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Abstract

A large literature has found that when two spouses have different ethnic, racial, religious or linguistic identities, they are more likely to divorce than endogamous counterparts. This paper is the first to use longitudinal population registers to illustrate that, giving in on the everyday language use may amplify the divorce risk of intermarried couples. It draws on theories of ethnic boundary shifting and boundary crossing to examine two main ancestral groups in Finland, Finnish speakers and Swedish speakers, between whom intermarriage is common. Administrative changes in how ethnicity was registered between the censuses of 1975 and 1980 make it possible to identify individuals who are discordant on ethnolinguistic affiliation and the language mainly used. Cox regressions are employed to study the subsequent divorce risk, using data on the married Finnish population, and adjusting for a number of individual-level control variables. Results suggest that couples who are endogamous on the main language used, but exogamous on ethnolinguistic affiliation, run a higher divorce risk than couples who are exogamous in both respects. Furthermore, the divorce risk is greater for couples where one partner has shifted towards the majority group of Finnish speakers, compared to couples where one spouse has shifted towards the minority group of Swedish speakers. Adopting the spouse's language, meaning that there is language convergence in the couple, consequently influences marital stability.

Keywords: Divorce, Homogamy, Exogamy, Finland, Language, Ethnicity

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INTRODUCTION

Understanding what factors make a couple compatible is a topic of enduring interest in the social sciences. It is well-established that endogamous unions and marriages where partners share characteristics such as ethnicity, race, education, or religion generally are preferred by individuals, and are more likely to be stable (Milewski & Kulu, 2014; Qian & Lichter, 2007; Smith, Maas & Van Tubergen, 2012). Sociological theorizing on this topic has suggested that when partners or spouses share values, belief systems and communication style, conflicts are less likely to arrive and easier to resolve. Partaking in activities together and sharing values eases communication and increases the likelihood of common goals (Dribe & Lundh, 2012). Assortative mating on the partner market suggests that individuals frequently choose partners who are like themselves on key traits. This is likely due to preferences or because third-party norms prescribe a common race, ethnicity, education, language or religion (Kalmijn, 1998). Opportunities to meet partners who are similar or dissimilar on key traits also play a part in patterns for endogamous marriages (Kalmijn & Flap, 2001).

Nevertheless, various forms of intermarriage have become more common in many contexts and, as a phenomenon, intermarriage is of high sociological relevance. One dominant strand of the intermarriage research considers the causes and consequences of marriages across ethnic boundaries, frequently between natives and immigrants in the context of understanding integration and assimilation processes (Kalmijn & van Tubergen, 2006; Milewski & Kulu, 2014; Qian & Lichter, 2007). Marriage is sometimes regarded as the ultimate measure of integration, and a proof of acceptance of individuals across social boundaries and the view that different groups are equals (Qian & Lichter, 2007). Intermarriage across various boundaries in the mainstream population, e.g. in terms of education, age, religion or other boundaries, has received large attention, as it is important to understand how groups in society are divided by social categories, and how this may change over time. Thus, intermarriage portrays boundaries between groups in society, but it also has the potential for cultural and social change (Kalmijn, 1991).

Among intermarried couples, many individual characteristics are reformed and renegotiated over time and across contexts (Petts & Petts, 2019). Complexity of this kind does not apply to some undoubtedly fixed partner traits, such as spousal age, but can be studied for couples who adopt the other partner's native language or religion (Musick & Wilson, 1995). A vital life event such as marriage may consequently precipitate a change in an individual's language use

or religious affiliation, and be influenced by practical concerns that govern how the partners in the couple communicate with each other, and with the rest of society.

Compared to the ample literature on exogamous marriage and divorce, less is known about the divorce risk of exogamous marriages when a given identity marker is multifaceted, and one partner acquires parts of the other partner's traits during the course of the marriage. This scarcity may be due to both a lack of theory and conceptual framework (Petts & Petts, 2019), and a lack of data from appropriate contexts. In this paper, we draw on theories of boundary shifting and boundary crossing (Alba & Nee, 2003; Zolberg & Woon, 1999) to gain an insight into how couples compromise and negotiate a shared trait within their marriage, and how such a process may affect the divorce risk.

When individuals are reclassified between census waves, this might suggest that individuals change across boundaries (boundary crossing; that individuals change identity), or alternatively that group boundaries change across individuals (boundary shifting; that the identify itself shifts meaning), or that both of these processes occur (Loveman & Muniz, 2007). In our study context, Finland, intermarriage is common between the two main native ethnolinguistic groups: Finnish speakers, who account for barely 90% of the total population, and Swedish speakers, who amount to just over 5%. Over the past few decades, an increasing incidence of intermarriage may also suggest a weakening of boundaries between these two native groups. We exploit a rephrasing of the question on ethnicity, from the main language spoken in the 1975 census, to ethnolinguistic affiliation, or mother tongue, in the 1980 census. We argue that the answer from the earlier question can be viewed as that, from various practical concerns, identity is negotiated and shared with the partner, while the latter can be understood in terms of group belonging in childhood, or fixed ethnic identity. We conceive this rephrasing as what can be described as boundary shifting, whereby the definition has changed, or in this case that the categorical membership has shifted (in the eyes of the authorities). However, as a result of discordancy on identities in the two questions, we argue that boundary crossing is observed, meaning that we can identify some couples where individuals with a stable ethnolinguistic identity have adopted the language spoken by their partner. We examine the association between this boundary crossing, i.e., that one of the partners reports to mainly speak the other partner's language, and the divorce risk for couples that are exogamous in terms of ethnolinguistic affiliation.

Predictions for how this change may be associated with divorce can be made in both directions. On one hand, it can be hypothesized that exogamous couples who converge to a shared spoken language are more stable, due to their ability to negotiate and share

communication style. Homogamy theory suggests that these couples should be less likely to divorce, assuming that adopting the partner's language reflects actual convergence on a focal trait, like sharing the religious denomination or citizenship (Zhang & Van Hook, 2009). In other words, whether due to boundary crossing or shifting, it can be argued that these couples run lower divorce because they are now more aligned on communication style, values, or beliefs. Conversely, it is possible that couples where one individual has eschewed a key aspect of his or her original ethnolinguistic identity are qualitatively different from couples that start out as endogamous. These couples may then be less stable due to factors related to the enforced transformation in terms of, for instance, higher stress or loss of self-identity. Moreover, individuals who cross boundaries may receive less family support if they are seen as abandoning their original group identity, or be met with skepticism from their new community. Such mechanisms may also exist even if they do not originate in explicit disapproval or negative feelings. For instance, lesser support may simply reflect that someone has fewer interactions with members of one's childhood community and thus draw less on their social resources. Another interpretation would be that it is harder to maintain separate distinct identities in couples where one partner is discordant on language use and ethnic affiliation. Being able to combine an own identity with shared commitment to a marriage has been argued to be central for relationship quality (Askham, 1976).

In the present study, we do not seek to determine the precise mechanisms resulting in higher or lower divorce risk. Rather, our contribution lies in applying the concepts of boundary shifting and boundary crossing to marital stability to identify the prevalence of divorce in different kinds of exogamous couples. We can do this by identifying different groups that have negotiated their language use in everyday situations, and examine whether language use does or does not overlap with their ethnic identity. Our results suggest that the boundary crossing is associated with a higher risk of divorce, but we also uncover notable differences in divorce risk based on whether a couple is converging towards an endogamous Swedish-speaking or an endogamous Finnish-speaking union.

Our study has three key strengths. First, we provide the first analysis based on population register data to exploit how language use within ethnically intermarried couples is linked with marital stability, using a quasi-experimental setup. Second, because our data consist of linked national registers of the entire population residing in Finland, we can control for a range of factors that might contribute to the discordance between language use and ethnolinguistic affiliation, as well as to the divorce risk, such as the population's ethnic composition in the area

of residence, whether a partner has changed this environment, and several demographic and socioeconomic controls. This is important, not only to avoid bias from several known determinants of divorce (Lyngstad & Jalovaara, 2010), but also because it taps into the regionally segregated ethnic-group boundaries of Finland (Saarela & Finnäs, 2004). Third, much of the literature on boundary crossing, shifting and blurring, is focused on immigrant integration and segmented assimilation (Alba & Nee, 2003). Our study explores two ancestral native groups, and does not concern so-called visible minorities or other groups of migrants that might be subject to discrimination and stress associated with structural racism, nor with large socioeconomic differences between the study groups. It thereby contributes with a different perspective on factors that may help or hinder marital stability, that is, for a context with two distinct ethnic groups who have equal standing and are free of constraints related to the migration process or host-country integration.

BOUNDARY SHIFTING, CROSSING AND BLURRING

We draw on typologies that distinguish between boundary crossing, boundary shifting and boundary blurring, as outlined by Zolberg and Woon (1999). These were developed with regard to the outcomes between mainstream populations and immigrant populations in western countries. Boundary crossing is when an individual adopts certain traits or behaviours of another group. Akin to assimilation of individuals, they can cross over to the other category, but crucially, the categorical boundaries of insiders and outsiders remain intact. In Zolberg and Woon's description, examples of boundary crossing could be an immigrant who abandons his or her mother tongue in favour of the language spoken in the host country, religious conversion, or naturalization. Boundary shifting is when categorical membership shifts across individuals. Here, the line that separates "us" from "them" is redrawn and those once considered outsiders are now members of the in-group. Boundary shifting can therefore be described as a more fundamental process than boundary crossing.

Ethnic boundary-making has been considered as a continual process that requires agency, and has to be made and recreated in everyday situations (Barth, 1994; Emirbayer & Mische, 1998; Lamont & Molnár, 2002). This may be particularly true in our case, where Finnish speakers and Swedish speakers in Finland are groups that share many everyday aspects, and where the ethnolinguistic affiliation is strongly linked to language, and notably less to other ethnic markers, such as religion or different traditions. Under such circumstances, changing the everyday language may be associated with departing from your own identity. Jenkins (2000) argued that identity is formed at three levels: the individual, interactional and institutional.

These levels are often interconnected social and political structures, and their shifts are vital to the process (Cote, 1996). Ethnicity can also be constructed depending on whether it is based on linguistic or cultural behaviours, or on visible phenotypic traits such as race (Bonilla-Silva 1999; Cornell & Hartmann, 1998; Omi & Winant 1994). Using microdata, Loveman and Muniz (2007) explored the reasons why there was an increase in the proportion of White individuals in Puerto Rico between the 1910 and 1920 censuses. They noted a considerable increase in the enumerated White population across these two waves, which could not be explained primarily by demographic factors, such as relatively higher birth rates, lower immigration, or lower rates of intermarriage. Instead, they found that the “whitening” came about due to boundary shifting, that is, a change in the definition of who is defined as White between the censuses, as it widened to comprise individuals who had previously been categorized differently. That evidence depicts the issue of how social identity may change as a result of a shift in the categorical membership defined by the government.

Boundary blurring, in contrast, is not concerned with group identity of individuals, but with the actual boundaries of such categories themselves (Lewin-Epstein & Cohen, 2019). Mixed marriages certainly contribute to the blurring or erosion of ethnic boundaries. Blurring may be particularly important if there is a discrepancy between a person’s ethnolinguistic identity, which in the Finnish context is strongly linked to language, and the language that is de-facto used in everyday situations within exogamous unions. Within exogamous unions, there may consequently for both the spouses be concordance between the main language used and ethnolinguistic affiliation, or one spouse may have given up the language shared with his or her ethnolinguistic community for the language of the spouse. In most scenarios, spouses use a single language to communicate with each other, but an individual spouse may still have a dominant language concordant with his or her ethnolinguistic identity, used in other aspects of everyday life, and/or to communicate with the children. Offspring of intermarriages, who are not studied here, generally have more blurred lines than others (Song, 2010).

Building on Zolberg and Woon, Alba and Nee (2003) emphasize that the distinctions between boundary crossing and shifting are merely ideal types, meaning that it is difficult to disentangle them in study design, and that the dynamics of social boundaries are not well understood. While the boundary process as a conceptual framework has served a great purpose within sociology, efforts that distinguish between crossing, shifting and blurring are often absent (Loveman & Muniz, 2007). For boundary shifting to occur, considerable boundary crossing and blurring has to predate it (Zolberg & Woon, 1999).

The change in how individuals identify themselves can come about from establishing close relationships with individuals from another group. Some couples manage exogamy by focusing on the commonalities they share, rather than their differences (Özateşler-Ülkücan, 2020). Marriage to an individual of a different race is particularly pertinent for studying the process of identification. With regard to relationship stability, there is some evidence to suggest a positive correlation between racial identity shifts and divorce risk, and particularly so if it is the woman who changed her identity (Petts & Petts, 2019). An identity shift of this kind may induce increased stress of being perceived as not real by others, or from loss of the original identity. Religious intermarriage and its impact on marital stability has a long history as a research topic (Burchinal & Chancellor, 1963; Kalmijn, 1991; Landis, 1949). Studies on the impact of an individual's change in his or her religious affiliation within marriage are nevertheless rare. The existing evidence suggests that marriages following a religious conversion are more stable than are both homogamous marriages and non-conversionary intermarriages (Lehrer & Chiswick, 1993).

Race, religion and ethnicity comprise different aspects of identity and have both similarities and contrasts that are important to highlight. Religious identity negotiations run the risk of being biased by the fact that highly religious individuals are less likely to divorce (Lehrer, 2009), and may simultaneously place greater value on sharing religious denomination with their spouse. Within some faiths, spouses sharing religion is a precondition for entering the marriage. These identity shifts that occur at marriage, and prescribed by an institution, may be of a different nature than negotiations that the couple have to handle themselves, often during a prolonged period of time. In secular societies, religion is also becoming less relevant as a partner preference for the majority population. Comparing ethnic and racial intermarriage, the former may not be subject to the same stress, at least in some contexts (Petts & Petts, 2019). However, individuals for whom the own ethnic or racial community is more important are presumably more likely to pressure the partner to adopt their trait. And naturally, selection is likely at play here, because the individuals most adamant on their own trait are more likely to marry a spouse with the same background, rather than one who must "convert". Yet, in contrast with religion and race, language use within a couple may be negotiated because of its practical nature. A marriage depends on communication, which can take place in many ways, including bi- or multilingually. When children are involved, a common language may be seen as more necessary, and the common parental language is generally the first language of the child (Saarela & Finnäs, 2016).

In this paper, we view the process of adopting the language reported spoken by the partner as induced by boundary shifting. This definition is based on a reconceptualization of the ethnic categories in the Finnish population register, from measuring the main language spoken in the 1975 census to measuring the ethnolinguistic affiliation, or mother tongue, in the 1980 census. Boundary crossing occurs if an individual born into one ethnic group adopts the language spoken by the spouse, and may thus be considered a new “insider” from the spouse’s point of view. We are interested in intermarriage between two groups that both are part of the native population, i.e., not boundary shifting and crossing in the context of assimilation or integration. Our argument fits with the idea that, for intermarried couples, there is a compromise or negotiation of language use, and this process of boundary crossing may influence the divorce risk. If it occurs on a grand scale, it may eventually lead to the breakdown of boundaries between ethnic groups. Convergence within marriages may thus serve to redraw boundaries between various categories in society. However, while intermarriage may aid in creating greater closeness across different groups in on a population level, exogamous unions tend to come about because of choice for that particular partner, without any aim to erode boundaries for the individuals (Wimmer, 2008).

CONTEXT

Finland is home to two official indigenous ethnolinguistic groups, Finnish speakers and Swedish speakers, who make up barely 90% and just over 5% of the population, respectively. Sweden and Finland have a long shared history, and Finnish did not have the status of an official language during Swedish rule, which ended in 1809. Since 1917, when Finland became independent from Russia, the two groups enjoy the same constitutional rights. There is still geographical segregation of the two groups, dating back to when Finland was part of Sweden. The approximately 290,000 Swedish speakers reside predominantly along the western and southern coastlines, including the Helsinki metropolitan area. As in the case of many immigrant minority groups, they are not socioeconomically disadvantaged, stigmatized, nor do they differ in religious beliefs from the Finnish-speaking majority population (Saarela and Finnäs 2014). There is a parallel school system in Swedish, a Swedish-speaking brigade of the army, and Swedish media and cultural institutions that are influential for the identity of the Swedish speakers. The Finnish language is part of the curriculum in Swedish schools, and the Swedish language in Finnish schools, though in practice full bilingualism is much more common among Swedish speakers (Finnäs, 2013; O’Leary & Finnäs, 2002).

Notwithstanding the Swedish and Finnish speaking divide, until the early 1990s Finland was, in most aspects, a highly homogenous society with a small foreign-born population of about 25,000 individuals. In recent decades, this population has grown more than tenfold, but remains low as compared with the other Nordic countries. Around 1900, Swedish speakers made up 13% of the population, but has since then experienced a steady decline in relative (but not absolute) numbers. Some decades ago this reduction was induced by low birth rates, outmigration and increased intermarriage, but more recently almost entirely because of the immigration of foreign-born persons. Overall, Finnish and Swedish speakers clearly fulfill the criteria commonly held for defining distinct ethnic groups (Barth, 1969; Gordon, 1964). Swedish speakers generally identify themselves as a separate ethnolinguistic group with a strong relation to Sweden and a Scandinavian heritage, though simultaneously maintaining a strong affiliation to their homeland, a bilingual Finnish state, and a Finnish national identity. In censuses, and later the national population register, individuals are only allowed to have one ethnolinguistic affiliation, or mother tongue. It is recorded in the central population register recently after birth. Few individuals, and in practice only those with a mixed background, change this affiliation later in their life (Obućina & Saarela, 2017). In the population studied here, only 0.06% of the individuals had changed their ethnolinguistic affiliation. The switch in the registration procedure between the census of 1975 and 1980 is an anomaly, however. We return to that below, as it links to our conceptualization of boundary shifting and crossing, which is at the core of our research design.

The proportion of individuals with Finnish-Swedish mixed backgrounds has increased considerably in Finland. While the social and cultural institutions continue to cater to both groups, Finland is continuously experiencing boundary blurring between its previously more distinct Swedish-speaking and Finnish-speaking categories. A consequence of such boundary blurring is that, while men and women may have stable ethnolinguistic identities that relate to how they identify themselves, this ethnolinguistic identity is not always concurrent with the language that they speak within the household. The increasingly complex mix between the Swedish and Finnish ethnolinguistic categories is apparent when considering the growth in the proportion of individuals who have parents and grandparents on both sides of the ethnolinguistic border during the past decades (Saarela, Kolk & Obućina, 2020). In other words, increased intermarriage is linked with increased complexity in mixed background. This development has happened in tandem with a move away from the perception that it is confusing for children to learn two languages simultaneously (Saarela & Finnäs, 2016). Currently, about

40% of Swedish speakers marry a Finnish-speaking partner (Saarela, 2021). The pattern in exogamous marriages is gendered; it is more common for a Swedish-speaking man to marry a Finnish-speaking woman than *vice versa* (Saarela et al., 2020). Higher education, otherwise commonly found to be a predictor of exogamous marriage, is not predictive of Swedish-Finnish intermarriage in Finland. On the contrary, highly educated Swedish-speaking individuals are more likely to marry endogamously (O’Leary & Finnäs, 2002). Thus, it seems that the Swedish speakers see higher instrumental value than Finnish speakers in passing on their group identity to their children, and especially so when they have higher levels of education.

A notable difference between Finnish speakers and Swedish speakers in demographic terms, and of particular relevance for our study, is in their divorce risk. The prevalence of divorce is lowest among endogamous Swedish-speaking couples, higher among endogamous Finnish-speaking couples, and the highest among ethnolinguistically exogamous couples (Finnäs, 1997; Saarela & Finnäs, 2014). The lower rates of divorce among endogamous Swedish couples cannot be explained by demographic or socioeconomic factors, and have therefore become somewhat of a conundrum. It has been hypothesized that part of the explanation for higher marital stability in the Swedish-speaking community is related to social integration and close-knit community structures, enabled by low residential mobility and strong social and cultural institutions (Saarela & Finnäs, 2018). However, opportunities to find new partners within a smaller ethnolinguistic community are fewer, and so explanations may also be linked to partner market dynamics. With the setup used in the present study, we are able to shed further light on the divorce gradient by separating couples not only by the ethnolinguistic affiliation of each partner in the couple, but also by the main language used by each member of the couple, and if this is discordant or not.

Socioeconomic, demographic and contextual factors associated with divorce in Finland are generally the same as those in other similar countries (Jalovaara, 2001; Lyngstad & Jalovaara, 2010; Härkönen, 2014). The divorce risk is highest in the first few years after marriage, it is higher for couples who marry young, when the age difference is large, for previously married, for couples with older children, for those who are discordant on social position, and for those in a poor economic position. The antecedents of divorce will be discussed in somewhat more detail below, although the emphasis in this paper is on the ethnolinguistic divorce gradient.

METHOD

The data used contain all married couples in the censuses of the total population of Finland in 1975 and 1980. Each person can be observed longitudinally at the one-year level during the period 1971-2019, for which there is information about all marriages, divorces, deaths, and moves abroad. Year of marriage, also before 1971, and year of divorce of these couples are known.

Analyses are restricted to couples who were married in both 1975 and 1980, meaning that the couple was intact at the time of the two censuses, which are central to our identification strategy. We have performed parallel analyses for couples who were married in 1975, irrespective of whether they were married in 1980. The results are similar to those reported here, and can be found in the Online Supporting Material (Tables S1-S5).

In the 1975 census, the question on “main language” (*pääkieli* in Finnish, *huvudspråk* in Swedish) referred to the language mainly used by the individual, which was Finnish, Swedish, or some other. In the 1980 census, it was substituted with “mother tongue” (*äidinkieli* in Finnish, *modersmål* in Swedish), which should be understood as ethnolinguistic affiliation or ethnicity, with the alternatives Finnish, Swedish, or some other. Since all data are at the individual level, we can within each couple compare the categorisations across the censuses.

All analyses are concerned with couples in which both the wife and the husband were either Finnish or Swedish in 1975. They constitute 99.7% of all couples in the data. Among these, only 0.6% consist of couples where either the wife or the husband had another affiliation than Finnish or Swedish in 1980. They are excluded from further analysis. In total, we then have 832,992 couples. Their total number of divorces in the period 1981-2019 is 80,002, and the total number of couple years is 18,314,695. There are in total 533,054 couples who are censored due to spousal death or migration abroad, whereof deaths account for more than 98% of all these events.

In focus is the variable that combines *main language* in 1975 and *ethnicity* in 1980 for each person in the data. We are particularly interested in switches across the censuses within each couple. The taxonomy implies that this key variable have 16 categories, as described in Table 1. The first letter refers to the wife and the second letter to the husband. “S” is for Swedish and “F” is for Finnish. Most couples are naturally found on the main diagonal (marked with light grey), meaning that both the wife and the husband were defined in the same way in 1975 and 1980. Couples in which both the wife and the husband were “Finnish” in both censuses account

for 91.5% of all couples, and those in which both were “Swedish” in both censuses for 5.4%. There are substantially more couples with Finnish woman and Swedish man (in both censuses) than couples with Swedish women and Finnish man (in both censuses), or 11,083 vs. 7,321.

Table 1. Number of couples by wife’s and husband’s main language in 1975 versus ethnicity in 1980

| Ethnicity 1980 | Main language 1975 | | | |
|----------------|--------------------|-------|--------|---------|
| | SS | SF | FS | FF |
| SS | 45,098 | 229 | 408 | 209 |
| SF | 270 | 7,321 | 7 | 2,195 |
| FS | 865 | 8 | 11,083 | 2,193 |
| FF | 76 | 627 | 530 | 761,873 |

First letter is for the wife and second letter is for the husband. S is for Swedish and F is for Finnish. The data consist of the total population of couples who were married in both 1975 and 1980.

For our purposes, the most interesting categories consist of those in which both the wife and the husband had the main language either Finnish or Swedish in 1975, but one was differently defined in 1980 (marked with dark grey). Among the 766 000 couples where both had Finnish as the main language in 1975, there are about equally many, or roughly 2,200 each, where the wife was defined with Swedish ethnicity in 1980 as where the husband was defined with Swedish ethnicity in 1980. These are couples in which both the wife and the husband mainly have spoken Finnish, but they have a different ethnic affiliation. The number of couples where both had Swedish as main language in 1975 and one was defined with Finnish ethnicity in 1980 are notably fewer. The man was differently categorised in 1980 for only 270 of these, and the woman for 865. These are couples in which both the wife and the husband mainly have spoken Swedish, but they have a different ethnic affiliation.

The other eight categories off the main diagonal (indicated with less marked numbers) contain relatively few couples, and are beyond the scope of our theoretical framework. These are (a) couples where the wife and the husband had different main languages in 1975 and one was, or both were, categorised in another way on ethnicity in 1980, and (b) those where both had the same main language in 1975 and both had the same ethnicity in 1980, but both were also differently categorised across the two censuses. For the sake of completeness and readability, we include these categories in analyses, but their results will not be discussed in any detail.

The divorce rate of endogamous Finnish couples (FF_FF) is roughly twice that of endogamous Swedish couples (SS_SS), and that of exogamous couples (SF_SF and FS_FS)

even higher than that of endogamous Finnish couples (Table 2). These differentials corroborate findings from previous research (Finnäs 1997; Saarela and Finnäs 2014; 2018). Furthermore, there is a notable level difference between couples where both the wife and the husband had Finnish as main language in 1975 but one was defined as Swedish in 1980 (FF_SF and FF_FS), on the one hand, and couples where both the wife and the husband had Swedish as main language in 1975 but one was defined as Finnish in 1980, on the other hand (SS_SF and SS_FS). The divorce rate of the former two categories is almost in parity with that of exogamous couples, while that of the latter two groups is somewhat above the divorce rate of endogamous couples.

Table 2. Number of couples, couple events, couple years, and divorce rate for the eight key categories (1975_1980) and for all compositions of couples

| | Number of couples | Number of divorces | Number of deaths | Number of couple years | Divorce rate |
|-------|-------------------|--------------------|------------------|------------------------|--------------|
| SS_SS | 45,098 | 2,101 | 32,590 | 948,468 | 2.2 |
| SS_SF | 270 | 17 | 183 | 5,709 | 3.0 |
| SF_SF | 7,321 | 965 | 4,141 | 167,041 | 5.8 |
| FF_SF | 2,195 | 235 | 1,479 | 44,507 | 5.3 |
| SS_FS | 865 | 54 | 633 | 17,748 | 3.0 |
| FS_FS | 11,083 | 1,319 | 6,662 | 246,248 | 5.4 |
| FF_FS | 2,193 | 235 | 1,520 | 44,226 | 5.3 |
| FF_FF | 761,873 | 74,861 | 484,430 | 16,798,980 | 4.5 |
| All | 832,992 | 80,002 | 533,054 | 18,314,695 | 4.4 |

Number of deaths includes moves abroad, but the latter account for less than two per cent of all these events.

Divorce rate is the number of divorces times 1,000, divided by the number of couple years.

To assess whether these differentials relate to demographic, socioeconomic or contextual factors, we use several control variables that are known to affect the divorce risk. They are marriage duration, couple's mean age at marriage, age difference in the couple, number of children in combination with the age of the youngest child, combinations of educational level of the wife and the husband, housing tenure, whether previously married, combinations of the religious congregation of the wife and the husband, proportion Swedish speakers in the municipality of residence, and whether somebody had changed ethnolinguistic environment since birth (i.e., shifted category on the proportion Swedish speakers in the municipality). All these variables are measured at the end of 1980, i.e., at the same time as ethnicity is defined. They are described in Table 3, together with the distributions within each of the eight key categories of the variable that combines main language and ethnicity.

Table 3. Variable distributions (% of couples) for the eight key compositions (1975_1980) and for all compositions of couples

| | SS_SS | SS_SF | SF_SF | FF_SF | SS_FS | FS_FS | FF_FS | FF_FF | All |
|--|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Marriage duration in 1980, 5-7 years | 5.2 | 3.7 | 12.7 | 3.6 | 1.6 | 12.3 | 5.7 | 8.9 | 8.7 |
| 8-10 years | 7.0 | 5.2 | 13.7 | 7.4 | 5.3 | 13.4 | 7.0 | 10.1 | 10.0 |
| 11-15 years | 12.8 | 18.1 | 19.4 | 19.7 | 19.2 | 18.5 | 18.2 | 16.1 | 16.0 |
| 16-20 years | 11.6 | 13.7 | 13.7 | 13.7 | 14.0 | 13.3 | 13.0 | 13.8 | 13.6 |
| 21-25 years | 11.9 | 14.8 | 11.1 | 13.4 | 14.0 | 10.6 | 13.6 | 12.3 | 12.2 |
| 26-30 years | 12.3 | 10.4 | 9.2 | 11.4 | 11.8 | 10.3 | 13.4 | 11.4 | 11.4 |
| 31-35 years | 14.5 | 13.0 | 8.0 | 11.9 | 12.4 | 10.0 | 12.6 | 12.4 | 12.4 |
| 36-40 years | 10.3 | 8.5 | 5.8 | 7.8 | 8.9 | 5.7 | 8.2 | 6.5 | 6.7 |
| 41+ years | 14.4 | 12.6 | 6.4 | 11.1 | 12.8 | 6.0 | 8.3 | 8.5 | 8.8 |
| Mean age at marriage, <21 years | 11.2 | 18.5 | 15.5 | 17.7 | 12.7 | 12.2 | 16.8 | 17.8 | 17.3 |
| 22-23 years | 22.1 | 22.6 | 22.4 | 24.4 | 22.9 | 20.5 | 20.8 | 25.1 | 24.8 |
| 24-25 years | 24.1 | 21.1 | 22.6 | 20.9 | 21.5 | 21.4 | 18.8 | 21.3 | 21.4 |
| 26-29 years | 25.9 | 21.5 | 23.3 | 20.5 | 24.9 | 24.8 | 21.8 | 21.1 | 21.4 |
| 30+ years | 16.6 | 16.3 | 16.2 | 16.4 | 18.0 | 21.1 | 21.8 | 14.8 | 15.0 |
| Age difference (husband-wife), <0 years | 18.3 | 20.0 | 20.5 | 19.0 | 18.7 | 23.4 | 27.8 | 20.6 | 20.6 |
| 0-1 years | 22.6 | 30.0 | 23.5 | 23.7 | 21.4 | 23.6 | 21.9 | 22.6 | 22.6 |
| 2-4 years | 31.7 | 27.8 | 33.1 | 32.8 | 31.8 | 29.2 | 28.0 | 31.4 | 31.4 |
| 5+ years | 27.4 | 22.2 | 22.8 | 24.4 | 28.1 | 23.8 | 22.3 | 25.3 | 25.4 |
| Number of children and Age of youngest, No child | 40.1 | 34.4 | 28.6 | 37.5 | 39.4 | 31.1 | 38.5 | 28.6 | 29.3 |
| 1 child, 0-6 years | 2.8 | 2.2 | 6.8 | 2.5 | 1.3 | 6.5 | 3.3 | 4.8 | 4.7 |
| 1 child, 7-12 years | 3.2 | 4.8 | 5.2 | 4.8 | 3.0 | 5.6 | 5.7 | 4.8 | 4.7 |
| 1 child, 13-17 years | 4.6 | 3.7 | 5.0 | 5.2 | 5.4 | 5.0 | 5.1 | 5.0 | 5.0 |
| 1 child, 18+ years | 12.4 | 13.3 | 8.2 | 10.7 | 11.4 | 9.0 | 11.4 | 11.0 | 11.0 |
| 2 children, youngest 0-6 years | 8.9 | 7.0 | 15.8 | 7.2 | 7.9 | 14.5 | 8.1 | 11.9 | 11.7 |
| 2 children, youngest 7-12 years | 7.5 | 11.5 | 9.7 | 9.9 | 8.7 | 8.7 | 7.6 | 8.0 | 8.0 |
| 2 children, youngest 13-17 years | 6.1 | 6.3 | 5.9 | 6.6 | 8.0 | 5.9 | 7.0 | 6.7 | 6.6 |
| 2 children, youngest 18+ years | 3.5 | 3.0 | 2.7 | 4.3 | 3.8 | 2.4 | 3.8 | 4.0 | 4.0 |
| 3 children, youngest 0-6 years | 4.7 | 5.2 | 6.4 | 4.9 | 3.5 | 6.0 | 3.8 | 5.9 | 5.8 |
| 3 children, youngest 7-12 years | 3.5 | 4.8 | 3.0 | 4.0 | 5.2 | 2.8 | 2.5 | 4.5 | 4.4 |
| 3 children, youngest 13-17 years | 2.3 | 3.0 | 2.1 | 2.0 | 2.2 | 1.9 | 2.6 | 3.8 | 3.7 |
| 3 children, youngest 18+ years | 0.6 | 0.7 | 0.4 | 0.5 | 0.2 | 0.5 | 0.5 | 1.1 | 1.0 |
| Wife's and husband's education, Primary, Primary | 49.8 | 53.0 | 37.7 | 46.9 | 54.1 | 39.0 | 53.3 | 50.5 | 50.2 |
| Primary, Secondary+ | 17.0 | 16.3 | 20.1 | 24.1 | 19.5 | 20.3 | 18.1 | 15.7 | 15.9 |
| Secondary+, Primary | 10.8 | 14.4 | 12.4 | 9.7 | 8.2 | 11.8 | 11.5 | 12.6 | 12.5 |
| Secondary+, Secondary+ | 22.5 | 16.3 | 29.8 | 19.2 | 18.2 | 28.9 | 17.1 | 21.2 | 21.4 |
| Housing tenure, Own the accommodation | 81.2 | 74.8 | 72.8 | 72.8 | 79.9 | 73.7 | 69.2 | 79.2 | 79.1 |
| Do not own the accommodation | 18.8 | 25.2 | 27.2 | 27.2 | 20.1 | 26.3 | 30.8 | 20.8 | 20.9 |
| Previously married, None | 98.6 | 97.0 | 94.1 | 95.7 | 97.9 | 93.8 | 92.6 | 97.0 | 97.0 |
| One or both remarried | 1.4 | 3.0 | 5.9 | 4.3 | 2.1 | 6.2 | 7.4 | 3.0 | 3.0 |
| Wife's and husband's congregation, Both Lutheran | 76.0 | 71.9 | 73.1 | 67.0 | 74.7 | 75.2 | 68.4 | 73.4 | 73.5 |
| Both other category (including no congregation) | 4.9 | 4.8 | 4.5 | 5.9 | 3.6 | 4.1 | 6.7 | 4.7 | 4.7 |
| Different categories | 19.1 | 23.3 | 22.4 | 27.1 | 21.7 | 20.7 | 24.9 | 21.8 | 21.7 |
| Proportion Swedish in municipality, <0.0039 | 0.3 | 2.6 | 5.7 | 13.6 | 1.0 | 4.0 | 9.2 | 60.5 | 55.5 |
| 0.004-0.0149 | 0.8 | 3.0 | 6.4 | 13.2 | 1.7 | 5.3 | 10.8 | 17.3 | 16.1 |
| 0.015-0.0999 | 14.4 | 25.9 | 38.6 | 46.2 | 24.5 | 35.5 | 52.3 | 16.4 | 17.0 |
| 0.100-0.2999 | 14.9 | 18.9 | 21.4 | 15.8 | 20.5 | 24.3 | 18.4 | 4.3 | 5.4 |
| 0.300-0.4999 | 12.3 | 14.4 | 10.8 | 5.1 | 11.3 | 9.9 | 4.0 | 0.8 | 1.7 |
| 0.500-0.7499 | 16.9 | 17.4 | 10.4 | 4.2 | 17.8 | 11.2 | 3.8 | 0.5 | 1.7 |
| 0.750- | 40.3 | 17.8 | 6.8 | 1.9 | 23.1 | 9.8 | 1.5 | 0.2 | 2.6 |
| Changed ethnolinguistic environment, None | 45.4 | 23.3 | 17.6 | 17.1 | 15.3 | 15.2 | 16.5 | 42.5 | 41.9 |
| Wife had changed | 17.5 | 14.1 | 16.6 | 21.5 | 43.0 | 34.6 | 27.3 | 16.4 | 16.7 |
| Husband had changed | 12.7 | 32.6 | 27.7 | 22.2 | 9.8 | 11.7 | 17.1 | 14.0 | 14.1 |
| Both had changed | 24.4 | 30.0 | 38.2 | 39.3 | 31.9 | 38.6 | 39.1 | 27.1 | 27.3 |

Swedish speakers live concentrated along the south and west coast of Finland. Inter-marriage has been more common in large cities, and particularly the Helsinki metropolitan area, than

elsewhere. Swedish speakers also have more stable marriages than Finnish speakers. Distributional differences across the categories therefore come as no surprise. Our main question is rather if they underpin the differences in the divorce rate. To study that issue, we run Cox regressions for the divorce risk, in which time starts at the end of 1980. Couples are right-censored at the time of spousal death or migration abroad, and at the end of the observation period in 2019, whichever comes first. We stepwise control for additional variables in the order as they are listed in Table 3, and focus on reporting the ratios of the hazard of divorce between the categories of the variable that combines main language and ethnicity. Analyses are performed with SPSS 27, within Statistics Finland's remote access system Fiona, using the contract number TK-52-694-18.

RESULTS

Results of the Cox regressions are summarised in Table 4. Hazard ratios of divorce when no control variables are included naturally correspond to the differences in divorce rate in Table 2. We see that the endogamous Finnish couples have a hazard of divorce that is 2.04 that of endogamous Swedish couples, while that of exogamous couples with Finnish woman and Swedish man is 2.46, and that of exogamous couples with Swedish woman and Finnish man is 2.68. Couples where both mainly speak Swedish but have different ethnic affiliation had a hazard of divorce that is 1.36 that of endogamous Swedish couples. Those where both mainly speak Finnish but had different ethnic affiliation had a hazard of divorce that is 2.37-2.39 that of endogamous Swedish couples. Whether it is the wife or the husband who is discordant in terms of main language vs. ethnolinguistic affiliation does not consequently matter.

Table 4. Hazard ratios for divorce by couples' composition in 1975 versus 1980 according to models that adjust for additional variables

| CONTROL VARIABLES | Eth. 1980 | Main language 1975 | | | |
|---|-----------|--------------------|-------|-------|-------|
| | | SS | SF | FS | FF |
| None | SS | 1 | 1.65* | 2.16* | 1.06 |
| | SF | 1.36 | 2.68* | 0.04 | 2.39* |
| | FS | 1.36* | 3.11 | 2.46* | 2.37* |
| | FF | 3.09* | 2.53* | 2.93* | 2.04* |
| Marriage duration in 1980 | SS | 1 | 1.14 | 1.53* | 1.37 |
| | SF | 1.33 | 1.87* | 0.00 | 2.24* |
| | FS | 1.39* | 2.44 | 1.75* | 2.20* |
| | FF | 4.27* | 1.83* | 2.10* | 1.66* |
| + Mean age at marriage and Age difference | SS | 1 | 1.13 | 1.54* | 1.45 |
| | SF | 1.33* | 1.85* | 0.00 | 2.16* |
| | FS | 1.41* | 2.87 | 1.83* | 2.19* |
| | FF | 4.06* | 1.77* | 2.07* | 1.57* |
| + Number of children and Age of youngest child | SS | 1 | 1.13 | 1.54* | 1.44 |
| | SF | 1.32 | 1.85* | 0.00 | 2.14* |
| | FS | 1.40* | 2.71 | 1.82* | 2.16* |
| | FF | 4.02* | 1.75* | 2.07* | 1.56* |
| + Wife's and husband's education | SS | 1 | 1.13 | 1.54* | 1.44 |
| | SF | 1.33 | 1.85* | 0.00 | 2.14* |
| | FS | 1.40* | 2.73 | 1.82* | 2.17* |
| | FF | 4.05* | 1.75* | 2.07* | 1.56* |
| + Housing tenure | SS | 1 | 1.12 | 1.50* | 1.36 |
| | SF | 1.32 | 1.81* | 0.00 | 2.09* |
| | FS | 1.39* | 2.95 | 1.79* | 2.09* |
| | FF | 3.83* | 1.71* | 2.05* | 1.55* |
| + Previously married | SS | 1 | 1.07 | 1.46* | 1.30 |
| | SF | 1.27 | 1.75* | 0.00 | 2.03* |
| | FS | 1.38* | 2.75 | 1.74* | 1.99* |
| | FF | 3.69* | 1.63* | 2.00* | 1.53* |
| + Wife's and husband's congregation | SS | 1 | 1.07 | 1.43* | 1.26 |
| | SF | 1.27 | 1.71* | 0.00 | 1.99* |
| | FS | 1.37* | 2.82 | 1.72* | 1.95* |
| | FF | 3.59* | 1.59* | 1.94* | 1.50* |
| + Proportion Swedish in municipality of residence | SS | 1 | 0.97 | 1.30 | 1.10 |
| | SF | 1.16 | 1.48* | 0.00 | 1.68* |
| | FS | 1.28 | 2.69 | 1.49* | 1.63* |
| | FF | 3.01* | 1.35* | 1.64* | 1.39* |
| + Changed ethnolinguistic environment | SS | 1 | 0.97 | 1.28 | 1.10 |
| | SF | 1.14 | 1.45* | 0.00 | 1.64* |
| | FS | 1.25 | 2.57 | 1.46* | 1.59* |
| | FF | 2.94* | 1.32* | 1.62* | 1.35* |
| All variables, but different reference category | SS | 0.68* | 0.66 | 0.88 | 0.75 |
| | SF | 0.78 | 0.99 | 0.00 | 1.12 |
| | FS | 0.86 | 1.76 | 1 | 1.09 |
| | FF | 2.02* | 0.90 | 1.11 | 0.93* |
| All variables, but fewer exogamous categories | SS | 0.69* | 0.80 | 0.75 | |
| | SF or FS | 0.84 | 1 | 1.11* | |
| | FF | 2.02* | 1.00 | 0.93* | |

* Statistically significant at the 5% level.

When marriage duration in 1980 is entered, hazard ratios are reduced for the differences between endogamous and exogamous categories. Endogamous Finnish couples have a divorce risk of 1.66 that of endogamous Swedish couples, while that of exogamous couples with Finnish woman and Swedish man is 1.87, and that of exogamous couples with Swedish woman and Finnish man is 1.75. The relative divorce risk of couples where both speak Finnish but have different ethnic affiliation remains high (about 2.20), and this is considerably higher than that of exogamous couples where both the wife and the husband are concordant across censuses on main language and ethnicity (about 1.80). Couples where both individuals speak Swedish but have different ethnic affiliations remain at a somewhat higher divorce risk (about 1.35 that of endogamous Swedish couples).

These relative differences are slightly affected by the mean age at marriage and the age difference of the couple. When accounting for these variables, the divorce risk of endogamous Finnish couples is 1.57 that of endogamous couples. That of exogamous couples is about 1.85, irrespective of whether it is the wife or the husband who is ethnically Finnish (or Swedish). The divorce risk of couples where both speak Finnish but one is ethnically Swedish is approximately 2.20 that of endogamous couples, while that of couples where both speak Swedish but one is ethnically Finnish is approximately 1.35.

Additional controls for the number of children and age of the youngest child, and wife's and husband's educational level, do not affect these hazard ratios whatsoever. Housing tenure, previous marriage, and congregation further reduce the high relative divorce risk of couples where both speak Finnish but one is ethnically Swedish with roughly 10% (1.99/2.16 and 1.95/2.19), and that of couples where both speak Swedish but one is ethnically Finnish with roughly 4% (1.27/1.33 and 1.37/1.41). Relative differences between endogamous and exogamous categories are reduced by 4-8% (1.71/1.85, 1.72/1.83 and 1.50/1.57).

The single variable with the highest explanatory power is the proportion of Swedish speakers in the municipality of residence. When it is added, the high relative divorce risk of couples where both speak Finnish but one is ethnically Swedish is reduced by another 15% (1.68/1.99 and 1.63/1.95), and that of couples where both speak Swedish but one is ethnically Finnish with roughly 8% (1.16/1.27 and 1.28/1.37). Relative differences between endogamous and exogamous categories are further reduced by 4-8% (1.48/1.71, 1.49/1.72 and 1.39/1.50).

When the variable that captures a change in the ethnolinguistic environment since birth is finally added, the relative differentials in divorce risk are reduced further, but only with a few

percentage points. Thus, when demographic, socioeconomic and contextual variables are controlled for, differentials in the divorce risk by main language and ethnicity remains considerable. As compared to endogamous Swedish couples, endogamous Finnish couples have 35% higher divorce risk, exogamous couples 45% higher, and couples where both the wife and the husband speak Finnish but one is ethnically Swedish about 60% higher. That of couples where both the wife and the husband speak Swedish but one is ethnically Finnish is about 20% higher, but these estimates are statistically not significant.

In the following step, we change the reference category to be exogamous couples with Finnish wife and Swedish husband, to evaluate whether the various categories of exogamous couples differ statistically from one another. We find that they do not.

Although statistically not significant, there are differences across the categories where both speak Finnish but one is ethnically Swedish (about 1.10), where both are different on both main language and ethnicity (about 1.00), and where both speak Swedish but one is ethnically Finnish (about 0.80). We therefore merge categories that distinguish whether it is the wife or the husband who is Swedish (or Finnish). The results are reported at the bottom of Table 4. They show that, as compared with exogamous couples where both the wife and the husband are concordant across censuses on main language and ethnicity, endogamous Swedish couples have 31% lower divorce risk, endogamous Finnish couples have 7% lower divorce risk, and couples where both speak Finnish but one is ethnically Swedish have 11% higher divorce risk. The divorce risk of couples where both speak Swedish but one is ethnically Finnish is 16% lower, but statistically not different.

Table 5 reports the estimates for the effects of the control variables from the fully adjusted model. These are very much in line with expectations and previous research, and will therefore not be discussed at length. The divorce risk is found to consistently decrease with marriage duration and mean age at marriage. It is lower when the age difference between the man and the women is 0-4 years, as compared when the man is older than so, or if the woman is older than the man. Having children above six years of age generally increases the divorce risk, and so does having children as compared to not having children. The latter should be interpreted from the perspective that these couples have been married for at least five years when entering the study window. This difference is less emphasised if couples with shorter marriage durations are included (Table S5 in the Online Supporting Material). Couples where both individuals have primary education have a lower divorce risk than others, as do those who own their accommodation, and those where no one has been previously married. The divorce risk is

elevated if any spouse does not belong to the Evangelic Lutheran church, and particularly marked if the spouses have separate religious affiliations. The divorce risk is lowest in highly Swedish-dominated geographical areas, and highest in areas where there is a considerable degree of ethnic mix. Changed ethnolinguistic environment since birth, irrespective if it is the wife, the husband or both who had moved, is associated with an elevated divorce risk.

Table 5. Hazard ratios for divorce in the fully adjusted model, estimates for the control variables with 95% confidence intervals

| | HR (95% C.I.) |
|--|------------------|
| Marriage duration in 1980, 5-7 years | 1 |
| 8-10 years | 0.80 (0.79-0.82) |
| 11-15 years | 0.59 (0.58-0.61) |
| 16-20 years | 0.39 (0.38-0.40) |
| 21-25 years | 0.23 (0.22-0.24) |
| 26-30 years | 0.13 (0.12-0.14) |
| 31-35 years | 0.07 (0.07-0.08) |
| 36-40 years | 0.05 (0.04-0.05) |
| 41+ years | 0.02 (0.01-0.02) |
| Mean age at marriage, <21 years | 1 |
| 22-23 years | 0.74 (0.73-0.75) |
| 24-25 years | 0.57 (0.56-0.58) |
| 26-29 years | 0.43 (0.42-0.44) |
| 30+ years | 0.24 (0.24-0.25) |
| Age difference (husband-wife), <0 years | 1 |
| 0-1 years | 0.87 (0.85-0.89) |
| 2-4 years | 0.88 (0.86-0.90) |
| 5+ years | 0.99 (0.97-1.01) |
| Number of children and Age of youngest child, No child | 1 |
| 1 child, 0-6 years | 1.06 (1.02-1.09) |
| 1 child, 7-12 years | 1.17 (1.13-1.21) |
| 1 child, 13-17 years | 1.08 (1.04-1.13) |
| 1 child, 18+ years | 0.91 (0.87-0.96) |
| 2 children, youngest 0-6 years | 0.99 (0.96-1.02) |
| 2 children, youngest 7-12 years | 1.13 (1.09-1.16) |
| 2 children, youngest 13-17 years | 1.13 (1.09-1.18) |
| 2 children, youngest 18+ years | 0.97 (0.91-1.04) |
| 3 children, youngest 0-6 years | 1.00 (0.96-1.03) |
| 3 children, youngest 7-12 years | 1.18 (1.13-1.23) |
| 3 children, youngest 13-17 years | 1.22 (1.16-1.29) |
| 3 children, youngest 18+ years | 1.01 (0.88-1.16) |
| Wife's and husband's education, Primary, Primary | 1 |
| Primary, Secondary+ | 1.05 (1.03-1.07) |
| Secondary+, Primary | 1.06 (1.03-1.08) |
| Secondary+, Secondary+ | 1.06 (1.04-1.08) |
| Housing tenure, Own the accommodation | 1 |
| Do not own the accommodation | 1.32 (1.30-1.34) |
| Previously married, None | 1 |
| One or both remarried | 2.05 (1.98-2.12) |
| Wife's and husband's congregation, Both Lutheran | 1 |
| Both other category (including no congregation) | 1.14 (1.09-1.18) |
| Different categories | 1.31 (1.28-1.34) |
| Proportion Swedish in municipality of residence, <0.0039 | 1 |
| 0.004-0.0149 | 1.06 (1.04-1.08) |
| 0.015-0.0999 | 1.23 (1.21-1.26) |
| 0.100-0.2999 | 1.13 (1.10-1.17) |
| 0.300-0.4999 | 1.18 (1.12-1.25) |
| 0.500-0.7499 | 0.93 (0.87-0.99) |
| 0.750- | 0.77 (0.71-0.83) |
| Changed ethnolinguistic environment, None | 1 |
| Wife had changed | 1.12 (1.09-1.14) |
| Husband had changed | 1.13 (1.10-1.15) |
| Both had changed | 1.11 (1.09-1.14) |

DISCUSSION

We have examined if married individuals who are discordant on the language mainly used and ethnolinguistic affiliation have elevated divorce risks. The study has utilised a quasi-experimental setting concerned with a rephrasing of the question on ethnicity in Finland, from the main language used in the census of 1975 to mother tongue in the census of 1980. A change in the administrative population-registration procedure thus allowed us to disentangle the often interwoven processes of boundary crossing, boundary shifting and boundary blurring (Alba & Nee, 2003; Zolberg & Woon, 1999). While such processes might be inherently intertwined, we argue that this paper, through the study design, has offered novel insights into such processes, and how they affect divorces risks within different types of intermarriages. Our findings have implications both for the literature on intermarriage (Kalmijn, 1998), studies on boundary shifting and crossing (Alba & Nee, 2003), and for family sociological perspectives on identify formation within marriages (Askham, 1976).

The results are broadly comparable with much of the intermarriage literature, in that we observe an advantage in marital stability among endogamous unions (Kalmijn, 1998). They are also consistent with previous research on marriage and ethnolinguistic identity in Finland, in that we observe more stable marriages among Swedish speakers (Saarela & Finnäs, 2014). However, even though we find that exogamous unions have an elevated divorce risk, more important is that the divorce risk is particularly pronounced if there is a discordance between the language mainly used and the ethnolinguistic identity of one spouse. Exogamous unions where individuals report being discordant on both language use and ethnic identity are more stable. These findings have several important theoretical implications.

We interpret these findings as evidence that the process of accommodating the spouse's identity, which one may assume often is done reluctantly (though perhaps not always), is associated with a higher likelihood of divorce. In contrast, exogamous couples who are concordant on use and affiliation are for some reasons more stable in their marriages. We think that this discrepancy brings additional insights into *why* exogamous unions tend to be more unstable than endogamous ones. Using an everyday language that is discordant with one's identity is plausibly associated with dissatisfaction with the status quo in the marriage, and it may reflect a position where marital tensions increase with marriage duration. We find that individuals who maintain their identity have relatively more stable marriages. This would be consistent with arguments saying that upholding robust social networks and identities outside marriage is beneficial for marital quality, and that this should be true for both wives and

husbands (Askham, 1976). Another interpretation would be related to the concept of boundary blurring, or loss of the original identity, meaning that an individual's discordant identities may relate to a higher degree of stress within the marriage and a lower degree of marital satisfaction (Petts & Petts, 2019).

There are also some notable group differentials. Among Finnish speakers, the pattern of elevated divorce is consistent across most marriage combinations. In unadjusted models, there is an exogamy effect on top of the Finnish ethnic affiliation, while in adjusted models, exogamous marriages are somewhat closer to Finnish endogamous unions. Yet, in exogamous unions, discordance in terms of adopting the Finnish language used by the partner is associated with an additional markup on the divorce risk, while adopting the Swedish language used by the partner is associated with a lower divorce risk (as compared to non-discordant exogamous marriages). Thus, we observe a consistent negative effect of discordance on marital stability as compared to endogamous unions, but discordance towards Swedish language use have some advantage that may be similar to those of endogamous Swedish unions. Presumably, sociocultural circumstances related to the overall low divorce in Swedish speakers moderate some, but not all, of the negative effect of discordance on marital stability.

Another important finding is that we find practically no variation related the gender of the discordant partner, which is in contrast to arguments which say that many negotiations of shared identity within mixed marriages are strongly gendered (Härkönen, 2014; Kalmijn, 1998). Even though the frequencies of different types of intermarriage differ in our study context, associations between discordance in language use and ethnolinguistic affiliation, on the one hand, and the divorce risk, on the other hand, are largely the same across different combinations of gender and ethnic identity.

Our study setting has been unusual in the sense that register-based analyses seldom provide possibilities to evaluate discordance between language use and ethnicity at the individual level and within couples. This context also comes with a major limitation, however. In the Finnish population register, a person can be registered with only one mother tongue, meaning that any differentiation must be observed across time (as we have done here), across coupled individuals (as we also have done here), or across generations (which was beyond the scope of our analyses due to data restrictions). The approach used here does consequently not reflect that individuals may be capable, and speak, one language with the partner, but the other language with friends, at work, during hobbies, etc. When doing so, the couple may have reached a stable and negotiated equilibrium, which we cannot observe. We have only assessed the language

primarily used by a person, not if he or she frequently speak both languages. Thus, what we have observed may plausibly be the tip of the iceberg. More nuanced information regard the discordance of language use and ethnolinguistic affiliation would presumably result in even stronger evidence for the mechanisms at play.

In much of the intermarriage literature, negotiations of shared identity are inseparable from negotiations about integration into socioeconomically, culturally, or ethnically privileged groups. We argue that the sociocultural context studied allow us to observe plausibly universal processes related to a direct effect of exogamy and identity formation in marriages, as they are not related to strong power differences between groups with unequal status position. Thus, our results both complement and bring additional insights to the intermarriage literature. Ideas of status exchange that are important for much research on homogamy and intermarriage are less applicable in our study, which relates primarily to the internal dynamics and identity formation within marriages.

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ONLINE SUPPORTING MATERIAL

Table S1. Number of couples by wives's and husband's main language in 1975 versus ethnicity in 1980, with alternative set up of data

| Ethnicity 1980 | Main language 1975 | | | |
|----------------|--------------------|-------|--------|---------|
| | SS | SF | FS | FF |
| SS | 46,783 | 246 | 434 | 231 |
| SF | 291 | 7,933 | 9 | 2,388 |
| FS | 915 | 9 | 11,901 | 2,387 |
| FF | 84 | 664 | 587 | 809,582 |

First letter is for the wife and second letter is for the husband. S is for Swedish and F is for Finnish. The data consist of the total population of couples who were married in 1975, and both the woman and the man could be observed in 1980, but irrespective of their marital status.

Table S2. Number of couples, couple events, couple years, and divorce rate for the eight key compositions (1975_1980) and for all compositions of couples, with alternative set up of data (see Table S1)

| | Number of couples | Number of divorces | Number of deaths | Number of couple years | Divorce rate |
|-------|-------------------|--------------------|------------------|------------------------|--------------|
| SS_SS | 46,783 | 2,879 | 33,280 | 1,199,680 | 2.4 |
| SS_SF | 291 | 29 | 191 | 7,331 | 4.0 |
| SF_SF | 7,933 | 1,359 | 4,275 | 212,069 | 6.4 |
| FF_SF | 2,388 | 361 | 1,529 | 57,834 | 6.2 |
| SS_FS | 915 | 84 | 649 | 22,704 | 3.7 |
| FS_FS | 11,901 | 1,836 | 6,875 | 312,302 | 5.9 |
| FF_FS | 2,387 | 358 | 1,576 | 57,636 | 6.2 |
| FF_FF | 809,582 | 104,728 | 497,205 | 21,233,200 | 4.9 |
| All | 884,444 | 111,944 | 547,052 | 23,157,138 | 4.8 |

Number of deaths includes migration abroad, but the moves account for less than two per cent of all these events.

Divorce rate is the number of divorces times 1,000, divided by the number of couple years.

Table S3. Variable distributions (% of couples) for the eight key compositions (1975_1980) and all compositions of couples, with alternative set up of data (see Table S1)

| | SS_SS | SS_SF | SF_SF | FF_SF | SS_FS | FS_FS | FF_FS | FF_FF | All |
|--|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Marriage duration in 1975, <3 years | 5.3 | 3.8 | 13.3 | 3.9 | 1.5 | 12.8 | 6.0 | 9.3 | 9.1 |
| 3-4 years | 4.5 | 4.1 | 9.8 | 3.7 | 2.0 | 9.2 | 4.1 | 6.9 | 6.8 |
| 5-7 years | 8.0 | 12.4 | 12.6 | 12.1 | 11.6 | 12.7 | 11.6 | 10.5 | 10.4 |
| 8-10 years | 7.7 | 9.6 | 11.5 | 12.4 | 12.1 | 10.6 | 10.5 | 9.5 | 9.5 |
| 11-15 years | 11.8 | 13.1 | 13.6 | 13.9 | 14.1 | 13.5 | 13.4 | 13.8 | 13.7 |
| 16-20 years | 11.9 | 14.8 | 11.0 | 13.6 | 14.0 | 10.5 | 13.7 | 12.2 | 12.1 |
| 21-25 years | 12.1 | 10.7 | 8.9 | 11.3 | 11.5 | 10.0 | 13.2 | 11.2 | 11.2 |
| 26-30 years | 14.3 | 12.0 | 7.6 | 11.4 | 12.0 | 9.6 | 12.0 | 12.0 | 12.0 |
| 31-35 years | 10.1 | 7.9 | 5.5 | 7.3 | 8.6 | 5.4 | 7.6 | 6.3 | 6.5 |
| 36-40 years | 7.5 | 5.5 | 3.4 | 6.2 | 6.9 | 3.5 | 4.3 | 4.5 | 4.6 |
| 41+ years | 6.8 | 6.2 | 2.7 | 4.3 | 5.7 | 2.3 | 3.6 | 3.8 | 4.0 |
| Mean age at marriage, <21 years | 11.4 | 19.6 | 15.7 | 18.5 | 13.7 | 12.7 | 17.2 | 18.4 | 17.9 |
| 22-23 years | 22.2 | 22.3 | 22.4 | 24.5 | 22.4 | 20.7 | 20.6 | 25.2 | 24.9 |
| 24-25 years | 24.1 | 21.6 | 22.8 | 20.8 | 21.5 | 21.5 | 18.8 | 21.0 | 21.2 |
| 26-29 years | 25.8 | 21.0 | 23.3 | 20.2 | 24.3 | 24.5 | 21.5 | 20.7 | 21.1 |
| 30+ years | 16.6 | 15.5 | 15.8 | 16.1 | 18.1 | 20.6 | 21.8 | 14.6 | 14.9 |
| Age difference (husband-wife), <0 years | 18.3 | 20.6 | 20.8 | 19.0 | 18.8 | 23.5 | 28.0 | 20.7 | 20.6 |
| 0-1 years | 22.6 | 30.9 | 23.6 | 23.4 | 21.6 | 23.6 | 21.7 | 22.7 | 22.7 |
| 2-4 years | 31.8 | 26.8 | 32.8 | 33.2 | 31.7 | 29.3 | 28.1 | 31.4 | 31.4 |
| 5+ years | 27.3 | 21.6 | 22.8 | 24.5 | 27.9 | 23.6 | 22.2 | 25.1 | 25.2 |
| Number of children and Age of youngest, No child | 31.4 | 26.8 | 27.8 | 29.1 | 30.1 | 28.9 | 30.4 | 24.6 | 25.1 |
| 1 child, 0-6 years | 8.2 | 8.9 | 16.3 | 8.6 | 6.9 | 15.5 | 10.1 | 12.4 | 12.2 |
| 1 child, 7-12 years | 3.7 | 3.4 | 5.0 | 5.5 | 4.6 | 5.2 | 5.6 | 4.8 | 4.7 |
| 1 child, 13-17 years | 4.0 | 4.1 | 3.2 | 3.6 | 4.4 | 3.7 | 3.9 | 3.8 | 3.8 |
| 1 child, 18+ years | 11.8 | 9.3 | 6.5 | 9.3 | 10.2 | 7.7 | 9.6 | 8.2 | 8.4 |
| 2 children, youngest 0-6 years | 10.6 | 14.4 | 15.3 | 12.5 | 11.0 | 13.4 | 10.6 | 11.8 | 11.8 |
| 2 children, youngest 7-12 years | 7.6 | 9.3 | 8.0 | 9.1 | 10.7 | 8.1 | 8.6 | 8.0 | 8.0 |
| 2 children, youngest 13-17 years | 5.1 | 4.8 | 4.2 | 5.9 | 3.9 | 3.9 | 5.2 | 4.9 | 4.9 |
| 2 children, youngest 18+ years | 4.0 | 3.4 | 2.3 | 3.4 | 3.4 | 2.2 | 3.6 | 3.2 | 3.2 |
| 3 children, youngest 0-6 years | 5.4 | 5.5 | 5.1 | 5.7 | 6.1 | 4.9 | 3.8 | 6.6 | 6.5 |
| 3 children, youngest 7-12 years | 5.3 | 7.2 | 4.5 | 4.4 | 5.2 | 4.2 | 5.3 | 7.5 | 7.3 |
| 3 children, youngest 13-17 years | 2.2 | 2.4 | 1.3 | 2.3 | 2.2 | 1.6 | 2.5 | 3.2 | 3.1 |
| 3 children, youngest 18+ years | 0.8 | 0.3 | 0.4 | 0.5 | 1.3 | 0.6 | 0.7 | 1.0 | 0.9 |
| Wife's and husband's education, Primary, Primary | 50.1 | 52.9 | 38.4 | 47.7 | 54.2 | 39.5 | 53.6 | 51.7 | 51.3 |
| Primary, Secondary+ | 17.1 | 16.8 | 19.9 | 24.0 | 19.7 | 20.6 | 18.3 | 16.0 | 16.2 |
| Secondary+, Primary | 10.6 | 14.8 | 12.8 | 9.7 | 8.1 | 11.7 | 11.6 | 12.3 | 12.1 |
| Secondary+, Secondary+ | 22.3 | 15.5 | 28.9 | 18.6 | 18.0 | 28.1 | 16.5 | 20.0 | 20.3 |
| Housing tenure, Own the accommodation | 72.8 | 64.6 | 58.6 | 63.0 | 70.6 | 60.3 | 58.4 | 67.2 | 67.3 |
| Do not own the accommodation | 27.2 | 35.4 | 41.4 | 37.0 | 29.4 | 39.7 | 41.6 | 32.8 | 32.7 |
| Previously married, None | 98.5 | 97.3 | 93.7 | 95.2 | 97.8 | 93.5 | 91.8 | 96.8 | 96.8 |
| One or both remarried | 1.5 | 2.7 | 6.3 | 4.8 | 2.2 | 6.5 | 8.2 | 3.2 | 3.2 |
| Wife's and husband's congregation, Both Lutheran | 75.7 | 70.4 | 73.3 | 67.0 | 74.5 | 75.1 | 68.5 | 73.1 | 73.3 |
| Both other category (including no congregation) | 5.0 | 4.8 | 4.4 | 5.8 | 3.5 | 4.1 | 6.6 | 4.8 | 4.8 |
| Different categories | 19.3 | 24.7 | 22.3 | 27.2 | 22.0 | 20.8 | 24.9 | 22.0 | 21.9 |
| Proportion Swedish in municipality, <0.0039 | 0.4 | 2.4 | 5.9 | 13.9 | 1.2 | 3.9 | 9.3 | 59.8 | 54.9 |
| 0.004-0.0149 | 0.8 | 3.4 | 5.7 | 11.5 | 2.4 | 4.8 | 10.4 | 16.4 | 15.3 |
| 0.015-0.0999 | 15.8 | 27.8 | 40.7 | 48.7 | 26.2 | 38.8 | 53.7 | 18.1 | 18.7 |
| 0.100-0.2999 | 6.1 | 11.3 | 12.2 | 10.9 | 9.8 | 13.2 | 14.0 | 3.0 | 3.5 |
| 0.300-0.4999 | 18.2 | 17.2 | 17.5 | 9.3 | 18.9 | 17.5 | 7.8 | 1.9 | 3.2 |
| 0.500-0.7499 | 17.8 | 18.2 | 11.3 | 3.9 | 17.4 | 12.4 | 3.5 | 0.6 | 1.8 |
| 0.750- | 40.9 | 19.6 | 6.7 | 1.8 | 24.0 | 9.4 | 1.3 | 0.2 | 2.6 |
| Changed ethnolinguistic environment, None | 44.0 | 22.0 | 17.7 | 17.6 | 15.1 | 15.3 | 16.5 | 42.1 | 41.4 |
| Wife had changed | 17.7 | 14.4 | 16.6 | 21.8 | 43.7 | 34.1 | 27.2 | 16.3 | 16.7 |
| Husband had changed | 12.9 | 33.0 | 27.4 | 20.9 | 10.4 | 12.3 | 17.0 | 14.1 | 14.2 |
| Both had changed | 25.4 | 30.6 | 38.2 | 39.6 | 30.8 | 38.3 | 39.3 | 27.5 | 27.7 |

Table S4. Hazard ratios for divorce by couples' composition in 1975 versus 1980 according to models that adjust for additional variables, with alternative set up of data (see Table S1)

| CONTROL VARIABLES | Eth. 1980 | Main language 1975 | | | |
|---|-----------|--------------------|-------|-------|-------|
| | | SS | SF | FS | FF |
| None | SS | 1 | 2.14* | 2.01* | 1.45 |
| | SF | 1.66* | 2.74* | 2.25 | 2.59* |
| | FS | 1.53* | 4.41* | 2.49* | 2.56* |
| | FF | 3.22* | 2.34* | 2.98* | 2.08* |
| Marriage duration in 1975 | SS | 1 | 1.49* | 1.47* | 1.77* |
| | SF | 1.57* | 1.92* | 1.45 | 2.40* |
| | FS | 1.54* | 3.44 | 1.78* | 2.31* |
| | FF | 3.99* | 1.73* | 2.17* | 1.70* |
| + Mean age at marriage and Age difference | SS | 1 | 1.46* | 1.46* | 1.87* |
| | SF | 1.53* | 1.89* | 1.76 | 2.31* |
| | FS | 1.56* | 3.70 | 1.84* | 2.29* |
| | FF | 3.80* | 1.67* | 2.11* | 1.59* |
| + Number of children and Age of youngest child | SS | 1 | 1.46* | 1.46* | 1.86* |
| | SF | 1.52* | 1.89* | 1.77 | 2.29* |
| | FS | 1.56* | 3.66 | 1.84* | 2.27* |
| | FF | 3.79* | 1.66* | 2.10* | 1.58* |
| + Wife's and husband's education | SS | 1 | 1.45* | 1.46* | 1.86* |
| | SF | 1.52* | 1.88* | 1.78 | 2.27* |
| | FS | 1.55* | 3.60 | 1.83* | 2.25* |
| | FF | 3.81* | 1.64* | 2.09* | 1.58* |
| + Housing tenure | SS | 1 | 1.40 | 1.43* | 1.78* |
| | SF | 1.47* | 1.83* | 1.63 | 2.23* |
| | FS | 1.53* | 4.01* | 1.81* | 2.17* |
| | FF | 3.76* | 1.59* | 2.02* | 1.56* |
| + Previously married | SS | 1 | 1.34 | 1.39* | 1.68* |
| | SF | 1.44 | 1.77* | 1.29 | 2.15* |
| | FS | 1.53* | 3.79 | 1.75* | 2.03* |
| | FF | 3.66* | 1.51* | 1.98* | 1.54* |
| + Wife's and husband's congregation | SS | 1 | 1.34 | 1.35* | 1.63* |
| | SF | 1.42 | 1.71* | 1.34 | 2.08* |
| | FS | 1.51* | 3.87 | 1.71* | 1.98* |
| | FF | 3.49* | 1.46* | 1.89* | 1.50* |
| + Proportion Swedish in municipality of residence | SS | 1 | 1.19 | 1.20 | 1.34 |
| | SF | 1.28 | 1.43* | 1.04 | 1.66* |
| | FS | 1.38* | 3.52 | 1.43* | 1.55* |
| | FF | 2.82* | 1.20 | 1.52* | 1.33* |
| + Changed ethnolinguistic environment | SS | 1 | 1.19 | 1.18 | 1.34 |
| | SF | 1.25 | 1.40* | 1.06 | 1.62* |
| | FS | 1.35* | 3.36 | 1.41* | 1.52* |
| | FF | 2.76* | 1.17 | 1.50* | 1.30* |
| All variables, but different reference category | SS | 0.71* | 0.84 | 0.84 | 0.95 |
| | SF | 0.89 | 0.99 | 0.75 | 1.15* |
| | FS | 0.96 | 2.39 | 1 | 1.08 |
| | FF | 1.96* | 0.83 | 1.06 | 0.93* |
| All variables, but fewer exogamous categories | SS | 0.71* | 0.84 | 0.95 | |
| | SF or FS | 0.94 | 1 | 1.12* | |
| | FF | 1.96* | 0.94 | 0.93* | |

* Statistically significant at the 5% level.

Table S5. Hazard ratios for divorce in the fully adjusted model, estimates for the control variables with 95% confidence intervals, with alternative set up of data (see Table S1)

| | HR (95% C.I.) |
|--|------------------|
| Marriage duration in 1975, <3 years | 1 |
| 3-4 years | 0.85 (0.83-0.87) |
| 5-7 years | 0.73 (0.72-0.75) |
| 8-10 years | 0.59 (0.58-0.61) |
| 11-15 years | 0.43 (0.42-0.44) |
| 16-20 years | 0.27 (0.26-0.28) |
| 21-25 years | 0.17 (0.16-0.17) |
| 26-30 years | 0.10 (0.10-0.11) |
| 31-35 years | 0.06 (0.06-0.07) |
| 36-40 years | 0.04 (0.03-0.04) |
| 41+ years | 0.01 (0.01-0.02) |
| Mean age at marriage, <21 years | 1 |
| 22-23 years | 0.72 (0.71-0.73) |
| 24-25 years | 0.55 (0.54-0.56) |
| 26-29 years | 0.42 (0.41-0.43) |
| 30+ years | 0.26 (0.25-0.27) |
| Age difference (husband-wife), <0 years | 1 |
| 0-1 years | 0.86 (0.85-0.88) |
| 2-4 years | 0.87 (0.86-0.89) |
| 5+ years | 1.00 (0.98-1.02) |
| Number of children and Age of youngest child, No child | 1 |
| 1 child, 0-6 years | 0.97 (0.95-0.99) |
| 1 child, 7-12 years | 1.07 (1.04-1.10) |
| 1 child, 13-17 years | 1.03 (0.99-1.08) |
| 1 child, 18+ years | 0.96 (0.91-1.01) |
| 2 children, youngest 0-6 years | 0.97 (0.95-0.99) |
| 2 children, youngest 7-12 years | 1.10 (1.07-1.13) |
| 2 children, youngest 13-17 years | 1.12 (1.07-1.17) |
| 2 children, youngest 18+ years | 0.98 (0.91-1.05) |
| 3 children, youngest 0-6 years | 1.02 (1.00-1.05) |
| 3 children, youngest 7-12 years | 1.25 (1.21-1.29) |
| 3 children, youngest 13-17 years | 1.23 (1.16-1.30) |
| 3 children, youngest 18+ years | 0.90 (0.79-1.03) |
| Wife's and husband's education, Primary, Primary | 1 |
| Primary, Secondary+ | 1.02 (1.00-1.03) |
| Secondary+, Primary | 0.98 (0.97-1.00) |
| Secondary+, Secondary+ | 0.95 (0.93-0.96) |
| Housing tenure, Own the accommodation | 1 |
| Do not own the accommodation | 1.32 (1.30-1.33) |
| Previously married, None | 1 |
| One or both remarried | 2.05 (2.00-2.11) |
| Wife's and husband's congregation, Both Lutheran | 1 |
| Both other category (including no congregation) | 1.15 (1.12-1.19) |
| Different categories | 1.41 (1.38-1.43) |
| Proportion Swedish in municipality of residence, <0.0039 | 1 |
| 0.004-0.0149 | 1.11 (1.09-1.13) |
| 0.015-0.0999 | 1.34 (1.31-1.36) |
| 0.100-0.2999 | 1.26 (1.23-1.30) |
| 0.300-0.4999 | 1.04 (1.00-1.07) |
| 0.500-0.7499 | 0.92 (0.87-0.97) |
| 0.750- | 0.75 (0.71-0.80) |
| Changed ethnolinguistic environment, None | 1 |
| Wife had changed | 1.12 (1.10-1.14) |
| Husband had changed | 1.15 (1.13-1.17) |
| Both had changed | 1.12 (1.10-1.13) |

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