipality of residence, type of settlement, parity/pregnancy status, educational attainment, labour market status and the control for migration history were specified as time-varying covariates; other covariates were time-fixed. In the two-sided

approach, the size of the minority group was not applicable to the models for the majority population, while some other variables were re-specified for the latter.

For partnership dissolution, the initial model (M1) included process time, type of union (endogamous or exogamous) and birth cohort. In the following steps, the controls for parental divorce (M2), age at union formation, mode of union formation (direct marriage or cohabitaton) and parity/pregnancy status (M3), educational attainment and labour market status (M4), type of settlement (M5), and migration history (M6) were added. Again, type of settlement, parity/pregnancy status, educational attainment, labour market status and the control for migration history were specified as time-varying covariates.

Models were fitted separately for women and men, which allows us to discern the gender-specificity of the observed patterns. The results, produced as maximum likelihood estimates of parameter effects, are presented in the form of hazard ratios.

6. Results

6.1. Partnership formation

6.1.1. Formation of partnerships among the minority population

Table 2 presents the results from a series of competing risk models indicating the probability that ethnic minority women and men will enter partnership with a majority partner. The dependent variable in the models is the rate of entry into an exogamous first partnership. Exposure was measured in monthly increments, starting at age 15. The respondents were followed until their entry into an exogamous first partnership, or censoring at entry into their first union with a minority partner, the interview, or the respondent's 45th birthday, whichever event occurred first.

The initial model (M1) includes the migrant generation and the birth cohort, as well as the duration variable. The results for minority women (Panel A) indicate that belonging to a third- or higher generation of migrants markedly (+71%) increases the chance of partnering with majority men, relative to their first generation peers (the reference group). By contrast, belonging to the second generation makes no significant difference in the likelihood of entering a mixed union with an Estonian partner.

In the second step (Models M2a and M2b), we added covariates pertaining to minority-majority parentage and early exposure to the majority language. As expected, mixed parentage almost doubled (+85%) the likelihood of partnering with Estonian men. An even stronger link was found between exogamous unions and the language variables. Exposure to the majority language in the parental family triples the probability that a minority woman would partner with an ethnic Estonian, while enrolment in a majority-language school leads to a difference 3.6 times greater than the reference group (minority women who were enrolled in minority-language schools).

An interesting finding relates to the change in the effect of the migrant generation that follows the inclusion of the aforementioned variables in the model. Adding the control for mixed parentage reduces the hazard ratio for the third and higher generation women from 71% to 43%. The inclusion of additional controls for early exposure to the majority language produces a further reduction in the hazard ratio, which basically eliminates the difference between third- and higher-generation women and the reference group (the first generation). The change observed for second-generation migrants is smaller but runs in the same direction. Although the difference from the reference group does not reach the level of statistical significance, when mixed parentage and the language variables are considered, minority women in the second generation exhibit a reduced rather than an elevated likelihood of partnering with an Estonian man.

Table 2. Hazard ratios for the transition to exogamous first partnership from proportional hazards models, Estonia, minority population, birth cohorts 1924–1983.

	A. WOMEN						B. MEN					
	M1	M2a	M2b	M3	M4	M5	M1	M2a	M2b	M3	M4	M5
Migrant status / generation												
3rd generation / native	1.71***	1.43**	1.03	0.98	1.05	1.03	1.38	1.21	0.78	0.75	0.78	0.8
2nd generation	1.08	1.05	0.86	0.8	0.76*	0.74*	0.69	0.69	0.62**	0.62**	0.62**	0.62**
1st generation	1	1	1	1	1	1	1	1	1	1	1	1
Age at first union												
age 15-18	0.16***	0.16***	0.16***	0.17***	0.26***	0.26***	0.09***	0.09***	0.09***	0.08***	0.09***	0.09***
age 19-22	1	1	1	1	1	1	1	1	1	1	1	1
age 23-26	1.38**	1.38**	1.40***	1.38**	1.24	1.23	2.70***	2.70***	2.81***	2.46***	1.86***	1.82***
age 27-30	0.82	0.82	0.83	0.78	0.63*	0.62*	2.43***	2.42***	2.71***	2.23***	1.72**	1.65*
age 31-45	0.30***	0.30***	0.27***	0.26***	0.21***	0.21***	1.34	1.34	1.42	0.95	0.86	0.81
Birth cohort												
1924-29	0.69*	0.71	0.66*	0.62**	0.69	0.71	0.62	0.63	0.69	0.74	0.85	0.93
1930-39	1.1	1.11	1.04	1.00	1.08	1.09	0.75	0.75	0.78	0.78	0.85	0.91
1940-49	1.43**	1.44**	1.33*	1.27	1.39*	1.39*	0.81	0.81	0.79	0.71	0.77	0.79
1950-59	1	1	1	1	1	1	1	1	1	1	1	1
1960-69	1.11	1.136	1.2	1.16	1.12	1.11	1.11	1.06	1.27	1.34	1.38	1.32
1970-79	1.02	1.08	1.15	1.12	1.14	1.12	0.78	0.78	0.67	0.68	0.81	0.76
1980-83	1.12	1.17	1.08	1.21	1.66	1.62	1.07	1.08	1.16	1.03	1.18	1.06
Mixed parentage												
Yes		1.85***	1.09	1.04	1.08	1.08		1.73*	0.62	0.67	0.77	0.78
No		1	1	1	1	1		1	1	1	1	1
Majority language at parental home												
Yes			3.00***	1.77***	1.50**	1.49**			6.26***	3.70***	3.55***	3.53***
No			1	1	1	1			1	1	1	1
Majority language at school												
Yes			3.65***	2.23***	2.16***	2.17***			3.01***	1.85**	2.22**	2.24**
No			1	1	1	1			1	1	1	1
PSU1			1.558***	1.478***	1.618***	1.623***			1.210	1.037	1.050	1.057
Minority group size												
Size (Ln)				0.91***	0.90***	0.90***				0.86***	0.87***	0.87***
Urban-rural residence												
Rural				1.18	1.12	1.16				1.19	1.14	1.22
Urban				1	1	1				1	1	1
Share of majority in the municipality of reisdence												
0-29%				1	1	1				1	1	1
30-69%				1.59***	1.51***	1.34				2.30***	1.83***	1.24
70+%				3.10***	3.00***	2.63***				5.00***	3.75***	2.45***
Parity-pregnancy status												
Childless					1	1					1	1
(Partner) pregnant					12.48***	12.41***					18.11***	17.89***
Mother / Father					1.42	1.42					0.39	0.37
Educational attainment												
Basic					0.86	0.85					1.25	1.23
Secondary					1	1					1	1
Vocational					1.34*	1.33*					1.30	1.29
Tertiary					0.97	0.97					1.50	1.48
Activity status												
In education					0.53***	0.54***					0.63	0.68
Not employed					1.29	1.29					0.34***	0.39***
Employed					1	1					1	1
Migration history												
After arrival in Estonia						1						1
Before arrival in Estonia						0.81						0.47**
Respondents	3589	3589	3589	3589	3589	3589	1791	1791	1791	1791	1791	1791
Exposure months	326652	326652	326652	326652	326652	326652	201546	201546	201546	201546	201546	201546

Note: *** p<0.01, ** p<0.05, * p<0.1

Time at risk starts at 15th birthday; censoring at entry into endogamous partnership, interview date or age 45.

Source: Estonian FFS and GGS, authors' calculations

Another noteworthy result emerges from the comparison of Models M2a and M2b. It suggests that the effect of mixed minority-majority parentage, visible in Model M2a, operates almost exclusively via early exposure to the majority language. Supporting this interpretation, the inclusion of language variables in the model renders the effect of mixed parentage statistically insignificant (Model M2b). A stepwise inclusion of language variables, one at a time (not shown in Table 2), revealed that the reduction in the effect of parentage was driven by exposure to the majority language in the parental home. By contrast, adding the enrolment in an Estonian-language school implied only a small reduction in the effect of minority-majority parentage.

In the third step (Model M3), we included three additional covariates in order to account for the influence of opportunity structure. In accord with expectations, the size of the minority group exhibits a negative association with mixed partnership formation. Being a member of a larger group significantly reduces the chance that a minority woman would partner with an Estonian man. Somewhat surprisingly, the results do not reveal a significant effect of place of residence. For ethnic minority women, residence in rural areas only slightly increases the likelihood of exogamous partnership, and the difference from the reference category is not statistically significant. Against that backdrop, the population composition of the municipality of residence exerts a much stronger influence on women's partnership choices. The modelling results indicate that residence in areas with a higher proportion of the majority population more than triples the chance that minority women will form partnerships with Estonian men. Notwithstanding its strong impact on partnership choices, consideration of the opportunity structure hardly affected hazard ratios for the migrant generations. Still, a visible reduction occurred in the effect of our language variables, though the effect of the latter still remained quite strong and statistically significant. This suggests that the influence of early exposure to the Estonian language on partnership choice may be partly mediated by the opportunity structure.

In the fourth step (Model M4), we added controls for parity/pregnancy status, education and labour market status. For educational attainment, the results do not reveal any clear pattern. Minority women with a vocational education display an elevated likelihood (+34%) of exogamous partnership, in comparison with their counterparts with a general secondary education; the hazard ratios for tertiary and basic education are not significantly different from the reference group. As regards the variables added in previous steps, the inclusion of

parity/pregnancy status and socio-economic controls did not imply any major alteration in the effects. Still, a relatively minor shift rendered the difference between the first- and second-generation migrants statistically significant (at the level $p<0.1$). Following the adjustment, minority women in the second generation display lower chance (-24%) of partnering with majority men, relative to their first generation peers. In the final step (Model M5), we included a control for migration history. Comparison with the previous model reveals stability in the estimates for our main explanatory variables.

For the covariates of main interest, the modelling results for minority men appear largely similar to those reported for minority women (Table 2, Panel B). First, the mixed minority-majority parentage significantly increases (+73% in Model M2) the chance that minority men will enter an exogamous partnership. Similarly to that for minority women, the effect of mixed parentage seems to operate via early proficiency in the majority language. Furthermore, with regard to opportunity structure, a larger minority group inhibits entry into mixed partnerships, while residence in municipalities with a high proportion of ethnic Estonians has an opposite effect. Minority men in the second generation display no tendency towards a higher incidence of minority-majority partnerships. On the contrary, in most models, second generation men exhibit a lower likelihood of forming an exogamous union (-38% in the final model), relative to their first generation peers. After controlling for mixed parentage and the language variables, the negative relationship extends to the third generation, although the difference from the first generation does not reach the level of statistical significance. The same applies to differences between educational groups.

In circumstances where minority-majority unions constitute a relatively small part of all unions, the results for endogamous partnerships will be shaped by the overall pattern of union formation. This may be an additional reason why the results on endogamous partnerships attract little interest in analyses of mixed partnerships, and go unreported. However, in this study we decided to look into endogamous unions in order to see whether the results complement the findings reported above on mixed partnerships. Table 3 presents estimates from competing risk models for minority-minority partnerships. To obtain these estimates, minority respondents were followed from age 15 until entry into an endogamous first partnership, or censoring at entry into their first union with a majority partner, the interview, or the respondent's 45th birthday.

Table 3. Hazard ratios for the transition to endogamous first partnership from proportional hazards models, Estonia, minority population, birth cohorts 1924–1983.

	A. WOMEN						B. MEN					
	M1	M2a	M2b	M3	M4	M5	M1	M2a	M2b	M3	M4	M5
Migrant status / generation												
3rd generation / native	0.95	0.98	1.07	1.05	1.04	1.01	0.86	0.88	0.94	0.97	1.01	1.00
2nd generation	0.95	0.96	1.00	0.95	0.95	0.92	0.96	0.96	0.98	0.93	0.97	0.96
1st generation	1	1	1	1	1	1	1	1	1	1	1	1
Age at first union												
age 15-18	0.21***	0.21***	0.21***	0.22***	0.34***	0.34***	0.10***	0.10***	0.10***	0.10***	0.13***	0.12***
age 19-22	1	1	1	1	1	1	1	1	1	1	1	1
age 23-26	1.31***	1.31***	1.32***	1.29***	1.16***	1.15***	2.12***	2.12***	2.12***	1.99***	1.47***	1.45***
age 27-30	0.80**	0.80**	0.81**	0.79***	0.69***	0.68***	1.68***	1.68***	1.67***	1.57***	1.12	1.08
age 31-45	0.29***	0.28***	0.29***	0.28***	0.28***	0.27***	0.97	0.97	0.98	0.97	0.77**	0.72**
Birth cohort												
1924-29	0.71***	0.71***	0.70***	0.76***	0.78***	0.80***	0.73***	0.73***	0.72***	0.81*	1.01	1.08
1930-39	0.77***	0.76***	0.77***	0.79***	0.80***	0.81***	0.75***	0.75***	0.75***	0.77***	0.85*	0.89
1940-49	0.88**	0.88**	0.88**	0.88**	0.88**	0.89**	0.82**	0.82**	0.82**	0.82**	0.86*	0.89
1950-59	1	1	1	1	1	1	1	1	1	1	1	1
1960-69	1.26***	1.26***	1.24***	1.23***	1.19***	1.18***	0.96	0.97	0.95	0.93	0.93	0.91
1970-79	1.05	1.04	1.06	1.04	1.02	1.00	0.60***	0.60***	0.61***	0.57***	0.56***	0.54***
1980-83	0.68***	0.68***	0.72**	0.70**	0.85	0.83	0.62**	0.62**	0.68*	0.64**	0.66*	0.60**
Mixed parentage												
Yes		0.88	1.03	1.01	1.06	1.06		0.83	0.98	1.00	0.99	1.00
No		1	1	1	1	1		1	1	1	1	1
Majority language at parental home												
Yes			0.58***	0.62***	0.57***	0.57***			0.69**	0.73*	0.75*	0.74*
No			1	1	1	1			1	1	1	1
Majority language at school												
Yes			0.74**	0.78*	0.84	0.84			0.34***	0.37***	0.43***	0.44**
No			1	1	1	1			1	1	1	1
PSU1			1.061	1.060	1.124***	1.125***			1.030	0.996	1.032	1.033
Minority group size												
Size (Ln)				1.02	1.01	1.01				0.97	0.98	0.97
Urban-rural residence												
Rural				0.83***	0.79***	0.82***				0.55***	0.59***	0.64***
Urban				1	1	1				1	1	1
Share of majority in the municipality of reisdence												
0-29%				1	1	1				1	1	1
30-69%				1.12**	1.07	0.99				1.26***	1.08	0.91
70+%				0.89*	0.88*	0.80***				0.88	0.72***	0.59***
Parity-pregnancy status												
Childless					1	1					1	1
(Partner) pregnant					9.75***	9.65***					14.71***	14.69***
Mother / Father					0.60***	0.60***					1.29	1.27
Educational attainment												
Basic					0.85***	0.84***					0.89	0.88*
Secondary					1	1					1	1
Vocational					1.09	1.09					1.07	1.07
Tertiary					0.9	0.91					0.94	0.94
Activity status												
In education					0.46***	0.47***					0.53***	0.57***
Not employed					0.97	0.97					0.35***	0.38***
Employed					1	1					1	1
Migration history												
After arrival in Estonia						1						1
Before arrival in Estonia						0.86**						0.70***
Respondents	3589	3589	3589	3589	3589	3589	1791	1791	1791	1791	1791	1791
Exposure months	326652	326652	326652	326652	326652	326652	201546	201546	201546	201546	201546	201546

Note:

*** p<0.01, ** p<0.05, * p<0.1

Time at risk starts at 15th birthday; censoring at entry into exogamous partnership, interview date or age 45.

Source: Estonian FFS and GGS, authors' calculations

The modelling results for minority women (Panel A) indicate that mixed minority-majority parentage and early exposure to the majority language significantly reduce the probability of endogamous partnering with minority men. In particular, exposure to the majority language in the parental home almost halves (-43% in the final model) the likelihood of forming an endogamous partnership, relative to the reference group. The influence of enrolment in a majority language school is weaker but runs in the same direction. As regards the impact of the opportunity structure, residence in rural areas and municipalities with a higher proportion of the majority population is found to significantly inhibit entry into endogamous unions among minority women (reduction in the hazard rate by -18% and -20%, respectively). Differences related to higher education are not significant, whereas basic education appears to reduce the probability of endogamous partnership formation, relative to the reference category. In all models, the difference between migrant generations is small and does not reach the level of statistical significance.

The results for minority men (Table 3, Panel B) exhibit a similar pattern for the variables of main interest.

6.1.2. Formation of partnerships among the majority population

Table 4 presents the estimates of the probability of ethnic majority women and men forming an exogamous first union, which were obtained from competing risk models. The specification of the models is comparable to that applied in the previous sub-section for the minority population.[11] We started with a model that included the migrant generation and birth cohort, and then gradually expanded it by including covariates pertaining to parental family and minority language, opportunity structure and socio-demographic characteristics.

[11] The variable measuring the size of the ethnic minority group is not applicable to the majority population and was eliminated from the models.

Table 4. Hazard ratios for the transition to exogamous first partnership from proportional hazards models, Estonia, majority population, birth cohorts 1924–1983.

	A. WOMEN						B. MEN					
	M1	M2a	M2b	M3	M4	M5	M1	M2a	M2b	M3	M4	M5
Migrant status / generation												
3rd generation / native	1	1	1	1	1	1	1	1	1	1	1	1
2nd generation	5.24***	2.64***	2.28***	2.02***	1.95***	1.86***	3.18***	1.43	0.97	0.91	0.93	0.93
1st generation	8.03***	5.31***	4.06***	3.50***	3.47***	3.82***	4.85***	3.19***	1.75**	1.65**	1.61**	1.60**
Age at first union												
age 15-18	0.28***	0.27***	0.27***	0.27***	0.42***	0.41***	0.12***	0.12***	0.11***	0.14***	0.19***	0.19***
age 19-22	1	1	1	1	1	1	1	1	1	1	1	1
age 23-26	1.06	1.06	1.05	1.05	0.87	0.87	1.92***	1.94***	1.96***	2.23***	1.46**	1.46**
age 27-30	0.81	0.78	0.79	0.79	0.66**	0.65**	1.47*	1.47*	1.53*	1.87***	1.09	1.09
age 31-45	0.27***	0.26***	0.26***	0.28***	0.23***	0.22**	1.09	1.08	1.17	1.59*	1.03	1.03
Birth cohort												
1924-29	0.64**	0.82	0.86	0.81	0.87	0.95	0.58*	0.62*	0.56**	0.56**	0.60*	0.60*
1930-39	0.67***	0.75*	0.77*	0.74**	0.77*	0.79	0.73	0.82	0.77	0.75	0.80	0.80
1940-49	0.72**	0.78	0.82	0.81	0.83	0.81	0.76	0.77	0.79	0.77	0.81	0.81
1950-59	1	1	1	1	1	1	1	1	1	1	1	1
1960-69	0.84	0.86	0.90	0.88	0.92	0.92	0.76	0.74	0.76	0.76	0.83	0.83
1970-79	0.84	0.88	0.94	0.87	0.95	0.91	0.70	0.64*	0.58**	0.65*	0.66*	0.66*
1980-83	1.20	1.10	1.21	1.14	1.35	1.41	1.42	1.39	1.19	1.3	1.48	1.49
Mixed parentage												
Yes		3.57***	3.04***	3.07***	2.97***	2.89***		3.69***	1.79**	1.87***	1.91***	1.92***
No		1	1	1	1	1		1	1	1	1	1
Minority language at parental home												
Yes			1.56**	1.43*	1.40	1.41			2.98***	2.51***	2.08***	2.08***
No			1	1	1	1			1	1	1	1
Minority language at school												
Yes			2.26***	1.94***	2.01***	2.04***			3.09***	2.70***	2.28***	2.28***
No			1	1	1	1			1	1	1	1
Urban-rural residence												
Rural				1.10	0.98	1.10				0.87	0.87	0.87
Urban				1	1	1				1	1	1
Share of majority in the municipality of reisdence												
0-29%				1	1	1				1	1	1
30-69%				0.64**	0.62***	0.34***				0.83	0.48***	0.49**
70+%				0.38***	0.37***	0.19***				0.41***	0.21***	0.22***
Parity-pregnancy status												
Childless					1	1					1	1
(Partner) pregnant					9.89***	9.40***					13.81***	13.83***
Mother / Father					1.00	1.01					1.80	1.80
Educational attainment												
Basic					1.00	0.97					1.00	1.00
Secondary					1	1					1	1
Vocational					1.03	0.98					1.29	1.29
Tertiary					1.18	1.17					0.94	0.94
Activity status												
In education					0.44***	0.46***					0.34***	0.34***
Not employed					0.76	0.76					0.20***	0.20***
Employed					1	1					1	1
Migration history												
After arrival in Estonia						1						1
Before arrival in Estonia						0.35***						1.03
Respondents	6442	6442	6442	6442	6442	6442	3536	3536	3536	3535	3535	3535
Exposure months	658374	658374	658374	658374	658374	658374	430691	430691	430691	430634	430634	430634

Note: *** p<0.01, ** p<0.05, * p<0.1

Time at risk starts at 15th birthday; censoring at entry into endogamous partnership, interview date or age 45.

Source: Estonian FFS and GGS, authors' calculations

The results indicate that among majority women, a migrant background entails a markedly increased probability of partnering with minority men (Panel A). In the initial model (M1), Estonian women who were born abroad (first-generation return migrants) are eight times more likely to enter a mixed partnership than their counterparts who, along with their parents, were born in Estonia. The results also show that the influence of migrant background is not restricted to the first generation but extends to the descendants of return migrants. In the initial model, majority women whose parents were born abroad, mainly in Russia, exhibit a chance of mixed union formation five times higher than the reference group. However, the stepwise inclusion of covariates in the model gradually reduces the effect of migrant background. The comparison of estimates from Models M2a–M5 reveals that the largest reduction follows the inclusion in the model of mixed parentage and early exposure to the minority language. This lends support to the view that among the majority population, the effect of migrant background operates via socialisation in the parental home and formative years.

Ethnically mixed parentage and early exposure to the minority language enhance the probability that majority women will enter an exogamous partnership. Unlike for minority groups, the inclusion of language variables in the models does not render the effect of mixed parentage insignificant among majority women. We think that this variation in outcomes reflects the historical context, which gave rise to an atypical relationship between the minority and majority languages. From the mid-1940s until the turn of the 1990s, the minority language (Russian) was promoted in Estonia as the main language of interethnic communication. As a consequence, for most birth cohorts included in this study, the majority population was systematically exposed to the minority language, with the exposure being only to a limited extent related to mixed parentage. By contrast, the modest role of the majority language (Estonian) in interethnic communication prior to the 1990s may explain a much closer link between mixed parentage and exposure to the Estonian language among the minority population, reported in the previous section.

Residence in municipalities with a high concentration of the minority population significantly increases the propensity of Estonian women to enter mixed unions. In the final model, residence in municipalities where the proportion of minority groups amounts to 70% or more of the total population quintuples the likelihood of mixed partnerships for majority women. Consistent with findings for minority women, type of settlement (urban vs. rural) makes no

significant difference in partnership choices. The inclusion of controls for parity/pregnancy status, educational attainment, labour market status, and migration history does not introduce a major change in the effects of our main explanatory variables (Models M4 and M5). Nonetheless, a minor reduction in the hazard ratio renders the effect of the minority language in the parental home statistically insignificant in these models. Likewise, neither high nor low educational attainment makes a significant difference in the likelihood of majority women's forming a mixed union.

The results for majority men are also presented in Table 4 (Panel B). The overall patterns are fairly similar to those reported for majority women. Regarding the covariates of main interest, the effect of migrant background appears less pronounced among majority men. For the latter, having foreign-born parents and thus being second-generation return migrants makes no significant difference in most models the likelihood of a mixed union. Majority men who are born abroad (first generation return migrants) exhibit a significantly higher likelihood of mixed partnership formation, but the difference from the reference group is smaller than that reported for women. We assume that the observed weaker effect of migrant background may be related to greater mobility, which resulted in men's more frequently going abroad.[12] Higher participation in international migration exposed men to interethnic partnerships irrespective of migrant background, which renders the role of the latter less important for them.

The findings pertaining to endogamous partnerships complement those reported for ethnically mixed partnerships. According to the results, migrant background entails a reduced likelihood of endogamous unions for majority women (Table 5, Panel A). Estonian women who belong to the second generation of return migrants exhibit a systematically lower rate of forming a co-ethnic union, relative to the reference group (-31% in the final model). For Estonian women who were born outside the country (first-generation return migrants), the reduced likelihood can be observed in the initial model (M1) but is removed following the consideration of early exposure to the minority language (Models M2a and M2b). In particular, enrolment in a minority language schools seems to be associated with a noticeably reduced likelihood of entering an endogamous partnership (-26% in the final model).

[12] The comparison of migration histories lend empirical support to this assertion. Among Estonian GGS majority respondents, the proportion of men who ever participated in international migration is nearly four times that of women (Katus, Puur, and Põldma 2008). We think that the gender difference to a large extent reflects the effect of military service during the postwar decades which Estonian men were usually sent to perform in other regions of the former Soviet Union. An important effect of military service and veteran status has been previously reported in several American studies (Jacobs and Labov 2002; Fryer 2007).

Table 5. Hazard ratios for the transition to endogamous first partnership from proportional hazards models, Estonia, majority population, birth cohorts 1924–1983.

	A. WOMEN						B. MEN					
	M1	M2a	M2b	M3	M4	M5	M1	M2a	M2b	M3	M4	M5
Migrant status / generation												
3rd generation / native	1	1	1	1	1	1	1	1	1	1	1	1
2nd generation	0.64***	0.65***	0.68***	0.70***	0.69***	0.69***	0.91	0.97	1.02	0.98	1.02	1.02
1st generation	0.82**	0.82**	0.89	0.93	0.96	0.98	0.80*	0.82*	0.89	0.97	1	1.01
Age at first union												
age 15-18	0.24***	0.24***	0.24***	0.24***	0.41***	0.41***	0.15***	0.15***	0.15***	0.13***	0.19***	0.18***
age 19-22	1	1	1	1	1	1	1	1	1	1	1	1
age 23-26	1.17***	1.17***	1.17***	1.17***	1.02	1.02	2.03***	2.03***	2.03***	1.76***	1.37***	1.37***
age 27-30	0.85***	0.85***	0.85***	0.85***	0.71***	0.70***	1.81***	1.8***	1.81***	1.53***	1.10	1.10
age 31-45	0.32***	0.32***	0.32***	0.32***	0.29***	0.29***	0.84**	0.85**	0.85**	0.71***	0.58***	0.57***
Birth cohort												
1924-29	0.66***	0.66***	0.65***	0.65***	0.77***	0.78***	0.69***	0.69***	0.69***	0.70***	0.81**	0.81**
1930-39	0.75**	0.75***	0.75***	0.74***	0.84***	0.83***	0.71***	0.71***	0.71***	0.71***	0.80***	0.80***
1940-49	0.88***	0.88***	0.88***	0.87***	0.93	0.93	0.85***	0.85***	0.85***	0.87**	0.91*	0.91
1950-59	1	1	1	1	1	1	1	1	1	1	1	1
1960-69	1.08*	1.08*	1.08*	1.09*	1.11**	1.12**	1.06	1.06	1.06	1.07	1.13**	1.13**
1970-79	1.14***	1.14***	1.18***	1.20***	1.32***	1.32***	0.87**	0.87**	0.89*	0.80***	0.90	0.90
1980-83	1.16	1.16	1.22**	1.24**	1.58***	1.59***	0.85	0.85	0.87	0.74**	0.94	0.94
Mixed parentage												
Yes		1.00	1.00	1.00	0.94	0.94		0.88	0.98	0.96	0.98	0.97
No		1	1	1	1	1		1	1	1	1	1
Minority language at parental home												
Yes			0.90	0.92	0.94	0.93			0.75**	0.80*	0.71***	0.70***
No			1	1	1	1			1	1	1	1
Minority language at school												
Yes			0.66***	0.72**	0.72**	0.74**			0.99	1.03	0.94	0.94
No			1	1	1	1			1	1	1	1
Urban-rural residence												
Rural				1.15***	1.04	1.05				0.79***	0.79***	0.79***
Urban				1	1	1				1		
Share of majority in the municipality of reisdence												
0-29%				1	1	1				1	1	1
30-69%				1.59***	1.62***	1.14				2.73***	1.66***	1.17
70+%				1.55***	1.53***	1.07				2.83***	1.66***	1.16
Parity-pregnancy status												
Childless					1	1					1	1
(Partner) pregnant					11.75***	11.71***					20.36***	20.34***
Mother / Father					0.95	0.95					2.67***	2.69***
Educational attainment												
Basic					0.81***	0.80***					0.92*	0.92*
Secondary					1	1					1	1
Vocational					1.03	1.02					1.12*	1.12**
Tertiary					0.97	0.97					1.24**	1.24**
Activity status												
In education					0.50***	0.50***					0.59***	0.59***
Not employed					0.95	0.95					0.41***	0.43***
Employed					1	1					1	1
Migration history												
After arrival in Estonia						1						1
Before arrival in Estonia						0.53***						0.65**
Respondents	6442	6442	6442	6442	6442	6442	3536	3536	3536	3535	3535	3535
Exposure months	658374	658374	658374	658374	658374	658374	430691	430691	430691	430634	430634	430634

Note: *** p<0.01, ** p<0.05, * p<0.1

Time at risk starts at 15th birthday; censoring at entry into exogamous partnership, interview date or age 45.

Source: Estonian FFS and GGS, authors' calculations

Consistent with findings reported in the previous section, residence in municipalities with a high concentration of minority groups reduces the chances of forming a majority-majority partnership. Interestingly, however, controlling for migration history renders the effect of opportunity structure insignificant. In our view, this suggests that among the majority population, the effect of opportunity structure is, to a large extent, driven by the experience of Estonians who were born abroad. Differences in the rate of forming endogamous partnerships associated with educational attainment appear generally small, except for basic education, which reduces the probability of co-ethnic unions (-20% in the final model).

In accord with findings reported for exogamous unions, the effect of migrant background is weaker for men and fails to reach the level of significance in most models (Table 5, Panel B). As discussed above, this may be due to the more intensive cross-border mobility of men, which exposed Estonian men to interethnic partnerships irrespective of migrant background. With regard to mixed parentage, early proficiency in the minority language and population composition in the municipality of residence, majority men exhibit associations with entry into endogamous partnerships very similar to those reported for women. Unlike for the latter, however, rural residence significantly inhibits the formation of endogamous unions for majority men. This gender-specific effect of rural residence should likely be attributed to more intensive out-migration of women, which has limited the availability of potential partners for men in rural areas.[13]. Also, unlike their female counterparts, majority men show a significant positive association between educational attainment and the rate of endogamous partnership formation. We regard this relationship as a manifestation of the overall pattern of partnership formation, which gives highly educated men an advantage in the marriage market.[14]

6.2. Dissolution of partnerships

6.2.1. Dissolution of partnerships among the minority population

Table 6 presents the results from a series of proportional hazards models for the dissolution of first partnership among minority women and men. The dependent variable is the rate of union disruption, whether by separation or divorce. We started measuring the time of being at risk of

[13] This explanation is supported by a considerable excess of men in marrigeable age groups in rural areas. Among rural men, the proportion of never-married is almost double that of rural women (Katus, Puur, and Põldma 2005).
[14] For education-related differences in partnership formation in Estonia, see Katus et al. (2007).

union disruption at the first month of the partnership; exposure was measured in monthly increments. The respondents were followed until the dissolution of the union, or censoring at the interview, death of the partner or after 25 years had elapsed since the formation of the partnership, whichever event came first.

The initial model (M1) included the type of first union (exogamous vs. endogamous) and birth cohort, in addition to the duration variable. For minority women, the results reveal no significant difference in the risk of partnership disruption between minority women who were in endogamous minority-minority unions and those in exogamous minority-majority unions (Tabel 6, Panel A). In fact, the rate of union disruption was slightly lower for exogamous partnerships, but the difference from the reference category (minority-minority unions) failed to reach statistical significance in the initial model.

In the following steps, we added variables that are known to significantly modulate the risk of partnership disruption. The inclusion of controls for parental divorce (Model M2), demographic characteristics of the union and parity-pregnancy status strengthened the negative effect of exogamy. As a consequence, the difference in the risks of union disruption (-17%) between exogamous and endogamous partnerships became statistically significant at level $p<0.1$ (Model M3). The significant difference persisted following the inclusion of women's educational attainment and labour market status in the model (M4). In the final steps, controls for urban-rural residence and migration history were added (Models M5 and M6). The inclusion of additional controls slightly reduced the effect of exogamy and rendered it statistically insignificant. Evidently, part of the difference in disruption rates, which in models M3 and M4 was attributed to exogamy, stemmed from urban-rural difference in dissolution rates and migration histories of minority women.

Table 6. Hazard ratios for the disruption of first partnership from proportional hazards models, Estonia, minority population, birth cohorts 1924–1983.

	A. WOMEN						B. MEN					
	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
Type of union												
Endogamous	1	1	1	1	1	1	1	1	1	1	1	1
Exogamous	0.9	0.87	0.83*	0.84*	0.85	0.90	1.50***	1.48***	1.31*	1.28	1.26	1.32*
Time since union formation												
up to 1 year	1	1	1	1	1	1	1	1	1	1	1	1
1 year	1.43**	1.43**	1.76***	1.83***	1.83***	1.84***	1.36	1.36	1.55*	1.50	1.50	1.51
2-3 years	1.35**	1.36**	1.89***	1.87***	1.87***	1.90***	1.64**	1.64**	2.03***	1.94***	1.95***	1.99***
4-5 years	1.29*	1.29*	1.90***	1.82***	1.82***	1.88***	1.44	1.44	1.91**	1.83**	1.83**	1.92***
6-7 years	1.26	1.26	1.90***	1.79***	1.78***	1.87***	1.12	1.12	1.53	1.47	1.48	1.57*
8-9 years	0.89	0.90	1.36*	1.27	1.27	1.34*	1.15	1.15	1.58*	1.53	1.53	1.66*
10-19 years	0.72**	0.73**	1.12	1.03	1.02	1.11	0.92	0.92	1.29	1.24	1.24	1.40
20-25 years	0.43***	0.43***	0.68*	0.62**	0.62**	0.69*	0.58*	0.58*	0.82	0.78	0.78	0.92
Birth cohort												
until 1929	0.45***	0.46***	0.47***	0.46***	0.46***	0.42***	0.40***	0.41***	0.49***	0.49**	0.49**	0.41***
1930-39	0.54***	0.55***	0.58***	0.56***	0.56***	0.51***	0.43***	0.44***	0.51***	0.51***	0.51***	0.44***
1940-49	0.73***	0.74***	0.76***	0.74***	0.74***	0.71***	0.88	0.89	0.97	0.97	0.96	0.91
1950-59	1	1	1	1	1	1	1	1	1	1	1	1
1960-69	1.08	1.08	0.99	1.02	1.02	1.06	1.17	1.16	1.16	1.16	1.16	1.21
1970-79	1.52***	1.46***	1.09	1.17	1.16	1.27*	2.13***	2.08***	1.58**	1.54**	1.54**	1.68***
1980-83	2.26***	2.09***	1.28	1.34	1.33	1.47	3.77***	3.46***	1.95	2.22*	2.25*	2.63**
Parents divorced / separated												
Yes		1.35***	1.28***	1.29***	1.29***	1.28***		1.27*	1.22	1.19	1.20	1.19
No		1	1	1	1	1		1	1	1	1	1
No information		1.273**	1.146	1.148	1.152	1.139		1.173	1.062	1.007	1.003	1.047
Age at union												
15-18			1.35***	1.33***	1.34***	1.31***			1.22	1.26	1.26	1.18
19-22			1	1	1	1			1	1	1	1
23-26			0.84**	0.85*	0.85*	0.87			0.82*	0.83	0.83	0.86
27-30			0.81	0.82	0.82	0.87			0.72*	0.73	0.73	0.78
31-45			1.15	1.20	1.20	1.30			1.26	1.24	1.24	1.34
Mode of first union formation												
Marriage			1	1	1	1			1	1	1	1
Cohabitation			1.28***	1.28***	1.28***	1.29***			1.52***	1.48***	1.47***	1.49***
Parity-pregnancy status												
Childless			1	1	1	1			1	1	1	1
(Partner) pregnant			0.59***	0.62***	0.63***	0.63***			0.28***	0.28***	0.28***	0.28***
Mother / Father			0.53***	0.59***	0.59***	0.60***			0.55***	0.53***	0.53***	0.54***
Educational attainment												
Basic				1.01	1.02	1.03				0.88	0.87	0.91
Secondary				1	1	1				1	1	1
Vocational				0.96	0.96	0.95				0.89	0.89	0.87
Tertiary				0.89	0.89	0.86				0.64**	0.64**	0.61***
Activity status												
In education				0.87	0.86	0.77				0.20**	0.21**	0.16**
Not employed				0.68***	0.68***	0.66***				1.50*	1.50*	1.31
Employed				1	1	1				1	1	1
Urban-rural residence												
Rural					1	1					1	1
Urban					1.12	1.26**					0.93	1.08
Migration history												
After arrival in Estonia						1						1
Before arrival in Estonia						1.63***						2.05***
Respondents	3351	3351	3351	3351	3351	3351	1617	1617	1617	1617	1617	1617
Exposure months	613434	613434	613434	613434	613434	613434	317268	317268	317268	317268	317268	317268

Note: *** p<0.01, ** p<0.05, * p<0.1

Time at risk starts at start date of partnership / marriage; censoring at interview date, death of partner or after 25 years of partnership / marriage.

Source: Estonian FFS and GGS, authors' calculations

Interestingly, the results for minority men reveal a different pattern (Table 6, Panel B). In most models, minority men in mixed minority-majority unions exhibit elevated risks of union disruption, relative to their peers in endogamous partnerships. In the initial model (M1), the excess risk associated with ethnic exogamy amounts to 50%, relative to the reference category (minority-minority partnerships). The stepwise inclusion of controls removed almost half of the excess risk observed in the initial model, and rendered the effect of exogamy statistically insignificant in some models (M4 and M5). However, in the final model, which was controlled for migration history, minority men in mixed partnerships exhibited a 32% higher risk of experiencing union disruption than their counterparts in endogamous partnerships.

6.2.2. Dissolution of partnerships among the majority population

Table 7 presents the modelling results for the dissolution of ethnically exogamous and endogamous first partnerships for majority women and men. The specification of models is similar to those fitted for the minority population.

In the initial model (M1), majority women in exogamous partnerships exhibit a 54% higher likelihood of experiencing union disruption than their counterparts in endogamous unions. The excess risk is partially removed, after controlling for the experience of parental divorce, age at partnership formation, type of union, parity-pregnancy status, women's socio-economic status, place of residence, and migration history. Nevertheless, despite the reduction in the size of the effect, a statistically significant difference between exogamous and endogamous unions persisted. In the final model (M5), majority women with a minority partner exhibit a 34% higher risk of union disruption relative to their peers in endogamous partnerships.

Table 7. Hazard ratios for the disruption of first partnership from proportional hazards models, Estonia, majority population, birth cohorts 1924–1983.

	A. WOMEN						B. MEN					
	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
Type of union												
Endogamous	1	1	1	1	1	1	1	1	1	1	1	1
Exogamous	1.54***	1.52***	1.47***	1.46***	1.42***	1.34***	1.42***	1.41***	1.44***	1.44**	1.41***	1.40***
Time since union formation												
up to 1 year	1	1	1	1	1	1	1	1	1	1	1	1
1 year	1.48***	1.48***	1.68***	1.69***	1.68***	1.69***	1.64***	1.64***	1.92***	1.90***	1.90***	1.89***
2-3 years	1.68***	1.69***	2.06***	1.99***	1.98***	1.99***	1.80***	1.80***	2.31***	2.29***	2.29***	2.29***
4-5 years	1.50***	1.51***	1.93***	1.77***	1.77***	1.78***	2.09***	2.09***	2.85***	2.85***	2.86***	2.87***
6-7 years	1.29**	1.29**	1.68***	1.50***	1.50***	1.51***	1.66***	1.66***	2.34***	2.38***	2.39***	2.40***
8-9 years	1.28**	1.28**	1.69***	1.48***	1.47***	1.49***	1.71***	1.71***	2.46***	2.49***	2.51***	2.52***
10-19 years	0.91	0.91	1.21	1.03	1.03	1.04	1.19	1.19	1.73***	1.74***	1.75***	1.76***
20-25 years	0.57***	0.57***	0.76*	0.647***	0.65***	0.65***	0.78	0.78	1.14	1.13	1.15	1.16
Birth cohort												
until 1929	0.51***	0.54***	0.60***	0.60***	0.60***	0.59***	0.44***	0.45***	0.52***	0.52***	0.51***	0.50***
1930-39	0.71***	0.75***	0.83**	0.81**	0.80***	0.80***	0.55***	0.56***	0.65***	0.65***	0.64***	0.63***
1940-49	0.86**	0.87**	0.92	0.89*	0.878*	0.87*	0.69***	0.69***	0.78**	0.77***	0.76***	0.76***
1950-59	1	1	1	1	1	1	1	1	1	1	1	1
1960-69	1.38***	1.35***	1.23***	1.32***	1.33***	1.33***	0.99	0.96	0.89	0.91	0.92	0.92
1970-79	1.74***	1.67***	1.31***	1.44***	1.44***	1.43***	1.47***	1.41***	1.09	1.13	1.12	1.13
1980-83	2.49***	2.32***	1.46**	1.75***	1.76***	1.78***	1.73	1.69	0.96	0.98	0.98	0.99
Parents divorced / separated												
Yes		1.39***	1.30***	1.30***	1.28***	1.28***		1.28***	1.23**	1.21**	1.20**	1.20**
No		1	1	1	1	1		1	1	1	1	1
No information		1.370***	1.312***	1.298***	1.303***	1.310***		1.290*	1.225	1.193	1.189	1.190
Age at union												
15-18			1.36***	1.36***	1.37***	1.37***			1.14	1.10	1.10	1.09
19-22			1	1	1	1			1	1	1	1
23-26			0.66***	0.66***	0.66***	0.67***			0.74***	0.75***	0.75***	0.75***
27-30			0.67***	0.67***	0.67***	0.67***			0.64***	0.65***	0.65***	0.65***
31-45			0.65***	0.66***	0.65***	0.66***			0.66***	0.65***	0.65***	0.66***
Mode of first union formation												
Marriage			1	1	1	1			1	1	1	1
Cohabitation			1.12**	1.13**	1.14**	1.14**			1.26***	1.25***	1.26***	1.26***
Parity-pregnancy status												
Childless			1	1	1	1			1	1	1	1
(Partner) pregnant			0.70**	0.74**	0.74**	0.74**			0.12***	0.12***	0.12***	0.12***
Mother / Father			0.63***	0.71***	0.73***	0.72***			0.46***	0.47***	0.47***	0.47***
Educational attainment												
Basic				0.96	1.02	1.02				0.92	0.96	0.96
Secondary				1	1	1				1	1	1
Vocational				0.85***	0.87**	0.87**				0.80**	0.81**	0.81**
Tertiary				0.89	0.89	0.88				0.79**	0.78**	0.78**
Activity status												
In education				0.58***	0.57***	0.56***				0.85	0.83	0.83
Not employed				0.63***	0.64***	0.64***				1.47***	1.48***	1.44**
Employed				1	1	1				1	1	1
Urban-rural residence												
Rural					1	1					1	1
Urban					1.27***	1.27***					1.18**	1.18**
Migration history												
After arrival in Estonia						1						1
Before arrival in Estonia						1.86***						1.15
Respondents	5841	5841	5841	5841	5841	5841	3109	3109	3109	3108	3107	3107
Exposure months	1033291	1033291	1033291	1033291	1033291	1033291	568610	568610	568610	568560	568520	568520

Note: *** p<0.01, ** p<0.05, * p<0.1

Time at risk starts at start date of partnership / marriage; censoring at interview date, death of partner or after 25 years of partnership / marriage.

Source: Estonian FFS and GGS, authors' calculations

(majority men in endogamous unions). The comparison of estimates from different models shows that the inclusion of controls introduced only a limited change in the effect of exogamy. In the final model (M6), majority men in a mixed partnerships exhibit a 40% higher chance of union dissolution. The observed stability in the excess risk across models suggests that mixed partnership selection may be weaker among majority men, relative to majority women and the minority groups included in this study.

The effects of the control variables included in the models are consistent with those reported in previous studies. However, as the effects of the control variables are beyond the main focus of the study, they have not been discussed. For those who are interested, the estimates for the control variables are available in Tables 6 and 7.

The results for majority men (Table 7, Panel B) are very similar to those reported for majority women. In the initial model (M1) we observe that majority men who out-partnered with minority women exhibit a 42% higher risk of union disruption than the reference group

7. Summary and discussion of the findings

In this study, we addressed the formation and dissolution of ethnically mixed partnerships between the majority and minority populations in Estonia. To date, European research on these issues has to a large extent focused on migrants and their descendants in the western part of the continent. By investigating the dynamics of mixed unions in a different demographic, socio-economic and political context, this study contributes to a more comprehensive account of the integration of migrant populations in contemporary Europe. To our knowledge, this is the first study in Estonia that employs longitudinal data for the analysis of interethnic partnerships. To obtain a sample size large enough for the analysis, we pooled data from two nationally representative event history surveys, the Estonian Family and Fertility Survey, and the Estonian Generations and Gender Survey. To analyse mixed partnerships from the life course perspective, we estimated piecewise constant proportional hazards models for the dynamics of exogamous (minority-majority) and endogamous (minority-minority and majority-majority) first partnerships.

We formulated a series of hypotheses regarding the factors associated with the formation and stability of ethnically mixed minority-majority partnerships. With regard to partnership

formation, the results generally supported our first hypothesis, that for the minority population, the likelihood of starting an ethnically mixed partnership increases across migrant generations. This result corroborates previous research that has found a tendency towards a higher prevalence of exogamous unions among the second and higher-order generations of immigrants (Lievens 1998; Kalmijn and Tubergen 2006; Lichter, Carmalt, and Qian 2011). However, our analysis also revealed that the increase in mixed partnership formation does not appear to be linear across migrant generations of the minority population in Estonia. After controlling for the influence of confounding factors, second generation descendants of migrants, women and men alike, were found to partner with the majority population at a lower rate than their first generation predecessors.

The observed non-linearity across migrant generations may have several interlinked causes. On the one hand, contextual features like the large scale of post-war immigration to Estonia, the spatial concentration of migrants in specific regions, and the linguistic division of the education system, may all have contributed to this outcome (Rannut 2008; Tammaru and Kontuly 2011; Lindemann 2013). On the other hand, the relatively small (as yet) third generation, which demonstrates a significantly higher rate of mixed partnership formation, includes the descendants of historical minority groups that settled in Estonia before the 20th century. Previous research has shown that the latter are better integrated into the host society than the descendants of post-war migrants (Katus, Puur, Sakkeus 2000; Sakkeus 2000), thus accounting for the higher rate of mixed partnership formation observed in the third generation.

In order to provide a more comprehensive account of the process, we applied a two-sided approach, which extends the analysis to the majority population. In line with expectations, the results for ethnic Estonians reveal a positive association between migrant background and the likelihood of mixed partnership. The probability of forming a minority-majority union was found to be highest among Estonians who were born abroad (return migrants). Although less pronounced, the effect of migrant background extends to Estonians whose parents were born abroad (the descendants of return migrants). Our results are in line with the findings from a previous study on Estonia by Van Ham and Tammaru (2011), who drew their evidence from the 2000 census. We share their opinion that socialisation in a foreign country and the exposure to non-coethnic peers are the main factors underlying the observed pattern. Although the formation of an Estonian diaspora in Russia and the following return migration

may have had a particular effect, these findings draw attention to a connection between the growing participation of host populations in international migration, and an increase in the incidence of interethnic partnerships (Fligstein 2008; Haandriksman 2014).[15]

According to our second hypothesis, we anticipated that characteristics of the parental family play an essential role in partnership decisions. The results support our assertion, and demonstrate that mixed ancestry noticeably increases the likelihood of entering into an exogamous union, for both the minority and majority populations. This finding is in accord with the socialisation argument, according to which the family behaviour of migrants and their descendants is shaped by the values, norms and behavioural patterns to which they were exposed during childhood and their formative years (Kulu 2002; Andersson 2004; Milewski 2011). With regard to research on interethnic partnerships, only a few studies to date have demonstrated that family background and socialisation environment are also salient predictors of mixed partnerships among the host population.

Further elaboration of the relationship between parental family and partnership choices revealed that for the minority population, the effect of mixed parentage mainly operates through exposure to the Estonian language in the parental home. In addition, enrolment in Estonian-language schools markedly increased the chances of having a majority partner. These findings were not surprising, since the positive effect of host country language-acquisition on immigrant intermarriage has been reported in several studies (Stevens and Swicegood 1987; Kulczycki and Lobo 2002; Hujink, Verkuyten, and Coenders 2010; De Jesús *et al*. 2014). Perhaps more remarkably, among the minority population, the consideration of ancestry and exposure to the majority language, either in the parental home or at school, removed all the intergenerational variation in the entry into mixed partnerships. Among members of the majority population, however, the difference associated with migrant background persisted in the final models. This suggests that among the majority population, the choice between exogamous and endogamous unions may be driven by a more complex array of determinants, which were partly unaccounted for in our study.

Our third hypothesis related to opportunity structure. As anticipated, for members of the minority population we found a negative association between the size of the minority group

[15] Although the migrant background sub-group constitutes a relatively small part of majority (6%), its inclusion increases the number of exogamous partnerships among the majority population by 25%.

and the rate of exogamy. Likewise, residence in municipalities with a high concentration of minority groups significantly reduced the likelihood of partnering with Estonians. For members of the majority population, by contrast, residence in the latter areas increased the chances of forming an ethnically mixed partnership. These findings are consistent with previous research on the structural determinants of ethnic intermarriage (Kalmijn and van Tubergen 2010). However, unlike earlier studies on mixed partnership formation in Estonia, we did not observe a significant relationship between the type of settlement (urban vs. rural) and the rate of exogamy (Van Ham and Tammaru 2011). We think that other variables used in our models more precisely accounted for the effect of opportunity structure.

Our fourth and final hypothesis pertaining to the formation of interethnic partnerships focused on the role of educational attainment. Our expectations regarding the effect of education were mixed. On the one hand, higher education could have rendered individuals more exposed and open to interethnic partnerships. On the other hand, the social exchange theory predicted a more complex interaction, in which minority groups are assumed to trade their higher socio-economic status for the lower social prestige attached to minority status. Our results support neither of these assertions. For both the minority and majority populations, the association between educational attainment and partnerships formation failed to exhibit a systematic pattern. The rejection of the first assertion implies that in Estonia higher education has not increased the preference for mixed partnerships. The refutation of the second assertion suggests that conceptualisation of the majority and minority populations as dominant and subordinate groups, is faulty. The weak effects of educational attainment corroborates previous results reported for Estonia (van Ham and Tammaru 2011) and several other settings (Monden and Smith 2005; Gullickson 2006; Haandriksman 2014).

In this study, we also modelled the formation of endogamous partnerships. The effects of the variables of main interest (migrant generation, mixed parentage, early exposure to different languages, and opportunity structure) were less pronounced than those reported for exogamous minority-majority unions. This stems from the fact that modelling results for endogamous partnerships are shaped by overall patterns of partnership formation. Nonetheless, for members of the minority population, early proficiency in the majority language, residence in municipalities with a high proportion of Estonians, or rural areas were found to significantly reduce the probability of endogamous partnering. For the majority population, the effect of early exposure to the minority language exhibits a very similar effect.

With regard to partnership disruption, our study provides support for the exogamy hypothesis, according to which ethnically mixed partnerships face significantly higher disruption risks than endogamous unions. We found this pattern among members of the majority population, women and men alike, and minority men. Among these groups, the risk of disruption was 30-40% higher for exogamous partnerships than for endogamous unions. This result is in accord with evidence from several recent studies on divorce risks among immigrants and ethnic minority groups in Northern and Western European countries (Kalmijn, de Graaf, and Jannsen 2005; Dribe and Lundh 2012; Feng *et al.* 2012; Smith, Maas, and van Tubergen 2012; Milewski and Kulu 2014).

However, in our study, support for the exogamy hypothesis did not extend to all population groups. Minority women who had partnered with majority men did not exhibit elevated union disruption risks relative to their peers in endogamous unions. Gender differences in the effects of ethnic or racial exogamy have been previously reported in the US and Swedish context (Fu 2000; Bratter and King 2008; Zhang and van Hook 2009; Dribe and Lundh 2012). For Sweden, it was found that the effect of exogamy on partnership dissolution was stronger for couples consisting of native women and immigrant men than for unions between native men and immigrant women. The authors attributed the difference in outcomes to the joint influence of a mismatch in gender roles and a difference in the bargaining power of women. The clash between modern and traditional gender roles is sharper in partnerships consisting of a native woman and an immigrant man. In addition, in these unions the female partner may be in a stronger position with regard to economic autonomy and social networks, which make it easier for her to initiate partnership dissolution.

To ascertain whether a similar explanation might apply to the Estonia context, we sought evidence pertaining to gender role attitudes from the Estonian Generations and Gender Survey (2004–2005). The findings reveal systematic differences in the attitudes towards gender roles between men and women belonging to the minority and majority populations. On the whole, majority women were found to express the strongest support for gender equality, whereas minority men demonstrate the most conservative attitudes.[16] This suggests considerable potential for conflicts among couples consisting of majority women and minority men. In comparison, due to the smaller gap in gender role attitudes, the tension may be lower in

[16] For instance, 8% of majority women agreed with the statement that in case of job scarcity, men should be given preference over women, whereas 51% of minority men agreed with the statement. The gap in responses was much smaller between minority women (27% agreed) and majority men (17%).

unions between majority men and minority women. In addition, evidence from the Estonian GGS suggests that minority women may take a somewhat more conservative stance towards divorce, particularly with regard to couples with children. As women tend to initiate separations more often than men (Petit and Bloom 1984; Kalmijn and Poortman 2006), difference in the acceptance of divorce may also have contributed to the observed pattern.

Finally, our results on partnership dissolution provided some support for the selection/composition hypothesis. According to this hypothesis, we anticipated that mixed minority-majority partnerships may have some compositional traits that render them less stable than endogamous unions. The hypothesis was supported for couples consisting of majority women and minority men, for whom the inclusion of controls for parental divorce, partnership characteristics, socio-economic status, and place of residence removed part of the excess risk that was associated with exogamy in the initial models. However, for minority women and majority men, adjustment for these characteristics only marginally affected the effect of exogamy.

This study is not without some limitations. In a survey-based approach, the constraints imposed by sample size prevented us from distinguishing between various ethnic groups among the minority population. This made it impossible to investigate the extent to which cultural similarity to the majority population facilitates the formation and stability of minority-majority unions. However, a strong predominance of Russians and other Slavic groups renders the diversity among minority groups less significant in Estonia. Another major limitation stems from reliance on self-reported ethnicity in defining minority and majority groups. It is possible that some respondents may have changed their ethnic self-identification relative to their parents; in particular, such shifts can occur among the offspring of mixed families, who, by definition, face a choice between different identities. This implies that the descendants of immigrants, who are most integrated into the host society, may be included among the majority population, and their partnerships considered endogamous. As a consequence, the incidence of mixed partnerships may be to some extent underreported in our study, especially for third- and higher-generation migrants. However, as these generations constitute a small segment of adults among the minority population in Estonia, we believe that the limitations do not invalidate our main findings.

We think that some important conclusions can be drawn from this analysis. First, they lend support to the notion that the integration of migrant populations through mixed partnering is a complex and prolonged process. In our study, the experience of second-generation migrants provides an example of a stalling trend in the incidence of mixed partnerships between the majority population and migrant groups. Notwithstanding some increase, the modest incidence of mixed unions extends to the third and higher generations. With regard to the future, this implies that for very large migrant groups, far-reaching fusion with the majority population over a few generations is not a likely scenario. High rates of endogamous partnering allow them to maintain cultural specificity for extended periods. Second, the study drew attention to multiple factors that can hinder or facilitate interethnic partnering. Apart from the size of minority groups and residential proximity to the majority population, the study underscores the salience of early acquisition of the host society language. In the policy context, this finding calls into question the maintenance of a linguistically divided school system in Estonia. In its present mode, the divided school system constitutes a potent mechanism that reproduces the pillarisation of society. Third, our results draw attention to the role of increasing international mobility, which renders host populations more exposed and open to mixed partnership formation. Finally, with regard to partnership dissolution, this study contributes evidence pertaining to the disadvantages of interethnic unions, in terms of reduced stability. At the same time, however, it cautions against broad generalisations, since the excess risks associated with ethnic exogamy may not extend to all types of mixed partnerships. In order to account for the existing complexity, research into the stability of interethnic unions should consider variations in gender role attitudes and the acceptance of divorce.

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Dynamics of mixed partnerships in Switzerland

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Abstract:
This study uses retrospective information on partnership histories from the 2013 Swiss Family and Generations Survey to examine the composition of respondents' current partnership, as well as the transition to first union, exit from their first partnership, and entry into their second union. The analyses are done separately for native and foreign-origin respondents. We first found that the likelihood to currently have a native versus a co-ethnic partner increases for second-generation migrants, and decreases for immigrants from former Yugoslavia and Turkey. We then show that first generation immigrants have a higher chance of entering an endogamous first partnership, while second generation respondents have a higher risk of starting an exogamous first union with a native. For both migrants and natives, exogamous first unions have a significantly higher risk of ending compared to endogamous ones. Finally, natives who experienced an exogamous partnership as their first union have better chances of entering a similarly exogamous second union.

Keywords: mixed unions, immigrants, Switzerland, partnership formation, partnership dissolution

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Contents

1. Introduction

Interethnic unions, particularly intermarriage, defined as the marital union between two individuals of different ethnic ancestries, has been subject of extensive empirical research in the U.S. given its increasing multicultural and ethnically mixed society (Burton et al. 2010). The main group divisions addressed in such literature refer to the native white population, on the one hand, and the non-white immigrants and their descendants, on the other. The prevalence and determinants of mixed unions serve as markers of the persistence of group boundaries and of the social and cultural distance between different ethnic groups (Fu 2001; Kalmijn & van Tubergen 2010; Lucassen & Laarman 2009). Recent patterns of mixed marriage in the US point to the persistence of an ethnic hierarchy in partner preferences (Fu 2001). The degree and the type of ethnic mixing do not occur by chance but rather correspond to different trajectories of assimilation (Alba & Nee 2003). While trends in mixed unions are thoroughly documented in the U.S. literature, research on interethnic partnerships in Europe and elsewhere remains scarce. The massive immigration flows across Europe during the recent decades has positioned interethnic integration and immigration as a core topic on the political agenda. Switzerland, among other Northern and Western European countries (e.g., France, Germany, the Netherlands, and Sweden) is usually referred to as a traditional host country. It has a long history of immigration initiated after the Second World War, which includes mass migration flows coming from Southern European countries (mainly Italy, Spain, and later, Portugal), driven by labour market demands. After the mid-1980s, migrants were also coming from former Yugoslavia, Albania, and Turkey (Lagana et al. 2014). Swiss immigration history has also included highly skilled immigration flows from both neighbouring Western European countries (e.g., Germany, France, and Austria) and worldwide given the high density of international firms and administrations headquarters (ib.). Switzerland nowadays has one of the highest stocks of the foreign-born population in Europe. In 2014, the share of residents with foreign background accounted for 22% of the total population, higher than the EU average of 10% (Eurostat 2015). Moreover, native-born offspring of immigrants represent 10% of the population aged between 15 and 34.

On the one hand, traditional rigid and restrictive immigration legislation and policies in Switzerland are on the verge to be reinforced at the time of writing. On the other hand, despite its resistance to multiculturalism and assimilation of foreign residents, there is evidence of a relatively high rate of intermarriage in Switzerland compared to other immigration countries

(Lanzieri 2012). Despite the importance of these trends, little is known about the specific dynamics of interethnic partnerships in Switzerland, both in terms of its occurrence and its timing. In this study, we ask the following questions: Which immigrant groups are more prone to enter mixed partnerships, particularly unions with natives? What are the factors that make natives more prone to choose a partner outside of their ethnic group? Is the timing of first and second union formation different between individuals who choose same- or different-ethnicity partners? Are exogamous partnerships less stable compared to endogamous unions?

2. Data

The 2013 Family and Generations Survey (originally *Enquête sur les familles et les générations* (EFG) 2013), was conducted by the Federal Statistical Office (FSO) as part of a new census of the Swiss population, with a sample of approximately 10,000 permanent residents in Switzerland, aged 15 to 79 years (the reference date, the first January 2013). The EFG aims to provide data on the current state and evolution of families and more generally on the relationship between generations. Among others, the survey also collected information on ethnic origin, migratory status, and retrospective information on union history referring to partners with whom the respondent cohabited (and was married or not) in the past. The data were collected through computer assisted telephone interviews (CATI), followed by additional online or paper questionnaires (CAWI /PAPI). The interviews were held in three languages: German, French and Italian. To conduct the EFG, the FSO started with a randomly drawn sample of 34,818 people in the sampling frame for surveys of individuals and households. A total of 17,288 persons (50%) participated in the survey. To account for the sample design, the data were weighted and calibrated. After excluding cases with missing information on either one of our variables of interest, the analyses included in this study were carried on a final sample of 16,283 respondents, out of which 58.1% are Swiss and 41.9% are non-Swiss (i.e., having at least one parent born abroad), 47% are men and 53% are women, and with a total mean age of 46.75 years.

2.1. Measurement of variables

Respondent's origin and generation type (for immigrants) were computed based on extensive information on current nationality, nationality at birth, country of birth, both parents' country of birth, and whether childhood was mostly spent in Switzerland or abroad. If the individual

has current Swiss nationality, was born Swiss and at least one of his or her parents were born in Switzerland, the respondent was coded as 'native'. If both parents were born abroad and the respondents migrated to Switzerland after the age of 16, he or she was coded as 'first generation' and receives the specific origin of the country where the mother was born. If both parents were born abroad and respondents came to reside in Switzerland between the ages of 6 and 16, they are coded as '1.5 generation' and are given mother's country of birth as origin. If both parents were born abroad and they came to reside in Switzerland before the age of 6 (or were born in Switzerland), respondents are coded as 'second generation' and are assigned mother's country of birth as origin.

Current partner's origin is only measured via the following variables: current nationality, nationality at birth (either Swiss or foreign), and country of birth. If the partner is currently a Swiss national and had Swiss or double nationality at birth, irrespective of country of birth, he/ she is categorized as 'native'. If the partner has a non-Swiss nationality at birth, then information on country of birth is used to gauge partner's immigrant origin.

Previous partners' origin was measured solely by inquiring information on their current nationality. Therefore, if the precedent partner had Swiss nationality, he/ she was coded as 'native', whereas if previous partner had non-Swiss nationality, he/ she was categorized as foreign-origin.

Type of union is codes as 'endogamous' if respondent's and partner's origin match, or exogamous if their origins are different. Among immigrants, we distinguish between two types of exogamous unions: with natives and with immigrants from another ethnic group than their own.

2.2. Analytical plan

We divide the analyses between two parts, namely the first focusing on the occurrence of mixed couples among those who are currently (at date of interview) partnered (*static analysis*), and the second focusing on timing of transitions in and out of partnerships (*dynamic analysis*). Each of these analyses are described and outlined below.

The *static analyses* first include descriptive analysis, namely a cross-tabulation of respondent's origin by current partner's origin, for the general sample, as well as divided by gender. We then follow with the estimation of multinomial regression analyses that examine the probability of have a current exogamous versus endogamous partner for foreign-born and native respondents separately.

The *dynamic analyses* include event history models that focus on three types of transitions: entry into first union, exit from first partnership, and entry into second union. The transition to first union is analysed within a competing risks framework, treating endogamous and exogamous unions (recall there are two types of exogamous unions for migrants) as alternative risks. The exposure was measured in years, starting at age 15 and censoring at the interview, at age 45, or at a competing event. For migrants, we estimate three competing risks (proportional sub-distribution hazards) regressions with the other two outcomes treated as competing risk, while also including various covariates. For natives, we estimate two competing risks regressions with the other outcome treated as competing risk, including a series of variables.

For exit from first union, we followed respondents who experienced the transition to first partnership from the starting year of the union until its dissolution (either divorce or separation of cohabiting union). We also include cases that were censored when analysing first union formation due to having entered their first partnership after age 45. Observations were censored at time of interview, 20 years after the start of the union, or at partner's death. To analyse the transition out of first union, we use single decrement models, more specifically Cox proportional hazard models that also control for a series of variables of interest.

To investigate the formation of the second union, we targeted respondents who had experienced the break-up or partner's death in their first union (including cases that were censored when analysing first union dissolution due to having dissolved their first partnership after 20 years). We observed this group of individuals from the end of their first partnership till the year they entered a second union. Observations were censored at the interview date, 20 years after the end of their first union, or in case a competing event occurred. Similar to entry into first union, we estimate a set of either three (for migrants) or two (for natives) competing risks models.

3. Results

3.1. Current union formation. Static Analysis

3.1.1. Descriptive Analysis: Two-way cross-tabulation

Table 1 reports the percentages of a two-way cross-tabulation of respondent's origin by current partner's origin. The figures provide a first raw assessment of how open respondents with different ethnic backgrounds are towards other ethnic groups. The third panel of the table (corresponding to the total sample) shows that natives (86%) have a same-ethnicity partner in a higher proportion compared to all minority ethnic groups. Apart from being the most endogamous group, Swiss natives are also the most likely to appear as partner in exogamous unions among all minority groups (e.g., 24% of Southern European respondents have a native partner, while only 4% of them have a partner from Western European countries). In fact, for respondents originating from neighbouring Western Europe and other European countries, the rate of endogamy is lower compared to the rate of exogamy with natives. On the other hand, the lowest percentage of exogamy with natives is observed for immigrants from former Yugoslavia and Turkey (12%), who also have the highest endogamy rate among all minority groups (78%). The least likely group to form exogamous unions is represented by immigrants from former Yugoslavia and Turkey. The unanimous pattern across all groups is that the most attractive ethnic group on the partnership market, after the Swiss natives or their own, is represented by immigrants from Western Europe. The first and second panel of Table 1 illustrate that these patterns are valid for both men and women, with women having higher endogamy rates among natives and minorities originating from Southern Europe and lower endogamy rates among all other ethnic groups.

Table 1. Distribution of respondent's origin by current partner's origin (percentages in rows), N = 10,390

Male sample

	Native	Southern Europe	Former Yugoslavia & Turkey	Western Europe (DE, FR, AT)	Other European	Others	Total
Native	**85**	3	1	5	2	4	100
Southern Europe	27	**59**	2	5	3	4	100
Former Yugoslavia & Turkey	13	1	**78**	3	3	2	100
Western Europe (DE, FR, AT)	35	4	2	**46**	5	9	100
Other European	36	7	3	11	**38**	5	100
Others	36	7	0	10	4	**44**	100
Total	65	10	6	9	4	6	100

Female sample

	Native	Southern Europe	Former Yugoslavia & Turkey	Western Europe (DE, FR, AT)	Other European	Others	Total
Native	**87**	4	1	5	1	2	100
Southern Europe	22	**72**	1	2	0	2	100
Former Yugoslavia & Turkey	10	4	**78**	7	1	1	100
Western Europe (DE, FR, AT)	50	6	1	**38**	3	2	100
Other European	51	9	1	11	**23**	5	100
Others	50	12	0	10	4	**24**	100
Total	68	13	5	9	3	4	100

Total sample

	Native	Southern Europe	Former Yugoslavia & Turkey	Western Europe (DE, FR, AT)	Other European	Others	Total
Native	**86**	3	1	5	2	3	100
Southern Europe	24	**66**	1	4	2	3	100
Former Yugoslavia & Turkey	12	2	**78**	5	2	1	100
Western Europe (DE, FR, AT)	43	5	1	**42**	4	5	100
Other European	44	8	2	11	**30**	5	100
Others	44	10	0	10	4	**32**	100
Total	67	11	5	9	3	5	100

3.1.2. Multivariate analysis: Multinomial regression models

Table 2 reports the estimated coefficients of a multinomial logistic regression that examines, having partnering a co-ethnic as reference, the probability of having a native partner (left panel), the probability of having a partner from other immigrant ethnic groups (middle panel), and the probability of having no partner (middle panel), while controlling for various factors,

among foreign-origin respondents who mentioned being in a partnership at the time of the survey. We mainly address the first two outcomes in turn.

First, in the left panel, we observe that the likelihood to have a native versus a co-ethnic partner increases for second-generation migrants, and for minority members originating from Western Europe, other European countries, as well as other non-European countries. Immigrants from former Yugoslavia and Turkey are significantly less likely to be part of an exogamous (with a native) versus an endogamous union. Furthermore, being female, and having a higher number of previous partnerships increases the propensity to have a native versus co-ethnic partner. Immigrants from younger cohorts, and the lower educated are less likely to be part of an exogamous union (versus a endogamous one) with a native.

Table 2. Multinomial logit coefficients for type of partner among all foreign-origin respondents (endogamous = reference category), N = 5,262

	Exogamous (with native)		Exogamous (with other immigrant)		No partner	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Gender (male = ref.)						
Female	0.297**	(0.105)	-0.022	(0.124)	0.027	(0.107)
Education (high = ref.)						
Medium	0.047	(0.122)	-0.208	(0.144)	0.151	(0.129)
Low	-0.654***	(0.164)	-1.166***	(0.205)	-0.260	(0.157)
Generation (1.5 generation= ref.)						
First generation	-0.985***	(0.187)	-0.432	(0.243)	-0.898***	(0.185)
Second generation	0.975***	(0.205)	0.548*	(0.268)	0.816***	(0.201)
Origin (Southern Europe = ref.)						
Former Yugoslavia & Turkey	-0.552*	(0.219)	0.365	(0.203)	0.156	(0.159)
Western Europe (DE, FR, AT)	1.246***	(0.140)	0.602***	(0.182)	0.828***	(0.149)
Other European	1.859***	(0.204)	1.588***	(0.235)	1.603***	(0.217)
Others	2.019***	(0.180)	1.650***	(0.204)	1.605***	(0.187)
Birth cohort (Before 1950 = ref.)						
1951-1960	-0.626***	(0.167)	-0.345	(0.229)	-0.661***	(0.173)
1961-1970	-0.799***	(0.157)	-0.416	(0.217)	-0.938***	(0.167)
1971-1980	-0.976***	(0.156)	-0.428*	(0.207)	-0.417**	(0.153)
After 1980	-3.013***	(0.893)	-0.157	(0.701)	2.870***	(0.469)
Number of previous partnerships	0.781***	(0.129)	0.955***	(0.147)	1.611***	(0.126)
Constant	-0.443	(0.287)	-0.746*	(0.368)	-0.284	(0.280)
N	*1,283*		*667*		*1,836*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*.
* p<0.05, ** p<0.01, *** p<0.001

Second, in the middle panel, results also indicate that the propensity to have an exogamous partner from other immigrant groups versus a co-ethnic partner is significantly higher for second-generation migrants and those from Western Europe, other European countries, and other non-European countries. Nonetheless, the differences between ethnic groups are now smaller and there is no significant contrast between Southern Europeans and those from former Yugoslavia and Turkey. Again, the number of previous partnerships increases the chance of being part of an exogamous union (with an immigrant of a different ethnicity) versus an endogamous union. Younger respondents and those that are lower educated are less likely to have a different-ethnicity non-native partner than a co-ethnic partner.

Table 3 shows findings of a multinomial logistic regression model which includes all native respondents who mentioned being in a partnership at the time of the survey and compares having an exogamous versus endogamous partner, as well as having no partner versus being in an union with another Swiss native. Results indicate that Swiss respondents who are born in the 60's, and 70's, as well as those that experienced previous cohabiting unions are more likely to have an immigrant partner.

Table 3. Multinomial logit coefficients for type of partner among all native respondents (endogamous = reference category), N = 10,923

	Exogamous		No partner	
	Coef.	S.E.	Coef.	S.E.
Gender (male = ref.)				
Female	-0.123	(0.087)	0.034	(0.062)
Education (high = ref.)				
Medium	-0.210*	(0.089)	0.267***	(0.070)
Low	-0.024	(0.169)	0.742***	(0.108)
Birth cohort (Before 1950 = ref.)				
1951-1960	0.124	(0.124)	-0.322***	(0.084)
1961-1970	0.395***	(0.116)	-0.264**	(0.088)
1971-1980	0.633***	(0.116)	0.758***	(0.079)
After 1980	0.267	(0.742)	4.657***	(0.230)
Number of previous partnerships	0.495***	(0.079)	1.152***	(0.056)
Constant	-1.998***	(0.152)	-1.594***	(0.111)

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*.
* p<0.05, ** p<0.01, *** p<0.001

3.2. Timing of union formation and dissolution. Dynamic Analyses

3.2.1. Multivariate analysis: Competing risks and Cox regression models

Table 4 reports the estimates of a competing risks analysis predicting entry into first union, for the sub-sample of foreign-origin respondents. Results show that first generation immigrants have a higher chance of entering an endogamous partnership as their first union, while second generation respondents have a higher risk of starting an exogamous first union with a native. Migrants originating from Western Europe, other European countries or other non-European countries are more likely to enter a first mixed partnership with a Swiss native. Compared to Southern European migrants, all other groups have a lower risk of entering a first endogamous union. Women are significantly more prone to start a mixed union with a native than men, whereas individuals belonging to younger cohorts are more likely to enter endogamous first unions and less likely to start first unions with a native partner.

Table 4. Competing risks analysis of first union formation among foreign-origin respondents

	Exogamous (with native) first union		Exogamous (with other immigrant) first union		Endogamous first union	
	SHR	S.E.	SHR	S.E.	SHR	S.E.
Gender (male = ref.)						
Female	1.186*	(0.068)	0.981	(0.094)	1.231***	(0.056)
Education (high = ref.)						
Medium	1.155	(0.079)	0.955	(0.102)	1.096	(0.069)
Low	0.992	(0.120)	0.514***	(0.158)	1.711***	(0.074)
Generation (1.5 generation= ref.)						
First generation	0.489***	(0.120)	0.852	(0.174)	1.826***	(0.118)
Second generation	1.564***	(0.124)	0.868	(0.192)	0.534***	(0.139)
Origin (Southern Europe = ref.)						
Former Yugoslavia & Turkey	0.886	(0.163)	1.566**	(0.170)	0.838*	(0.085)
Western Europe (DE, FR, AT)	1.911***	(0.094)	0.982	(0.146)	0.605***	(0.072)
Other European	2.015***	(0.122)	1.924***	(0.156)	0.323***	(0.124)
Others	2.361***	(0.108)	2.184***	(0.140)	0.227***	(0.105)
Birth cohort (Before 1950 = ref.)						
1951-1960	0.635***	(0.105)	0.861	(0.178)	1.616***	(0.092)
1961-1970	0.568***	(0.096)	1.138	(0.157)	1.665***	(0.087)
1971-1980	0.431***	(0.103)	0.998	(0.154)	1.951***	(0.085)
After 1980	0.120***	(0.488)	0.655	(0.527)	1.100	(0.420)
N observations	*5,233*		*5,233*		*5,233*	
N events	*1,484*		*746*		*1,845*	
N competing events	*2,591*		*3,329*		*2,230*	
N censored	*1,158*		*1,158*		*1,158*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*. SHR = subhazard ratio
* p<0.05, ** p<0.01, *** p<0.001

Table 5 presents the results of a Cox regression model examining the dissolution of first union among foreign-origin respondents. Minority members who partnered a native have a significantly higher risk to end their first partnership compared to those with a same-ethnicity partner. Table 5 also shows that immigrants from Western and other European, as well as other non-European countries, and second generation migrants have a higher risk of dissolving their first partnership. Younger migrants have significantly higher chances of ending their first union. Finally, the lower educated respondents of foreign origin are less prone to dissolving their initial partnership.

Table 5. Cox proportional hazard model predicting first union dissolution among foreign-origin respondents

	HR	S.E.
Gender (male = ref.)		
Female	0.879	(0.075)
Education (high = ref.)		
Medium	1.017	(0.083)
Low	0.735*	(0.136)
Generation (1.5 generation= ref.)		
First generation	1.257	(0.143)
Second generation	1.376*	(0.156)
Origin (Southern Europe = ref.)		
Former Yugoslavia & Turkey	1.164	(0.160)
Western Europe (DE, FR, AT)	1.296*	(0.112)
Other European	1.524**	(0.140)
Others	1.863***	(0.125)
Birth cohort (Before 1950 = ref.)		
1951-1960	1.556**	(0.159)
1961-1970	2.130***	(0.142)
1971-1980	1.945***	(0.154)
After 1980	4.561***	(0.445)
Type of union (endogamous= ref.)		
Exogamous with native	1.230*	(0.101)
Exogamous with other immigrant	1.034	(0.107)
Marital status of first union (non-married =ref.)		
Married	0.115***	(0.087)
N observations	*3,830*	
N events	*1,083*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*. HR = hazard ratio
* p<0.05, ** p<0.01, *** p<0.001

Table 6 reports the estimates of a competing risks analysis predicting the entry into second union, for foreign-origin respondents. Findings indicate that first generation immigrants have a lower chance of entering an exogamous partnership with a native as their second union and a significantly greater risk of starting a second union with a non-Swiss belonging to another immigrant group. Migrants from Western Europe have higher chances of starting either a mixed second partnership with a native or an endogamous second union, in comparison to migrants from Southern Europe. Migrants who were part of an exogamous first union with a native are also more likely to enter a similar kind of union as second partnership and less likely to initiate an endogamous second union.

Table 6. Competing risks analysis of second union formation among foreign-origin respondents

	Exogamous (with native) second union		Exogamous (with other immigrant) second union		Endogamous second union	
	SHR	S.E.	SHR	S.E.	SHR	S.E.
Gender (male = ref.)						
Female	1.111	0.155	0.669*	0.132	0.644*	0.127
Education (high = ref.)						
Medium	1.030	0.160	0.639*	0.132	0.983	0.206
Low	0.820	0.206	0.457*	0.179	1.784	0.535
Generation (1.5 generation= ref.)						
First generation	0.442**	0.112	5.096***	2.338	1.094	0.453
Second generation	0.984	0.244	2.428	1.225	0.525	0.252
Origin (Southern Europe = ref.)						
Former Yugoslavia & Turkey	0.661	0.235	0.756	0.322	2.288**	0.711
Western Europe (DE, FR, AT)	1.412*	0.246	0.606	0.171	1.856*	0.498
Other European	1.488	0.387	0.754	0.252	1.057	0.443
Others	1.556	0.355	0.88	0.291	0.996	0.366
Birth cohort (Before 1950 = ref.)						
1951-1960	0.951	0.258	0.695	0.267	0.867	0.298
1961-1970	1.212	0.286	1.043	0.342	1.07	0.330
1971-1980	0.911	0.228	1.530	0.476	1.401	0.395
After 1980	0.770	0.854	0.000***	0.000	0.000***	0.000
Type first union (endogamous = ref.)						
Exogamous with native	1.451*	0.252	1.073	0.297	0.287***	0.079
Exogamous with other immigrant	0.959	0.211	1.702*	0.456	0.502*	0.137
Exogamous	*1,024*		*1,024*		*1,024*	
N events	*314*		*168*		*170*	
N competing events	*338*		*484*		*482*	
N censored	*372*		*372*		*372*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*. SHR = subhazard ratio
* p<0.05, ** p<0.01, *** p<0.001

Table 7 presents the results of additional competing risks analyses predicting the entry into first partnership for the sub-sample of native respondents. Swiss natives who are born in the 60's and 70's are significantly more likely to enter an exogamous first union.

Table 7. Competing risks analysis of first union formation among native respondents

	Exogamous first union		Endogamous first union	
	SHR	S.E.	SHR	S.E.
Gender (male = ref.)				
Female	1.069	(0.073)	1.320***	(0.028)
Education (high = ref.)				
Medium	0.896	(0.077)	1.104***	(0.029)
Low	1.042	(0.134)	1.093	(0.057)
Birth cohort (Before 1950 = ref.)				
1951-1960	1.106	(0.108)	1.055	(0.037)
1961-1970	1.428***	(0.103)	0.966	(0.038)
1971-1980	1.643***	(0.099)	0.745***	(0.038)
After 1980	0.331	(0.651)	0.295***	(0.209)
N observations	*10,902*		*10,902*	
N events	*1,232*		*7,148*	
N competing events	*7,148*		*1,232*	
N censored	*2,522*		*2,522*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*. SHR = subhazard ratio

* p<0.05, ** p<0.01, *** p<0.001

A Cox proportional hazard models predicting exit from first union among native respondents is reported in Table 8. Natives who choose an immigrant partner have a higher risk of dissolving their first partnership, compared to Swiss respondents in endogamous unions.

Table 8. Cox proportional hazard model predicting first union dissolution among native respondents

	HR	S.E.
Gender (male = ref.)		
Female	1.024	(0.056)
Education (high = ref.)		
Medium	1.011	(0.059)
Low	0.796	(0.117)
Birth cohort (Before 1950 = ref.)		
1951-1960	1.738***	(0.089)
1961-1970	1.972***	(0.089)
1971-1980	1.727***	(0.097)
After 1980	1.139	(0.510)
Type of union (endogamous= ref.)		
Exogamous	1.427***	(0.070)
Marital status of first union (non-married =ref.)		
Married	0.084***	(0.065)
N observations	*7,968*	
N events	*2,151*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*. HR = hazard ratio
* p<0.05, ** p<0.01, *** p<0.001

Table 9 reveals the results of a final competing risks analysis examining entry into second union among native respondents. Findings suggest that women and the medium educated (versus the highly educated) are significantly less likely to enter an exogamous second union. On the other hand, those that experienced an exogamous partnership as first union have better chances of also entering an exogamous second union.

Table 9. Competing risks analysis of second union formation among native respondents

	Exogamous second union		Endogamous second union	
	SHR	S.E.	SHR	S.E.
Gender (male = ref.)				
Female	0.699*	0.099	0.944	0.066
Education (high = ref.)				
Medium	0.757*	0.105	0.982	0.072
Low	0.523	0.225	0.865	0.131
Birth cohort (Before 1950 = ref.)				
1951-1960	1.176	0.265	1.061	0.110
1961-1970	1.462	0.303	1.083	0.107
1971-1980	1.305	0.282	1.270*	0.132
After 1980	0.000***	0.000	1.056	0.923
Type first union (endogamous = ref.)				
Exogamous	1.589**	0.245	0.679***	0.067
N observations	*2,057*		*2,057*	
N events	*336*		*1,124*	
N competing events	*1,124*		*336*	
N censored	*597*		*597*	

Source: FSO Family and Generations Survey (2013). Weighted data by *wtelpers*. SHR = subhazard ratio

* p<0.05, ** p<0.01, *** p<0

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Dynamics of mixed unions in Transylvania, Romania

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Abstract:
In this work, mixed union formation and dissolution of Hungarian ethnics in Transylvania have been investigated, with the aim of finding which characteristics of individuals were connected with the tendency towards exogamy, and whether inter-ethnic unions are more fragile than endogamous ones. The analysis showed that the language of studies makes a clear difference between endogamous and exogamous union formation: persons that had studied at least one educational level in Romanian language had visible higher risks to form an inter-ethnic union, both marriage and cohabitation. In case of marriage dissolution, higher divorce risks for exogamous than for endogamous marriages have been found, and in case of formation of a second union, the results showed that persons who had a first exogamous union exhibit twice the risk of entering a second exogamous union compared with persons that had a first endogamous union.

Keywords: inter-ethnic marriage and cohabitation, Hungarian ethnics, Transylvania, language of education, event history analysis

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Contents

1. Introduction

Marriage commonly implies a choice for a long-term relationship with a person who shares similar values, norms, life-styles, leisure activities, tastes, intellectual erudition, and who uses socioeconomic resources to produce family economic wellbeing. All resources, whether cultural or socioeconomic, are pooled together for the benefit of common activities in marriage. Even if similarity of traits has been found as the dominant pattern in marriage choices, there are trade-offs among characteristics and homogamy on some dimensions may be more important than on others. This would be the case of ethnically mixed marriages.

There is a large body of literature on intermarriage with regard to inter-racial marriages or marriages between immigrants and natives, which refers mainly to immigration countries such as the US or the UK. Usually empirical research on the topic has been focused on groups of immigrants or groups with low socio-economic status, and the discussions are in terms of social status exchange, cultural adaptability or enclave effects (Qian 1999, Fu and Heaton 2008, Chiswick and Houseworth 2011, Furtado 2012). Nevertheless, not all minority groups are immigrants or under-privileged (O'Leary and Finnas 2002). This is the case with our research.

We will address the dynamics of mixed unions from the perspective of the largest minority group in Romania, which consists of Hungarian ethnics, concentrated in Transylvania, with a long history of living together with Romanians. The survey we use has a retrospective design and allows us to study mixed unions formation in a life-course perspective and to move beyond first union formation. In this way we could investigate which characteristics of individuals are connected with a greater openness toward ethnic exogamy and whether inter-ethnic unions are more fragile than endogamous ones.

In the next section we present the situation of Hungarian ethnics in Transylvania, discussing how their social positions have changed along time, under different regulations that altered their traditional institutions. Then we discuss possible characteristics that may influence the formation of mixed unions, with a special attention on education level and language of study. Then we present our analytic approach, which is event history modelling, followed by results and conclusions.

1.1. Hungarian ethnics in Transylvania

The disintegration of the Austro-Hungarian Empire in 1918 left a part of the population which identified with Hungarian ethnonationality outside Hungary, to form a national minority in the new countries. According to 2011 Census data, the largest Hungarian minority population is to be found in Romania (1,32 million), followed by Slovakia (458 thousand), Serbia (290 thousand) and Ukraine (151 thousand) (Veres 2013).

Before union with Romania, Hungarians in Transylvania had a privileged position compared with Romanians: they were overrepresented in the upper- and middle-class categories, especially among intellectuals, artisans, and large landowners (Veres 2006). The territorial changes had significantly altered the position of Hungarians from Transylvania (Culic 2006): not only they became a minority, but also their political, economic and social status have deteriorated under the new rule. Under new regulations about use of Romanian language, many Hungarians were dismissed from their jobs and replaced with Romanians. The education system was uniformized with the rest of Romania, which meant instruction in Romanian language and soon the higher education system in Transylvania was made completely Romanian (Culic 2006). During interwar period many Hungarians left Romania, which led to a change in ethnical structure.

The communist regime in Romania had explicit national policies, which combined repressive and compensatory measures in different periods, and there are no doubts that they employed different strategies to change the ethnical distribution in Transylvania (Culic 2006).

Culic (2006) makes a periodization and a comprehensive review of these measures: the period from 1944 to 1956 was characterized by „permissive-promoting policies" regarding the national minorities, bilingualism was officially introduced after 1948 and many schools in the language of minorities were established in areas with important minority population. Ambivalence characterized policies concerned national minorities during 1956-1965: extension of system of instruction in Hungarian, on the one hand, and reduction of schools that provided instruction exclusively in Hungarian, together with increase in the number of mixed schools. The particular form of nationalism promoted by Ceausescu (period 1965-1989) meant, at institutional level, „the reduction and close down of many forms of representation and functioning of the Hungarian community in Romania" (Culic 2006: 180).

The use of mother tongue in the public space was drastically restrained; some faculty courses taught in Hungarian were suppressed. In the last years of the communist regime, large numbers of Hungarian ethnics left for Hungary, on the background of a worsening situation of both minorities and whole population.

If at the change of the political regime in 1989 Hungarian ethnics were underrepresented within the middle class and leaders, the disproportion started to counterbalance during the transition period (Veres 2006). Although the pace of change has been appreciated as slow by Veres (2006), he also shows that the ethnic disproportion of social stratification factor is much less significant in Transylvanian society.

Among the policies of the communist regime toward ethnic minorities, the expropriation of the property of the national minority churches in 1945 and reorganization of all ecclesiastical and private school as state schools in 1948 meant that „the most important institutions of socialization, identity construction and culture preservation of national minorities were almost completely dissolved" (Culic 2006: 180). This is important, since Hungarians and Romanians have different forms of representing their ethnic identity: Culic (2006) argues that the source for Romanian national community is perceived in the institutions of the Romanian state, while the source of the Hungarian community in Romania is seen in their traditional institutions, partially destroyed by communism. Veres (2013) found that Hungarians living in minority in different countries form a separate group, toward which they feel closest, distinguishable from both Hungarians in Hungary, and from the majority population in respective countries. Veres (2013) also found that most of Hungarian minority perceive members of the majority population (Romanians, Slovakians, Ukrainians and Serbs, respectively), as well as Hungarians in Hungary, as having personal characteristics that are different form their own.

Against this background, it is not surprising that relations between Hungarian minority and Romanian majority have been conflictual sometimes. But beyond the perceived differences, they found common grounds, too, and mixed marriages have emerged. Along time, a share of 80-83% of endogamous marriages has been registered for Hungarian ethnics in Transylvania. Of course this share varies for different counties by the proportions of Hungarian ethnics. In counties where Hungarians represent more than 80% of the population, only 3-5% of them enter mixed marriages (Kiss & Veress 2010).

2. Theoretical considerations

2.1. Union/marriage formation

Scholars agree that marriage patterns are the result of the interplay of three elements: the individuals' preferences for certain characteristics in a spouse, the influence of the social group of which they are members and the constraints of the marriage markets (Kalmijn 1998, 2012, Qian 1999, O'Leary and Finnas 2002, Chiswick and Houseworth 2011).

Regarding the issue of preferences, virtually all research on marriage choice found homogamy (marriage between individuals with similar characteristics) as the dominant pattern (Becker 1974, Schoen et al. 1989, Kalmijn 1991). The benefits from marriage are most efficiently utilised when individuals marry persons with similar characteristics, such as intelligence, education, age, health, race, language, ethnicity, religion (Becker 1974, Chiswick and Houseworth 2011).

Among the characteristics of the potential spouses, seen as resources they would bring into marriage, sociologists consider the socioeconomic and cultural ones as the most important. Socioeconomic resources are used to produce economic well-being and status (Kalmijn 1998). Cultural resources include values, norms, life-styles, leisure activities, tastes, intellectual erudition, styles of speech and life experiences (Kalmijn 1991). When married, individuals pool these resources together for the benefit of common activities in marriage: rearing children, the purchasing of a house and other consumer durables, the spending of leisure time, all of these leading to family well-being, confirmation and affection (Kalmijn 1998, Chiswick and Houseworth 2011).

Education is a complex variable in marital process. On the one hand, education is strongly related to taste, values and lifestyles, which are cultural characteristics. On the other hand, education is strongly related to income and status, which are socioeconomic characteristics. The general finding of the research on the link between education and intermarriage is that persons with higher level of education are more likely to marry outside their ethnic group.

Different ways through which general education may affect the probability of mixed marriage have been identified and they are linked with preferences and opportunities. Persons with higher education may have spent more time among people of diverse ethnical backgrounds;

not only have they been more likely to meet people of different ethnicities, but this may have influenced their interethnic attitudes. They may have less prejudice toward ethnic minorities and an increased understanding of members of other groups (Qian 1999, O'Leary and Finnas 2002, Chiswick and Houseworth 2011, Kalmijn 2012). Highly educated persons may also benefit from greater autonomy from the constraints of the family and community of origin, since pursuing higher education may involve greater geographical mobility and greater distances from the family of origin (O'Leary and Finnas 2002, Chiswick and Houseworth 2011). In this line of thought, we expect that *better educated persons are more likely to enter an ethnically mixed union than lower educated ones*.

On the other hand, O'Leary and Finnas (2002) propose an alternative hypothesis regarding the link between education and formation of ethnically mixed unions in case of minority groups with high socioeconomic status. Studying intermarriage in case of minority groups that are indigenous, are traditionally of high socioeconomic status and have strong communal institutions (Protestant minority in Ireland and Swedish speaking minority in Finland), they found that the rate of intermarriage is lower for minority members with higher rather than lower levels of education. They explain these findings by the social context of mate selection, showing that participation in higher education facilitates contact and marriage within one's own group. When separate educational institutions are established for minority groups, they act as an obstacle against intermarriage. In case of people participating in higher education a substantial part of mate selection takes place in direct connection with their studies. Moreover, O'Leary and Finnas (2002) discuss an indirect effect of higher education in case of high status minority groups, through careers and leisure activities where higher educated members of the minority are over-represented.

We could apply part of these arguments to Hungarians in Transylvania. There are well-developed education institutions in Hungarian language, at all levels of education, which may favour mate selection within the minority group. Different from the minority groups studied by O'Leary and Finnas (2002), Hungarians in Transylvania are not over-represented in high social strata and professional occupations. They were indeed overrepresented in upper and middle class before union with Romania, but across time their social status worsened, especially during communism. Thus the Hungarian ethnics were underrepresented within the middle class and leaders at the change of the political regime, but the disproportion started to counterbalance during the transition period (Veres 2006). Under these circumstances, we

could argue that social stratification of Hungarian minority in Transylvania is similar to the majority group. Following O'Leary and Finnas's line of thought, we appreciate Hungarian minority to have well-developed education institutions and therefore we may *expect higher education to hamper ethnic exogamy,* by facilitating the meeting of other minority group members.

However, another important issue connected with the above arguments is the fact that across time education in Hungarian language was sometimes hindered by different policies, especially during communism. As a consequence, Hungarian ethnics completed, at least some of the educational levels, in Romanian language. Not only in times of restrictions did Hungarians studied in Romanian, but also at present some people put their children into Romanian schools to increase their social chances, which is considered an existential compromise they are compelled to make (Culic 2006).

Studying in Romanian language means interactions with members of the majority and greater openness toward Romanians. As shown by Veres (2013) for Hungarian minorities living in four countries of Central and Eastern Europe (Romania, Slovakia, Serbia and Ukraine), age and Hungarian as language of instruction, are more relevant for shaping ethnic Hungarians' attitudes of liking/dislike towards the majoritarian population than education or gender. Hungarian language of instruction increases the attitude of dislike; in other words, instruction entirely in Hungarian leads to group closeness for Hungarian ethnics.

Under these considerations, we *expect that Hungarian ethnics who attended at least one educational level in Romanian language are more opened toward mixed unions.* Moreover, since Hungarian ethnics had the possibility to pursue all their education in Hungarian, we consider that having studied at least one educational level in Romanian is a stronger predictor for exogamous unions than education level per se.

Birth cohort. Citing previous research, Kalmijn & van Tubergen (2006) discuss that ethnic exogamy increases across immigrant generations because they are more strongly socialized in the culture of the host society, leading to fewer attachments to the own ethnic community. Kalmijn & van Tubergen (2006) consider that across time both immigrants and natives are influenced by modernization and develop weaker preferences for potential spouses on ascribed characteristics such as ethnicity. Even though in our case we discuss inter-ethnic

union formation and not mixed unions between immigrants and non-immigrants, we believe that a similar argument could function here, too: younger birth cohorts of Hungarian ethnics have been socialized in increasingly modern environment, so they may show a weaker tendency towards ethnic endogamy. On the other hand, the concerns of Hungarian ethnics about their "survival" may hinder the openness toward ethnic exogamy.

Previous research on ethnic intermarriage in Transylvania (Hărăguș 2014) found that in case of Romanians, younger birth cohorts showed more attraction to exogamy than older ones, especially for women. In case of minority members, results were more variate: for minority women exogamy increased across birth cohorts towards other minorities, while for minority men exogamy increased towards Romanian women.

Given these arguments, *we expect to find decreasing ethnic endogamy, and consequently increasing exogamy, in union formation across birth cohorts*.

Gender. Looking at existing exogamous marriages as given by vital statistics, Horvath (2008) notes the differentiated attraction of Romanian men and women towards their Hungarian counterparts. The odds for Romanian males to be married with Hungarian women are visible higher than for Romanian women to be married with Hungarian men. From the perspective of (Romanian) men marrying exogamous, explanations may be linked with greater autonomy in their case, such as less social control from their families than women (O'Leary and Finnas 2002). For Hungarian women marrying exogamous more than Hungarian men, we may connect this with the mother tongue that usually is passed to the children; when a Hungarian women marries exogamous, we think it is more probable that her children will speak Hungarian than when a Hungarian man marries exogamous. In other words, the Hungarian identity is less threatened when a woman marries outside her ethnic group than when a man does the same. In this line of thought, we *expect that women show higher risks of entering an exogamous union than men*.

Urban/rural settlements. Horvath (2008) showed that the incidence of ethnically mixed marriage in Transylvania is visible higher in urban than in rural settlements. He proposes two explanations for this situation: first is connected with the structure of opportunities and the fact that villages in Transylvania are less ethnically heterogeneous than urban settlements. The second is connected with the strength of endogamy norms, in relation with children's

economic dependency of their parents, which allow the latter to be more effective than urban parents in respecting the community norms.

Type of union. Partner choices have been documented to be less endogamous in unmarried cohabitation than in marriage: Schoen and Weinick (1993) found that cohabiting couples were more homogamous with respect to achieved characteristics such education, which reflect a short-term ability to contribute to the relationship, and less homogamous with respect to ascribed characteristics such as religion. Blackwell and Lichter (2004) found that homogamy with respect to race and religion increased only slightly from dating couples to cohabiting partners to married couples and actually all types of relationships were marked by substantial homogamy. Kalmijn & van Tubergen (2006) argue that norms of endogamy and third parties involvement are expected to be stronger when the union is to become formalized and more permanent, such as marriage. Given that in Romanian context marriage is the dominant pattern of family formation, *we expect to find higher risks of exogamous cohabitation than exogamous marriage formation.*

2.2 Union/marriage dissolution

If similarity on different characteristics is the dominant pattern of marriage formation (Kalmijn 1991), we have to keep in mind that ethnically mixed unions may involve a high degree of cultural dissimilarity between the spouses. Differences in ethnicity are correlated with differences in tastes, values and communications styles (Kalmijn 1998), which may lead to difficulties and disagreement in the partnership and lower level of support from, or interaction with the social network and kin (Dribe and Lundh 2012). On this line of thought, we propose the heterogamy hypothesis (Kalmijn, de Graaf and Janssen 2005): we *expect higher dissolution risk when the two spouses are of different ethnicities*, even after controlling for other characteristics, such as birth cohort or education level.

3. Data and Method

The database we worked on was a replication and adaptation of the first wave of the Generations and Gender Survey (GGS). Both Romania and Hungary had participated in the Generations and Gender Programme, with the Generations and Gender Survey as one of its pillars. For the sake of a more detailed analysis of the Hungarian population in Romania, a

separate data collection was initiated and accomplished in Transylvania in 2006 (Speder 2010). The questionnaire was a combination of first wave GGS and the Hungarian "Turning Points of Our Life Course" Panel Survey, and the financial constraints limited the interviewed population to age group of 18-45. The sampling was two-stage (visiting addresses, data collection), and the selection criterion for becoming a sample member was the following: "those people are Hungarians who understand the questions of the questionnaire and are able to answer them" (Speder 2010). Speder (2010) considers that they obtained this way a sample representing the Hungarian population of Transylvania in respect of their research better than the former ones. The sample included 2,492 persons (1,306 women and 1,186 men), aged 18-45 (cohorts 1960-1988).

The survey had a retrospective design, which allowed the reconstruction of partnership histories of the respondents. Besides registering the dates of starting and ending of all partnerships (cohabitations or marriages), the ethnicity of each partner was recorded. This was a supplementary feature of this survey compared with the GGS. Thus we could trace the type of unions in term of ethnic endogamy or exogamy and could investigate transitions to endogamous or exogamous unions, as well as dissolutions of these unions. For union formation we choose to study the transition from single to first endogamous or exogamous (direct) marriage, and the transition from single to endogamous or exogamous cohabitation. Then we study dissolution of first endogamous/exogamous marriage and cohabitation. We go further and study the transition to second endogamous or exogamous union, but this time we consider marriage and cohabitation together, due to the small number of persons that had a previous union.

We construct piecewise constant exponential event history models for each transition. For first union formation the baseline hazard is the time elapsed since the respondent turned 15 , for the first union dissolution the baseline hazard is the duration of the first union, and for the second union formation the baseline hazard is the duration from union dissolution.

For union formation we distinguish between two competing events that may appear, namely the formation of an endogamous or of an exogamous union. In this situation, cases are censored at interview or in the case of the competing event. We run separate event history models for transition to first endogamous and first exogamous marriage, and cohabitation respectively, having thus four models for the transition to first union. For second union

formation we consider marriages and cohabitations together and distinguish only between formation of second endogamous or exogamous union.

For union dissolution cases are censored at interview or at the death of the partner. We run one model for first marriage dissolution and one for first cohabitation dissolution, with type of marriage/cohabitation (ethnic homogamous or exogamous) as independent variable. Then we also run models for first endogamous/exogamous marriage and cohabitation dissolution.

When studying each transition, cases with missing information about the dates of starting and ending of the respective union were excluded from the sample.

We used in our models several time constant independent variables, such as gender, birth cohort, and whether the respondent had studied any educational level in Romanian. We do not have the type of settlement where the person grew up, which we would have needed in a life course perspective. When we model duration (of the first union or since the union dissolution) and not age of the respondent, we include calendar period as a time-varying covariate. We distinguish among three periods: before 1990, 1990-1999, and 2000 and after.

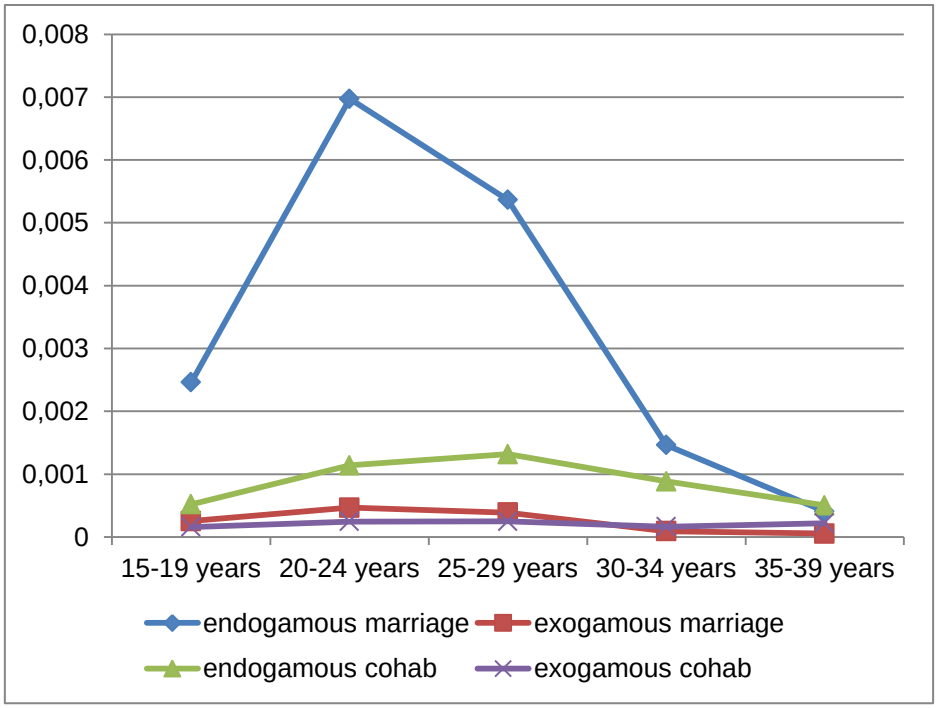
We introduced a time-varying covariate accounting for respondent's educational enrolment and attainment, that we name current educational status. The survey did not register completed educational histories, but only the highest educational attainment at the moment of the interview, and the date when this level was attained. For the construction of this covariate, we followed the approach of Hoem and Kreyenfeld (2006) and Mureşan and Hoem (2010) for data with no complete educational histories, assuming that the respondent was enrolled in education all the time before they attained the level reported at the interview, and continuously out of education (with the reported level attained) between the date of attainment and the interview. We constructed a time varying covariate which combines educational enrolment and educational attainment, with the following categories: enrolled in education; not enrolled, low educational attainment (pre-primary, primary and lower secondary education); not enrolled, medium educational attainment (upper secondary and post-secondary non-tertiary education) and not enrolled, high educational attainment (tertiary education).

4. Results

4.1. First union formation

Results of event history models (Table 1) show that the (absolute) risk of transition to first endogamous marriage is the highest for age group 20-24, a pattern similar to first marriage formation in general in Romania. The (absolute) risks of transition to first exogamous marriage are more than ten times lower than for transition to first endogamous marriage, similar in values and age pattern to transition to first exogamous cohabitation (Figure 1). We did not find higher risks of exogamous cohabitation than exogamous marriage formation, as expected, and we link that with (direct) marriage still dominating first union formation in Romania. However, the differences in the absolute risks of transition to first exogamous and first endogamous cohabitation are much smaller than the difference between the absolute risks of transition to first exogamous and first endogamous marriage. We consider this as an indication that indeed barriers in the way of exogamous cohabitation are weaker than barriers in the way of exogamous marriage.

Figure 1. Absolute risks for the transition to first endogamous/exogamous (direct) marriage and first endogamous/exogamous cohabitation



Note: Controlled for current educational level, any level studied in Romanian, gender, birth cohort

Regarding the current educational level, we found clear effects of being enrolled in education and not of the attained level of education. The strongest negative effect of being in education on union formation was found for transition to first (direct) marriage, both endogamous and exogamous one: persons enrolled in education have transition risks with 65%, and 74% respectively, lower than persons that attained a low education level. The negative effect of being enrolled in education is less strong for transition to first endogamous and exogamous cohabitation, compared with transition to first (direct) marriage: persons enrolled in education have transition risks with 27%, and 47% respectively, lower than persons that attained a low education level. A worth mentioning fact is that the negative effect of enrolment in education is stronger in case of exogamous unions (both marriage and cohabitation) than in endogamous ones. Since persons enrolled in education most probably pursue a tertiary education, we may interpret these findings as confirmation of the hypothesis proposed by O'Leary and Finnas (2002) about the decreasing rates of intermarriage in case of higher educated minority.

As we have expected, we found a clear positive effect on the transition to first exogamous union (both direct marriage and cohabitation) of whether the person had studied in Romanian language, at any level. Having studied in Romanian increase the risk of transition to first exogamous (direct) marriage by 3.28 times and the risk of transition to first exogamous cohabitation by 2.19 times. We do not find any effect of this variable on the transition to first endogamous union (marriage or cohabitation).

Regarding gender, we found higher relative risks for women than for men for all transitions studied here: to first endogamous or exogamous (direct) marriage and to first endogamous or exogamous cohabitation. We connect this finding with the younger ages of women than men at union formation, visible for all types of first union studied here. Thus we could not say that the hypothesis about women being more prone to exogamous unions is confirmed.

Regarding birth cohort, results are as expected for transition to first union in general: the younger the birth cohorts, the lower the risks for transition to first (direct) marriage and the higher the risks of transition to first cohabitation. As in case of gender, we could not say that the hypothesis about younger birth cohorts being more open toward exogamous union formation is confirmed.

Table 1. Results of event history models, transition to first endogamous/exogamous marriage and to first endogamous/exogamous cohabitation

	First endogamous (direct) marriage		**First exogamous (direct) marriage**		**First endogamous cohabitation**		**First exogamous cohabitation**	
	Absolute risks	P>z	Absolute risks	P>z	Absolute risks	P>z	Absolute risks	P>z
Age								
15-19 years	0.002461	***	0.000253	***	0.000521	***	0.000157	***
20-24 years	0.006972	***	0.000467	***	0.001139	***	0.000245	***
25-29 years	0.005366	***	0.000386	***	0.001318	***	0.000248	***
30-34 years	0.001462	***	9.28E-05	***	0.000885	***	0.000162	***
35-39 years	0.000406	***	5.42E-05	***	0.000502	***	0.000219	***
	Relative risks	P>z	Relative risks	P>z	Relative risks	P>z	Relative risks	P>z
Current education level								
in education	0.35	***	0.26	***	0.73	**	0.53	***
low	1		1		1		1	
medium	0.86	*	1.00		0.93		0.71	
high	0.93		0.77		1.17		0.83	
Any educational level in Romanian								
no	1		1		1		1	
yes	1.05		3.28	***	0.95		2.19	***
Sex								
men	1		1		1		1	
women	2.05	***	1.87	***	1.45	***	1.73	***
Birth cohort								
1960-1969	1		1		1		1	
1970-1979	0.67	***	0.61	***	1.51	***	1.79	***
1980-1988	0.26	***	0.52	**	2.04	***	2.31	***
N	2,444		2,444		2,444		2,444	
Events	1,046		145		354		136	

Note: *** for p<0.01, ** for p<0.05, * for p<0.1

4.2. First union dissolution

If we look at the relative risks of union dissolution by type of union (endogamous or exogamous) (Table 2), we see that ethnic exogamy increases the dissolution risk in case of marriage but not in case of cohabitation. Figure 2 shows the absolute risks of first endogamous/exogamous marriage and cohabitation dissolution, controlled for other characteristics such as current educational level, any level studied in Romanian, gender, birth cohort and calendar period. We can see that risks of dissolution are much lower in case of

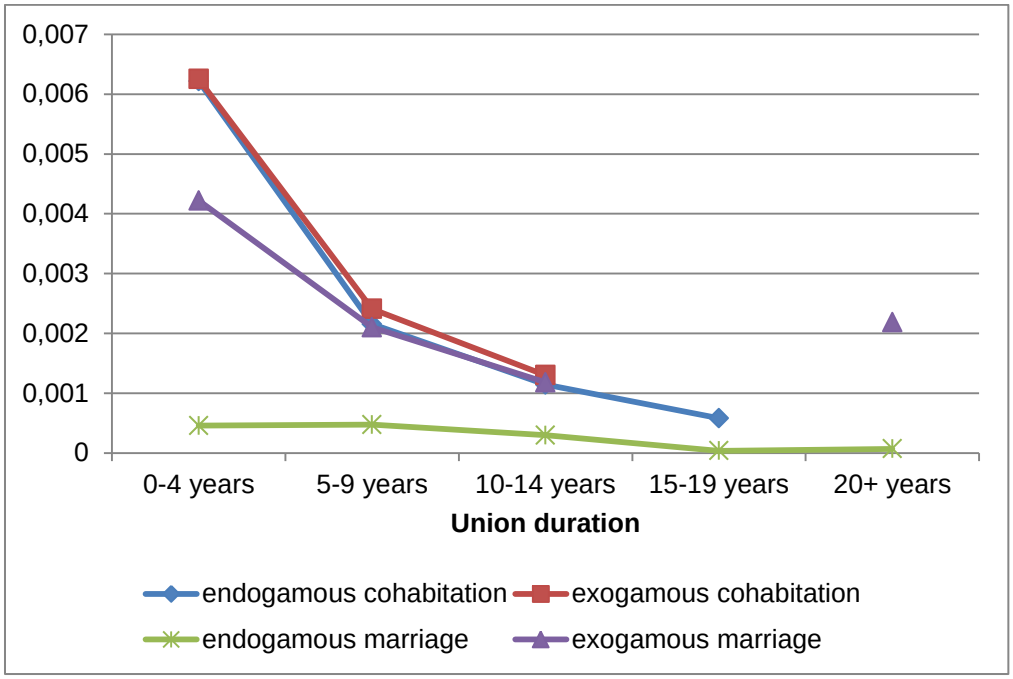
endogamous than exogamous marriages. In case of cohabitation dissolution, there are no differences in the level of absolute risks between endogamous and exogamous cohabitation. Thus we could say that the heterogamy hypothesis is confirmed only in case of first (direct) marriage dissolution.

Table 2. Results of event history models, first marriage and first cohabitation dissolution

	First (direct) marriage dissolution		**First cohabitation dissolution**	
	Absolute risks	P>z	Absolute risks	P>z
Union duration				
0-4 years	0.000607	***	0.005807	***
5-9 years	0.000546	***	0.00211	***
10-14 years	0.00035	***	0.001121	***
15-19 years	3.91E-05	***	0.000382	***
20+ years	0.00018	***	1.72E-09	
	Relative risks	P>z	Relative risks	P>z
Type of union				
Endogamous				
Exogamous	2.23	***	1.11	
Current education level				
in education	0.94		2.39	***
low	1		1	
medium	0.85		1.51	*
high	1.32		0.78	
Any educational level in Romanian				
no	1		1	
yes	1.23			
Sex				
men	1		1	
women	0.96		0.54	***
Birth cohort				
1960-1969	1		1	
1970-1979	0.55	*	1.03	
1980-1988	0.36		2.36	**
Calendar period				
Before 1990	0.92		0.78	
1990-1999				
2000 and after	1.50		1.16	
N	1,189		472	
Events	81		157	

Note: N for first (direct) marriage and cohabitation dissolution is smaller than the number of first (direct) marriages or cohabitations (see Table 1) because we dropped from the sample cases with missing information about the date of union dissolution or with negative union durations.
*** for p<0.01, ** for p<0.05, * for p<0.1

Figure 2. Absolute risks of first endogamous/exogamous (direct) marriage and first endogamous/exogamous first cohabitation



Note: Controlled for current educational level, any level studied in Romanian, gender, birth cohort and calendar period

4.3. Second union formation

Results of event history models (Table 3) show that the absolute risks of transition to a second union are higher when the union is endogamous than when it is exogamous. Any of the covariates used does not show a significant effect on transition to second endogamous union. In case of transition to second exogamous union we find that persons who had a first exogamous union exhibit twice the risk of entering a second exogamous union compared with persons that had a first endogamous union.

Table 3. Results of event history models, transition to second endogamous/exogamous union

	2nd endogamous union		2nd exogamous union	
	Absolute risks	P>z	Absolute risks	P>z
Time since union dissolution				
0-4 years	0,012009	***	0,005388	***
5-9 years	0,006449	***	0,00326	***
10-14 years	0,003	***	0,000794	***
15-19 years	3,67E-09		5,86E-10	
20+ years	3,81E-09		4,92E-10	
	Relative risks	P>z	Relative risks	P>z
First union type				
endogamous	1		1	
exogamous	0.95		2.19	*
Education level				
in education	1.55		2.63	
low	1		1	
medium	1.36		2.11	
high	0.79		0.41	**
Any educational level in Romanian				
no	1		1	
yes	1.08		2.23	
Sex				
men	1		1	
women	1.02		0.79	
Birth cohort				
1960-196	1		1	
1970-197	0.65		0.24	*
1980-198	0.67		0.26	
Calendar period				
before 1990	0.60		0.10	***
1990-1999	1		1	
2000 and after	2.27		1.38	
N	223		223	
Events	88		23	

Note: N for second union formation is smaller than the number of union dissolutions (see Table 2) because we dropped from the sample cases with missing information about the date of second union formation or with negative time since union dissolution.
Note: *** for p<0.01, ** for p<0.05, * for p<0.1

5. Conclusions

We have investigated mixed union formation and dissolution of Hungarian ethnics in Transylvania, with the aim of finding which characteristics of individuals were connected with the tendency towards exogamy, and whether inter-ethnic unions are more fragile than endogamous ones. Besides the retrospective design of the survey we used, which allowed us to reconstruct partnership histories, an important feature was the registration of each partner's ethnicity. In this way we could investigate inter-ethnic union formation in a life course perspective.

An important characteristic considered in our study was educational level of individuals. We have constructed two alternative hypotheses for the influence on mixed union formation: one linked higher education with a greater openness toward other ethnic groups and thus with greater ethnic exogamy in union formation, while the other linked higher education with higher ethnic endogamy in case of minority groups that are indigenous and not underprivileged. We did not find an effect of the attained level of education for neither of the two alternative hypotheses. We find instead a strong negative effect of being enrolled in education on union formation, both in case of marriage and cohabitation, both in case of endogamous and exogamous unions. This negative effect was stronger in case of exogamous union formation (both marriage and cohabitation) and since persons enrolled in education most probably pursue a tertiary education, we may interpret these findings as supportive of the hypothesis that links higher education with less attraction for inter-ethnic unions.
Another important finding was that more than educational level, the language of studies makes a clear difference between endogamous and exogamous union formation: persons that had studied at least one educational level in Romanian language had visible higher risks to form an inter-ethnic union, both marriage and cohabitation. Studying entirely in Hungarian language leads to a group closure that hampers long term relations with majority members, such as marriage. Having studied in Romanian, too, reduce the attitudes of dislike toward the majority group (as found by Veres 2013), and ease the way toward mutual understanding and subsequent union formation.

Regarding gender and birth cohort, we found similar effects for transition to both exogamous and endogamous unions: the younger the birth cohort, the lower the risk for transition to

direct marriage and the higher risk for transition to cohabitation, and women showed higher risks than men for transition to all types of unions.

In case of marriage dissolution we found support for heterogamy hypothesis: higher divorce risks for exogamous than for endogamous marriages. We did not find differences in the dissolution risk of exogamous and endogamous cohabitations, although the dissolution risk of cohabitations was much higher than that of marriages.

In case of formation of a second union, we have found that persons who had a first exogamous union exhibit twice the risk of entering a second exogamous union compared with persons that had a first endogamous union. In other words, a bad experience of a non-lasting mixed union does not scare them and go for a second try with an exogamous union. Probably this is a special category of persons, with a strong affinity towards Romanians.

The event history approach imposed some limitations to our study regarding the characteristics of individuals that we could account for. Except for ethnicity, we had no other information about previous partners of the respondent, in order to see, for example, the degree of educational or age homogamy.

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Appendix

Figure 3. Cummulative incidence function for transition to first endogamous/exogamous marriage (competing risks)

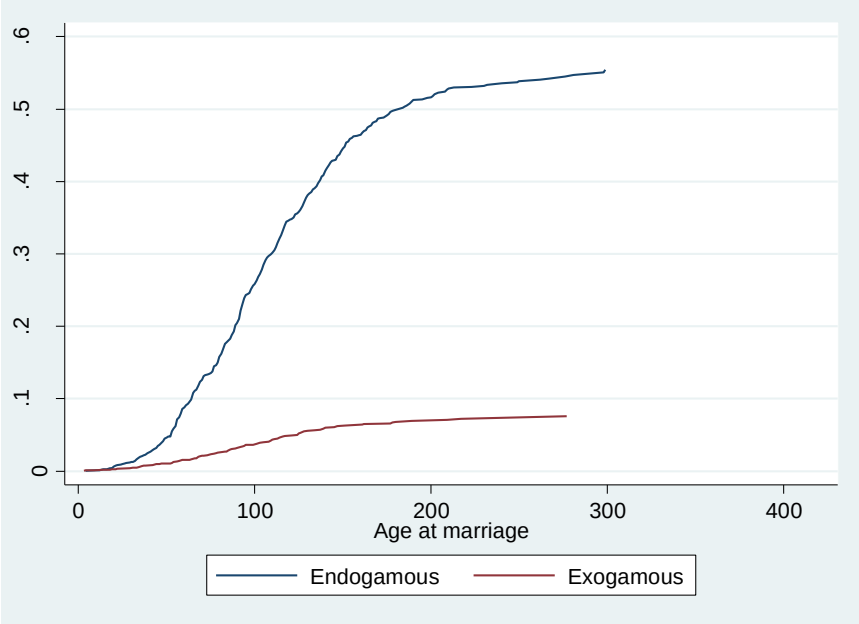


Figure 4. Cummulative incidence function for transition to first endogamous/exogamous cohabitation (competing risks)

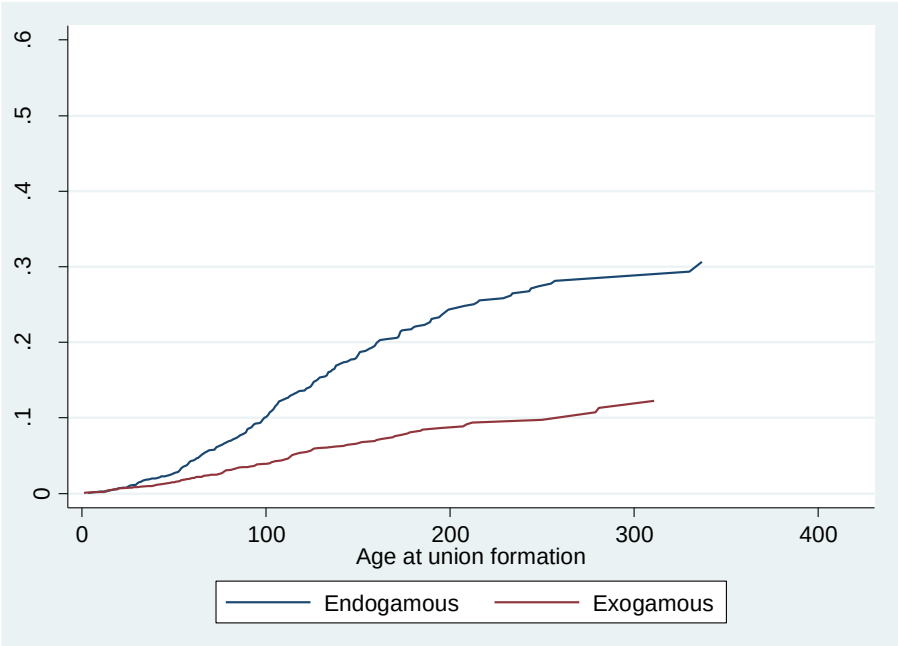
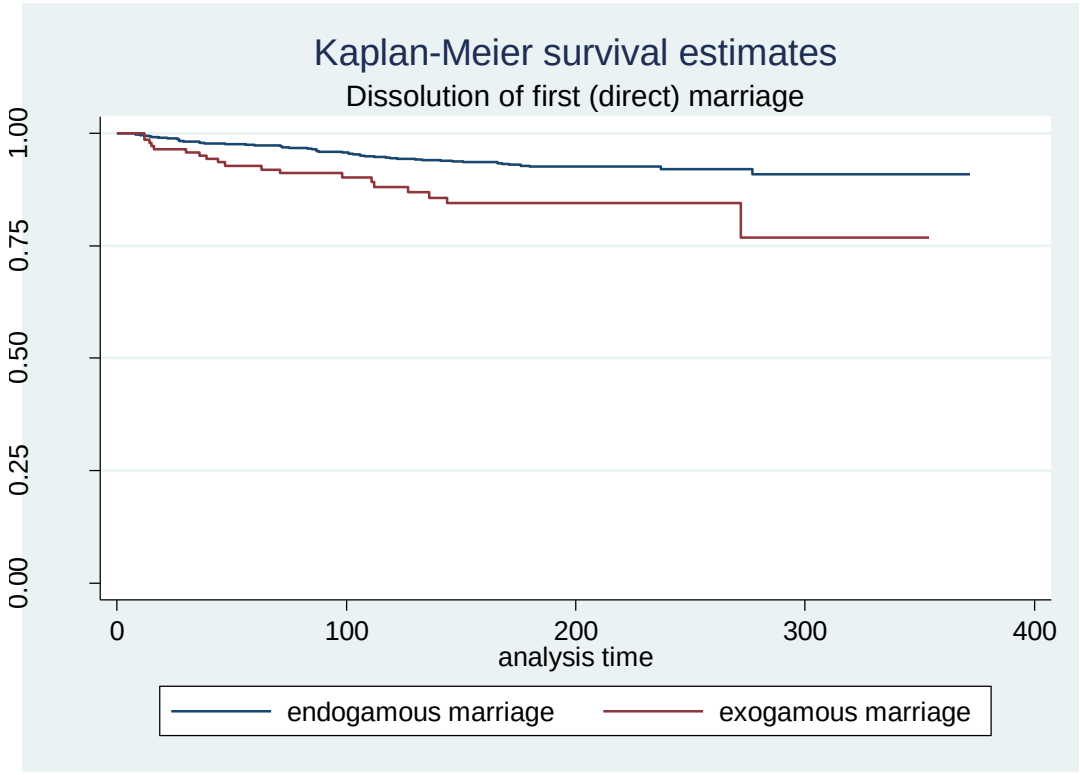


Figure 5. Kaplan-Meier survival functions for first marriage and first cohabitation dissolution, by type of marriage/cohabitation



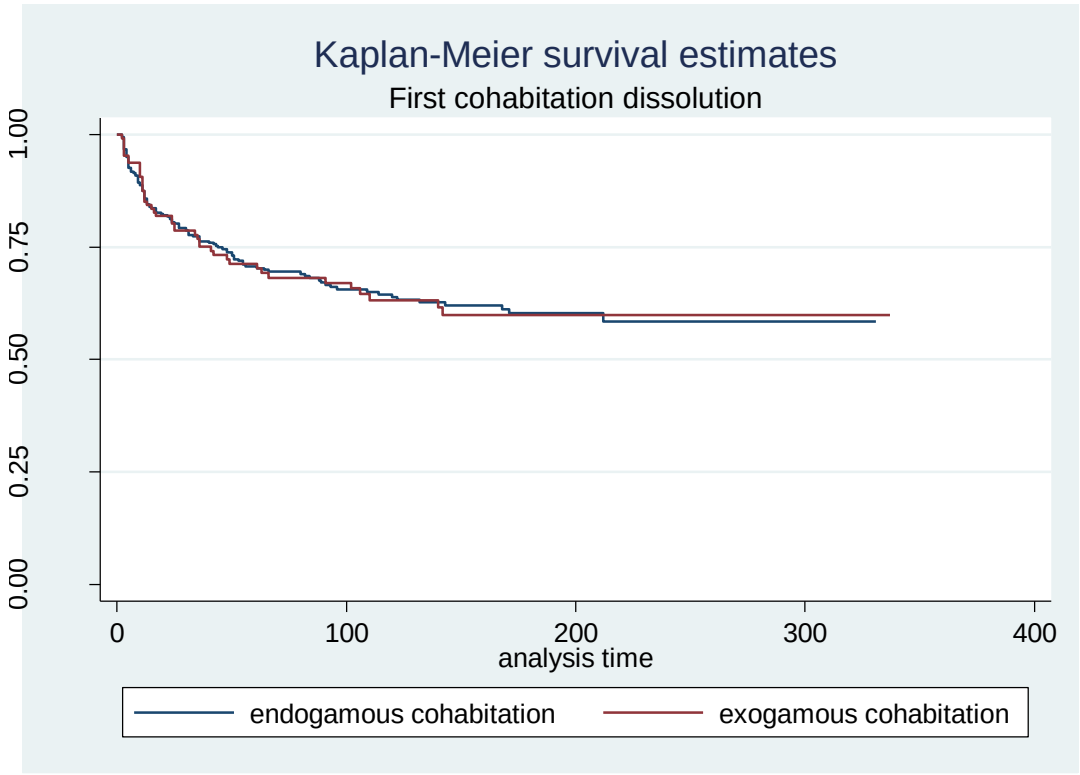


Figure 6 Kaplan-Meier survival functions for transition to second union, by type of first union