

**Changes in homogamy in education and parental social class
among Finnish cohorts born in 1957–73**

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Abstract

Socioeconomic homogamy – choosing a partner from the same socioeconomic stratum – is regarded as an indicator of status-group closure, whereas heterogamy indicates that members of different status groups accept each other as social equals. Therefore, changes in socioeconomic homogamy tendencies over time are indicative of the intensity and direction of social change in a society. Sociological theories posit that boundaries based on socioeconomic origins have become more permeable in the course of modernization, whereas in the case of achieved socioeconomic position they have strengthened. Using Finnish register data we analyse changes in homogamy with respect to educational level (achieved status) and parental social class (ascribed status) in cohorts born in 1957–73 and 1963–73, respectively. The data includes information on the formation and dissolution of marriages and non-marital cohabitations, which is important in the Nordic context given that cohabitation is prevalent. We examine the unions of 30-year-old women. Log-linear modelling indicates an increase in educational homogamy from the oldest to the youngest cohort, and a respective decrease in homogamy with respect to parental social class, although the changes are very modest. These general trends conceal differences between the status groups, however. Homogamy has declined among the more highly educated, whereas it has slightly increased among those with a low level of education. The small general decrease in the case of parental social class is largely attributable to a weakening tendency among people from farming and upper-white-collar families to choose a partner with similar origins. The decline among the higher strata indicates more social openness in Finnish society, but at the same time the increase in homogamy among those with few educational resources may be a sign of increasing marginalization of this group.

Introduction

Socioeconomic homogamy – in other words choosing a partner who is similar in terms of social and economic characteristics – is considered an indicator of openness in a society. Strong homogamy tendencies reflect status-group closure, whereas heterogamy indicates that members of the different groups accept each other as social equals (Kalmijn 1991, 1998; Smits et al. 1998; Blossfeld 2009). Changes in tendencies over time thus raise the question of the intensity and direction of social change: homogamy trends reveal whether boundaries between status groups are becoming more permeable, or whether members of different groups increasingly interact among themselves. Given that two people in a union pool and accumulate their resources, trends in socioeconomic homogamy also contribute to the development of inequality between families and households, and to the intergenerational transmission of social and economic inequality (Shewartz & Mare 2005; Blossfeld 2009). Cross-national comparative studies indicate that, compared with other European countries, the tendency towards educational homogamy is weak in Nordic societies (Domański & Przybysz 2007; Katrňák et al. 2012). This has been attributed to the Nordic welfare model in which several state policies aim at reducing social and economic inequalities between citizens (ibid.). Focusing on the question of whether and how socioeconomic homogamy has changed in the Nordic context over the past few decades, this study analyses trends in homogamy with regard to education and parental social class in Finland. The analysis of educational homogamy covers cohorts born in 1957–73, and the analysis of parental social class those born in 1963–73.

The second half of the 20th century was a time of rapid economic and societal change in Finland. Up until and immediately after the Second World War the country was predominantly agrarian, but it rapidly industrialized and developed into a modern society: 46 per cent of the Finnish labour force worked in agriculture and forestry in 1950, dropping to 20 per cent by 1970 (Statistics Finland 1972). This development was accompanied by extensive migration from rural areas to cities: between 1950 and 1970 the urban population increased from one third to over half of the population as a whole (ibid.). Active building of the welfare state followed post-war reconstruction. The reform of the basic education system in 1972 stipulated nine years of compulsory schooling, the aim being to provide equal educational opportunities for all children irrespective of their place of residence and social background (Pekkarinen et al. 2009). Under the previous system students were allocated to academic and vocational tracks at the age of 11, but the reform postponed this choice until

the age of 16 (ibid.). Higher education also expanded in the 1960s and 1970s through the founding of seven new universities and the development of existing ones. Although the proportion of Finnish women in paid work was among the largest in the Western world already in the post-war decades (Julkunen 1999), the 1973 Child Day Care Act which required municipalities to provide publicly funded day care for children further facilitated the combining of paid work and family life for women. All in all, the birth cohorts of the 1970s grew up in a society that was socially and economically quite different from that of the 1950s. It is thus reasonable to ask to what extent societal changes such as transformations in the class structure, educational expansion and increasing economic equality between men and women were reflected in the patterns of partnership formation. Did the significance of socioeconomic status differences in partner choice change between cohorts born in the 1950s and those born in the 1970s?

The patterns of family formation have changed considerably since the 1970s. One significant change was the emergence of non-marital cohabitation. Only one in ten of first unions among Finnish women born in 1941–43 were cohabitations, as opposed to three out of four among those born in 1953–55 (Finnäs 1995). There was a further increase to over 90 per cent among women born in 1962–64, a proportion that remained stable in cohorts born in the 1970s (Finnäs 1995; Jalovaara 2012). On the whole, the timing and prevalence of first-union formation did not change much in the cohorts born between the 1940s and the 1960s – more and more couples merely started their union by moving in together as opposed to getting married (Pitkänen & Jalovaara 2007). Cohabitation has also increasingly become a long-term alternative to marriage, and childbearing within cohabitating unions has become common: currently over 40% of children in Finland are born to unmarried mothers (Statistics Finland 2013). The establishment of cohabitation as a socially accepted type of partnership has rendered young married couples a more select group than before, and therefore analyses based solely on marriages give an incomplete picture of the changes in patterns of partner choice. In our study, therefore, we use register data containing information on the formation and dissolution of both marriages and non-marital cohabitations.

Theoretical background

Our study examines homogamy trends in two aspects of socioeconomic status: parental social class and individual level of education. The former reflects an individual's ascribed status (determined through the family of origin), whereas the latter is an indicator of achieved status

(acquired through one's own actions). How might homogamy tendencies with respect to these two status dimensions have changed in the study cohorts? This question is approached here through what is known about changes in the social and demographic mechanisms that are suggested to contribute to homogamy.

First, and according to the sociological literature, one driving force behind socioeconomic homogamy is individual preference for a partner who shares similar values, tastes and lifestyles. Cultural similarity is preferred as it facilitates mutual understanding and confirms the partners' behaviours and worldviews (Coombs 1962; Kalmijn 1991, 1998). Given that socioeconomic resources are correlates of tastes, values, attitudes and worldviews, cultural outlooks of the partners are more likely to match if the partners share a similar socioeconomic status. It has been suggested that the impact of parental family on adulthood values and lifestyles has declined in the course of modernization, and instead, education strongly shapes individual cultural resources, and hence partner selection decisions (Kalmijn 1991; Hansen 1995; Blossfeld 2009). One might thus expect the significance of homogamy in parental social class to have diminished, and educational homogamy to have become more salient.

Emphasizing the economic rather than the cultural side of socioeconomic status, the resource-competition theory implies that people seek a partner with the maximum amount of resources as opposed to similar resources (Kalmijn 1998). Socioeconomic homogamy results from a two-sided competition: given that high-status individuals are not willing to form unions with people who are poor in resources, those in advantageous socioeconomic positions tend to partner with each other, whereas those in lower positions have to choose among themselves (Kalmijn 1998; Halpin & Chan 2003; Erola et al. 2012). As education becomes the key determinant of an individual's socioeconomic resources and overrides the influence of family background on status attainment, people will increasingly focus on educational attainment rather than socioeconomic origins in their partner selection (Kalmijn 1991; Smits et al. 1998; Blossfeld 2009). This perspective, too, implies increasing educational homogamy and declining homogamy in parental social class. What is likely to further accentuate educational homogamy is the fact that a family with two breadwinners is the social standard in Finland: as women with plentiful socioeconomic resources become more attractive to men, the tendency towards educational hypergamy – women partnering with men who are more highly educated than themselves – weakens and homogamy strengthens (Halpin & Chan 2003; Blossfeld 2009).

Second, partner selection may well not depend fully on individual preferences, but may also be influenced by social norms and third parties such as parental families. Given that homogamy is a means of maintaining class cultures and keeping distances between social groups, the family of origin may encourage children to marry (or cohabit with) someone who originates from the same social class (Hansen 1995; Kalmijn 1998). In the course of modernization, however, young people are becoming increasingly independent of their parents. As a result, parents' control over their children's partner choices is weakening; although parents may express their approval or disapproval of the relationship, in the end they have no strong sanctions to apply if the choice is unfavourable (Uunk et al. 1996; Kalmijn 1998; Solís et al. 2007; Blossfeld 2009). The diminishing direct impact of parental family on partner selection implies, too, that homogamy with regard to socioeconomic origins is on the decrease, and that partner selection is increasingly guided by achieved characteristics such as educational attainment (Solís et al. 2007).

Third, partner selection depends on the structural constraints of the 'marriage market,' in other words on the probability of meeting and interacting with potential partners from different groups. On the macro level, a large group size, a high degree of geographical concentration and an even gender distribution increase the probability of homogamy (Kalmijn 1998). Figure 1 shows the distributions of educational attainment among Finnish women and men born in 1950–74. The proportion of people with upper- or lower-tertiary-level education has grown, and at the same time there are fewer people educated to no more than the basic level. Women are more highly educated than men even in cohorts born in the 1950s, and as educational attainment has increased considerably more among women, the educational distributions of women and men have become increasingly dissimilar. For instance, whereas the proportion of men with a tertiary-level degree shows a rise from 28 per cent in the 1955–59 cohort to 34 per cent in the 1970–74 cohort, the respective increase among women is from 38 to 51 per cent. This means that women educated to the tertiary level and men with a basic level of education are experiencing increasing difficulty in finding a partner educated to a similar level (provided of course that a partner is primarily sought from the home country). On the basis of this structural change we might expect declining educational homogamy and increasing hypogamy (women partnering men who are less educated than themselves). With regard to homogamy in socioeconomic origins, the transformation of the Finnish occupational structure has reduced the numbers of people with a farming family background and increased the proportion of people originating from white-

collar families. The structural chances of homogamy have thus decreased among those from farming families, and increased among those with a white-collar family background.

Micro-level settings in which people meet potential partners – such as educational institutions, neighbourhoods and leisure activities – can inflict homogamy as well: given that these environments tend to be socially homogeneous, similar people often end up together (Kalmijn 1998). It can be assumed that neighbourhoods tend to promote homogamy in family background, whereas schools promote educational homogamy (*ibid.*). Given that the time people spend in educational institutions over their life course has expanded, the chances of meeting a suitable partner in association with education have also increased, which implies growing odds in favour of educational homogamy (Mare 1991; Hansen 1995; Blossfeld 2009). Conversely, as a growing proportion of young people from farmer families are moving away from their childhood homes to cities to study, the likelihood of their searching for and finding a partner from their childhood environment diminishes, thereby decreasing their odds of family background homogamy.

Overall, changes in the above-mentioned social factors that are assumed to contribute to socioeconomic homogamy point to a decrease in homogamy with respect to socioeconomic origins in the birth cohorts under study. Although the increasing dissimilarity in educational distributions between women and men serves to impede educationally homogamous union formation, all the other changes point to an increase in educational homogamy.

Previous studies

Research on trends in educational homogamy has been carried out in various industrialized countries, the US in particular. The results of several studies – including a large cross-national study (Blossfeld & Timm 2003) – indicate that educational homogamy has increased during the second half of the 20th century (Kalmijn 1991a, 1991b; Mare 1991; Uunk et al. 1996; Halpin & Chan 2003 [Ireland]; Schwartz & Mare 2005; Hou & Myles 2008; Schwartz & Graf 2009). This is in line with modernization theory and the fact that the incidence of educational ‘assortative meeting’ increases as the time spent in educational institutions expands. However, contradicting findings have also been reported: some studies report declining trends (Halpin & Chan 2003 [Britain]), and others suggests relative stability (Raymo & Xie 2000; Rosenfeld 2008). Studies conducted in the Nordic countries also point to a downward trend in educational homogamy (Birkelund & Haldal 2003; Henz & Jonsson

2003). Some explanations for the inconsistent findings concerning the US have been put forward. One possibility is that because changes in educational homogamy over time are fairly subtle, the results are sensitive to the choice of study population and method of analysis (see Hou & Myles 2008; Rosenfeld 2008). The varying findings may also reflect differences in analytical focus (Hou & Myles 2008): some studies consider overall trends while others focus on changes by educational category, or in the ease of crossing educational barriers. The choice of viewpoint is therefore significant, given that the overall development may obscure large inter-group differences (Hou & Myles 2008; Blossfeld 2009).

Although modernization theory implies decreasing homogamy with respect to ascribed social status, not much is known about changes related to socioeconomic origins, probably due to the scarcity of eligible data. In line with the theoretical views presented above, studies conducted in the US (Kalmijn 1991) and Hungary (Uunk et al. 1996) report that while educational homogamy has increased, there has been a decrease in homogamy with regard to paternal social class. The data used in these studies do not extend beyond the 1970s, however, thus there is a lack of information about more recent trends with regard to socioeconomic origins.

In the current study, we analyse changes in homogamy with regard to both educational level and socioeconomic family background in Finland. To provide a comprehensive picture of the development of homogamy, we consider both overall trends as well as changes by status group. Our data comes from Finnish administrative registers. Given the high prevalence of non-marital cohabitation in Finland, an important feature of the data set is that it comprises not only marriages but also cohabiting unions. Thus, we have an excellent opportunity to determine trends in homogamy in all Finnish unions, not just marriages. Register data has also more general advantages over commonly used survey data: there is no selective non-response or misreporting of the partner's characteristics, and the number of observations comparatively is large.

Data and methods

Finnish register data

Our analyses are based on register data compiled at Statistics Finland. The data set was formed through the linking of data from a longitudinal population register and registers of employment, educational qualifications and vital events, for instance. The extract to which

we have access (permission number TK-53-747-05) is a 10-per-cent random sample of persons born before 1986 who were among the population of Finland on 31 December in at least one of the years between 1970 and 2000. The data includes full union histories for the sample persons up to the end of 2003. The dates of union formation and dissolution are given to the precision of a month. Data on the sample persons' and their partners' demographic and socioeconomic characteristics are symmetrical, which is a major advantage in a study of homogamy. The same data has been used to study union formation (e.g. Jalovaara 2012; Mäenpää & Jalovaara 2013), union dissolution (e.g. Jalovaara 2013), and childbearing among couples (Jalovaara & Miettinen 2013) in Finland.

Both cohabitations and marriages have been identifiable since 1987: Finnish registers contain information on the place of residence down to the specific dwelling, enabling the linkage of individuals to co-residential couples even if they are childless and unmarried. A cohabiting couple is defined in our register data as a man and a woman registered as domiciled in the same dwelling for over 90 days, who are not married to each other, whose age difference is no more than 20 years (this rule applies only to couples without any shared children), and who are not close relatives (siblings or a parent and a child, for example). Cohabitations shorter than 90 days are excluded given that many of them are not cohabitations in fact, but result from overlapping dates in notifications of removal: the new resident might have reported moving into an apartment before the former resident has reported moving out.

The study population

We analysed unions in which women born between 1957 and 1973 were involved in the month they turned 30 years of age. A frequently recommended approach to the question 'who marries whom,' or more generally, 'who forms a union with whom,' is to analyse first unions and to measure the partners' characteristics at the time of their formation. In such a setting the observed homogamy tendencies reflect assortative union formation rather than selective union dissolution, changes in the partners' statuses (such as educational upgrading) after union formation, and assortative remarriage (Kalmijn 1998; Schwartz & Mare 2005; Blossfeld 2009). However, this may not be the best possible way to analyse educational homogamy in the case of Finland. One reason is that Finnish people, and women in particular, enter into their first union at a fairly young age: 50 per cent of women born in 1969–81 had formed a union by the age of 22 (Jalovaara 2012). This means that many

women have not completed their education at the time of union formation, and tertiary studies in particular may well be unfinished. Thus, measuring educational attainment at union entry may not give a realistic picture of partner-selection patterns. Second, many first cohabiting unions are short-lived: it is estimated that 30 per cent of first cohabitations among women born in 1969–81 have dissolved within two years of union entry (Jalovaara 2013). The first union may thus not have long-term effects on an individual's living conditions. Moreover, selecting first unions was not feasible because data on cohabitation in our register only dates back to 1987: full union histories (both marriage and cohabitation) for the age range 18–30, during which most first unions are formed, are available only for cohorts born in 1969–73.

Hence, we chose to analyse cross-sections of unions involving 30-year-old women in each birth cohort. This approach allowed us to examine unions that prevailed after studentship, at the typical age of family formation. Moreover, trends in homogamy among prevailing unions presumably better reflect the development of inequality across families and households than trends in homogamy among newly formed unions, and are more closely aligned with changes in the contexts in which children are raised and in which the intergenerational transmission of status occurs (Schwartz & Mare 2005). We chose the 1957–73 cohorts because the 1957 cohort is the oldest one in the data with complete union records at the age of 30, and given that the register currently extends to 2003, the latest valid birth year is 1973. We thus had 17 birth-year cohorts for the analyses, which we categorized into five three-year and one two-year cohorts as follows: 1957–59, 1960–62, 1963–65, 1966–68, 1969–71 and 1972–73.

The analysis of homogamy in parental social class is restricted to the cohorts born in 1963–73. We did this because we had to exclude from the analysis couples in which the partner was born before 1956 given that parental occupational class can only be inferred for people born in 1956 or later (see descriptions of the variables below). This meant excluding couples with large age differences, which could thus bias the homogamy tendency estimates. Having a partner who was born before 1956 is quite common among the older cohorts, and because we did not want to compromise the reliability of the estimates, we omitted these cohorts altogether from the analyses. We also excluded from all the analyses unions in which the partner was born outside Finland because data on education and parental social class tends to be incomplete for people born abroad.

Table 1 provides descriptive information about the study population. Around two thirds of the women in each birth cohort were in a union at the age of 30, the proportion being

highest in the oldest cohort (76%) and lowest in the 1969–71 cohort (68%). Having a foreign-born partner is more common in the younger than in the older cohorts, but even in the youngest one the share is less than 3.5 per cent. The mean age difference between the partners remains relatively stable – the male partner is, on average, 2.6 years older than the female partner. The proportion of cohabitations has increased steadily: whereas less than 20 per cent of women born in 1957–59 who were in a union at the age of 30 were cohabiting, the proportion is over 40 per cent in the 1972–73 cohort. These figures demonstrate how restricting the analyses to marriages would give an incomplete picture of changes in homogamy tendencies: an increasing – and by no means negligible – proportion of unions would be excluded. The proportion of unions that had to be excluded because the partner was born before 1956 varies, from about seven per cent in the 1963–65 cohort to less than one per cent in the 1972–73 cohort.

Measures of educational level and parental social class

Monthly data on the completion of educational qualifications was obtained from the Register of Completed Education and Degrees. Data collected in the 1970 census forms the basis of the register, which has been updated annually ever since. We measured the educational level of both partners in the month the woman turned 30 years of age. We then grouped educational qualifications in four categories representing the extremes of the educational hierarchy – the basic and higher tertiary level – and two intermediate levels. We categorized individuals with no registered post-comprehensive education as being on the *basic-level* (at most nine years of schooling). Education up to the *upper-secondary* level lasts 11–12 years and includes the matriculation examination (the final examination at the end of upper-secondary school) and certain vocational qualifications. *Lower-tertiary* education covers the lowest level of tertiary study (2–3 years following the upper-secondary level) and the lower-degree level (3–4 years following the upper-secondary level, including polytechnic and lower university degrees). *Upper-tertiary* education covers the higher-degree level (5–6 years following upper-secondary education; e.g. higher university degrees) and doctoral studies.

We measured socioeconomic family background in terms of parental occupational class. This can be inferred from the register through data on occupational status below the age of 15, when the status is determined by the household's reference person. Reference person is the individual who is interpreted as having the primary responsibility for the subsistence of the household. In two-parent families, it is in practice the parent with higher income, which in

most cases is the father. Occupational class is available in the register since 1970, which means that the oldest birth cohort for which parental data can be inferred is 1956. After 1970, data is available for every fifth year, and the measures were taken when the partners were 8–14 years old, depending on their year of birth. Five statuses are distinguished: *upper-white-collar employee*, *lower-white-collar employee*, *manual worker*, *farmer*, and *other*. ‘Farmer’ refers to self-employed persons and employers in farming, forestry, and fishing. The residual group ‘Other’ includes individuals whose parental occupational status is student or pensioner, as well as those for whom data is missing. Individuals originating from families of self-employed persons and employers (other than farmers) are also placed in this category: the data does not distinguish between small entrepreneurs and owners of large companies, thus the group would not constitute a meaningful category in itself.

Log-linear models

We used log-linear models for contingency tables in order to analyse changes in assortative mating tendencies across the birth cohorts. These models are widely used in analyses of homogamy trends because they enable the examination of changes in the association between the partners’ statuses, net of changes in the marginal distributions. A log-linear model makes no distinction between independent and dependent variables: it examines associations between categorical variables through the analysis of expected cell frequencies. We analysed three-way tables between the male partner’s status (M), the female partner’s status (F) and the birth cohort (C). For educational level we had a table with $4 \times 4 \times 6 = 96$ cells, and for parental occupational class, $5 \times 5 \times 4 = 100$ cells. The general form of the model is the following:

$$\log(F_{ijk}^{MFC}) = \lambda + \lambda_i^M + \lambda_j^F + \lambda_k^C + \lambda_{ik}^{MC} + \lambda_{jk}^{FC} + \lambda_{ij}^{MF} + \lambda_{ijk}^{MFC}. \quad (1)$$

Here, F_{ijk}^{MFC} is the expected cell frequency, λ is the grand mean, λ_i^M , λ_j^F and λ_k^C are the marginal effects of M, F and C, λ_{ik}^{MC} , λ_{jk}^{FC} and λ_{ij}^{MF} are two-way interactions of M, F and C, and λ_{ijk}^{MFC} is the three-way interaction of M, F and C. The main interest is in the three-way interaction – in other words, the question of whether or not the association between the partners’ statuses varies by cohort. Given our specific focus on trends in homogamy (partners

sharing the same status), we modelled the two-way association between M and F through parameters that measure the tendency of unions to concentrate on the main diagonal.

First we examined changes in the general homogamy tendency using the *Homog* parameter, which is coded 1 for all cells on the main diagonal and zero otherwise. An exponentiated coefficient of *Homog* gives the odds of homogamy relative to the odds of heterogamy. Next we examined how homogamy tendency had changed among the different status groups. For this purpose we fitted a group-specific homogamy parameter *Diag* in which each cell on the main diagonal is given a separate value (1–4 in case of educational homogamy and 1–5 in case of homogamy in parental occupational class). An exponentiated coefficient can be interpreted as the odds of basic-level educational homogamy relative to the odds of educational heterogamy, for instance. The general homogamy estimate is the weighted average of the group-specific estimates. We also examined the change the tendency towards educational hypergamy by adding the parameter *Hyperg* to the model of general educational homogamy. This parameter is coded 1 for all cells below the main diagonal, and it shows whether women tend to ‘partner up’ (odds ratio above 1.00) or ‘down’ (odds ratio below 1.00) with regard to education.

Interactions between the aforementioned homogamy parameters and the birth cohort thus form the core of our analysis. We present the estimates of homogamy tendencies and 95-per-cent confidence bounds for them by birth cohort, and compare the statistical fit of different models. For the latter purpose we used G^2 likelihood-ratio statistics and the Bayesian Information Criterion (BIC). BIC adjusts the G^2 for sample size,¹ and it favours models with fewer parameters. The smaller the values of G^2 and BIC, the better the model fits the data. The log-linear analyses were conducted with R: A Language and Environment for Statistical Computing (R Core Team 2012).

Results

Changes in absolute levels of homogamy

We first describe trends in the absolute rates of homogamy in unions involving 30-year-old women. These figures show how prevalent homogamy is in each birth cohort, but given that they also reflect changes in the marginal distributions, they do not necessarily reveal how the

¹ $BIC = G^2 - df \cdot \ln(N)$

actual tendency towards homogamy has changed. Appendix Tables 1 and 2 give the cross-tabulations of the partners' educational levels and parental occupational classes in different birth cohorts. The margins of the tables show the growth in educational attainment, especially among women, as well as the decrease in the prevalence of a farming family background and the respective increase in the prevalence of a white-collar background. Table 2 gives the proportion of homogamous couples (the cells on the main diagonal in Appendix Tables 1 and 2) in each birth cohort. Given the obvious changes in the marginal distributions, the levels of both educational homogamy and homogamy in parental occupational class remain surprisingly stable throughout the cohorts: the prevalence of educational homogamy is around 45 per cent and the prevalence of homogamy in parental occupational class around 33 per cent in all cohorts.

We also computed the percentage of couples that are homogamous with regard to both education and parental social class (Table 2): it is almost constant at around 15 per cent across the cohorts. Moreover, these figures are very close to the percentages that are to be expected if there is no association between educational homogamy and homogamy in socioeconomic family background: the expected proportion of 'double-homogamous' couples in the 1966–68 cohort, for example, is 14.9 per cent ($0.459 \times 0.325 = 0.149$), as opposed to the observed 15.7 per cent. This accords with the conclusion reached in a recent study that these two homogamy dimensions work rather independently of one another in partner selection (Mäenpää 2013).

Although the level of educational homogamy has been quite constant over time, the proportions of couples lying below and above the main diagonal, in other words educationally hypergamous and hypogamous couples, have changed. Even in the oldest cohort of 1957–59 it is more common for the female partner to be more highly educated than the male partner than the other way round (30% vs. 25%), and this discrepancy has further increased: the proportion of hypogamous couples has grown to around 35 per cent in the youngest cohorts, whereas that of hypergamous couples has decreased to around 20 per cent.

Changes in homogamy tendencies

We used log-linear modelling to find out how the tendency towards homogamy changed in the female birth cohorts net of changes in the marginal distributions. First we examined the general homogamy trends with regard to educational level and parental occupational class (Figure 2). In the case of educational homogamy the tendency strengthened slightly over the

birth cohorts, the odds of homogamy relative to heterogamy being around 1.9 in the 1957–65 cohorts, and the corresponding ratio being above 2.0 in the 1966–73 cohorts. In each cohort, homogamy is weaker in terms of parental occupational class than in terms of educational level, the trend in the former being downward: the odds ratio for homogamy decreased from 1.5 in the 1963–65 cohort to around 1.4 in the younger cohorts. Nevertheless, the overall picture is that the changes in homogamy tendencies across the cohorts are small. The model fit statistics shown in Appendix Tables 3 and 4 also indicate that for both characteristics, the model of changing general homogamy (M2b) provides only a marginally better fit than the model of constant general homogamy (M2a) when subjected to G^2 test, and according to the BIC, the model of constant general homogamy fits better.

Figure 3 shows how the tendency towards educational homogamy has changed depending on the level of educational attainment. Given the considerably stronger homogamy among people with an upper-tertiary-level degree than among other groups, the odds ratios for upper-tertiary-level homogamy are plotted on the right-hand y axis. Two opposing general trends can be observed: a downward trend in the two most highly educated groups, and an upward trend in the two groups with the least education. Among those educated to the upper-tertiary level, the odds ratio for homogamy declined from 17.2 in the 1957–59 cohort to 14.3 in the 1960–62 cohort, and further to 11.6 in the 1963–65 cohort. Since then the tendency has remained fairly stable. The respective odds ratios among those with a lower-tertiary level of education decreased from 2.7 in the 1957–59 cohort to 2.1 in the 1960–62 cohort, remained almost constant in the next two cohorts, and further declined to 1.8 in the 1969–71 cohort and 1.5 in the 1972–73 cohort. Homogamy tendency among those with an upper-secondary level of education is insignificant apart from in the youngest cohort, with an odds ratio of 1.3. The odds ratios among those with a basic education fluctuate between 2.2 and 2.8, but the general trend is towards strengthening homogamy. Obviously, because of these diverging trends in the different educational categories, there has been little change in overall tendency among the cohorts. The G^2 statistics given in Appendix Table 3 indicate that accounting for changes in group-specific homogamy (M3b) leads to a better model fit than assuming that group-specific homogamy has remained constant (M3a), whereas the BIC penalizes for extra parameters and prioritizes the model of constant group-specific homogamy.

The estimates in Figure 4 indicate a considerable change in the tendency towards educational hypergamy. Women in the oldest birth cohort (1957–59) tended to partner with more highly educated men (odds ratio for hypergamy 1.2), but in the cohorts born in the early

1960s, the men tended to partner with more highly educated women (odds ratio 0.8). This hypogamy tendency strengthened further in the next two cohorts (odds ratio 0.5 in the 1969–71 cohort), but weakened somewhat in the youngest cohort 1972–73 (odds ratio 0.6). Both G^2 and the BIC indicate that the model of changing hypergamy (M4c) provides a better fit than the model of constant hypergamy (M4b) (Appendix Table 3).

Figure 5 shows the trends in group-specific homogamy in parental occupational class. The small declining general trend is attributable to a diminishing homogamy tendency among people from farming and upper-white-collar families: the odds ratio for homogamy for both groups is 3.0 in the 1963–65 cohort, but declines to below 2.5 in the 1972–73 cohort. Nevertheless, the confidence intervals are wide, so it cannot be ascertained that changes actually took place in these groups. Homogamy tendencies remained at a constant low level in all the other status groups. According to both G^2 and the BIC, the group-specific changes in homogamy in parental occupational class (M3b) are not large enough to provide a significantly better fit than the model of constant group-specific homogamy (M3a) (Appendix Table 4).

Discussion and conclusions

The study reported here investigates trends in educational homogamy between cohorts born in Finland in 1957 and 1973, and in homogamy in parental social class between birth cohorts born in 1963 and 1973. Sociological theories unanimously predict that over the course of modernization, group boundaries in terms of ascribed socioeconomic status become easier to cross in union formation, whereas educational homogamy strengthens (Kalmijn 1991; Hansen 1995; Uunk et al. 1996; Sólis et al. 2007; Blossfeld 2009). Although we did find evidence of an increasing trend in educational homogamy and a decline in the tendency towards homogamy in parental social class in our cohorts, the differences were modest. It appears, that despite the sweeping changes in Finland's social and economic conditions from the childhood and youth years of the youngest to the oldest cohort (such as educational expansion and the transformation of the economic structure), the overall tendency to choose a partner with a similar socioeconomic family background or educational attainment has not changed very much. The absolute levels of homogamy also remain surprisingly stable. From this perspective one could conclude that social openness in Finland remained fairly constant across the birth cohorts from the end of the 1950s and early 1960s until the early 1970s.

Nevertheless, the overall trend in educational homogamy conceals clear differences between groups: there was a decline among those with a tertiary education, and some increase among those educated to a lower level. The decline was substantial among those with a higher university degree from the 1957–59 to the 1963–65 cohort, and the level stabilized thereafter. The most highly educated individuals were nevertheless considerably more strongly inclined towards homogamy than any other educational group in all the cohorts. A declining tendency among those with a lower-tertiary-level degree is observable in all cohorts except for those born in the mid and late 1960s. These trends raise an interesting question. Given the assumptions that high educational qualifications increasingly constitute an advantage in modern ‘marriage markets,’ and that individuals have better opportunities to meet potential partners in educational institutions – both of which should lead to increasing homogamy – why has homogamy among the more highly educated decreased? The answer may well lie in the relatively strong influence of the changed educational structure of the Finnish population on partner-selection patterns: because women are increasingly more highly educated than men, highly educated women find it increasingly difficult to find a partner with a similar level of education. It is also possible that as the proportion of highly educated people has grown, the group has become more heterogeneous and less distinctive, and thus less stringent in terms of partner-selection criteria. In any event, it seems that when the likelihood of homogamy decreases, highly educated Finnish women do not hesitate to ‘partner down.’ The findings related to educational hypergamy (or hypogamy) support this: whereas women born in 1957–59 tended to partner with more highly educated men, the succeeding cohorts were more and more inclined to choose men with lower educational attainments. Furthermore, it is shown in a recent Finnish study among cohorts born in the 1970s that the probability of union formation is higher for highly educated women than for those educated to a lower level (Jalovaara 2012). This finding also implies that remaining single is not a common reaction among highly educated women to the increasing gender gap in education.

Similarly, given that the proportion of individuals with no education beyond the basic level has declined more slowly among men than among women, one would expect that men in this category would increasingly be ‘forced’ to partner outside their group. However, there has been no decline in homogamy tendency among these people: on the contrary, the trend is slightly upward. The probable implication is that those with no schooling beyond the compulsory level are increasingly selected in terms of characteristics that are considered undesirable in the ‘marriage market.’ Thus their chances of forming a union with a more

highly educated person have become poorer, and they increasingly have to choose among themselves when searching for a partner. The growing imbalance in the proportions of women and men in Finland with a basic level of education, together with the increasing rather than declining homogamy in this group, suggest that basic-educated men are, to an increasing extent, excluded from unions.

People with an upper-secondary level of education turned out to display no homogamy tendency. This finding reflects those of previous studies showing that groups in the middle of the educational hierarchy are the least inclined towards homogamy (Uunk et al. 1996; Blackwell & Lichter 2000; Domański & Przybysz 2007; Rosenfeld 2008). The lack of such a tendency combined with the high prevalence of couples in which both partners are educated to the upper-secondary level (see Appendix Table 1) results to a comparatively weak general tendency towards educational homogamy in Finland. Nevertheless, the long period in which the tendency to form in-group unions among people with an upper-secondary education was negligible might be coming to an end: a small but statistically significant homogamy tendency emerged in the youngest cohort.

In line with the view that individual achievement matters more than social origins in the context of partner selection in modern societies, the homogamy tendency in parental social class was weaker than in educational level in all the birth cohorts. Previous studies also report stronger homogamy in education than in socioeconomic origins (Kalmijn 1991; Hansen 1995; Uunk et al. 1996; Mäenpää 2013). However, although we had good reasons to expect a clear reduction in the tendency to form a union with someone from a similar socioeconomic family background, our results indicate quite a small decline in homogamy in parental social class over the studied cohorts. Why is the change so small? One obvious reason is the relatively short 17-year cohort span: it was not possible to observe the prominence of homogamy in socioeconomic family background in older cohorts, those born in the 1950s or 1940s, for instance. Second, given that most status groups (people from manual-worker and lower-white-collar families as well as those from the category 'Other') show no remarkable homogamy tendency, there is little room for a decline.

Only two categories of parental social class showed any significant inclination towards homogamy: the upper-white-collar group and farming families. Findings from previous studies also suggest that people in these groups are particularly likely to form a union with someone from a similar background (Hansen 1995; Uunk et al. 1996). In line with the perception that the (direct and indirect) impact of parental family on partner selection has weakened, we also found a decreasing trend in homogamy tendency among these groups.

This is to be expected, particularly in the case of farming families, given the reduction in structural opportunities for meeting people with similar origins. Nevertheless, on account of the small nature of the changes and the relatively small size of these groups in question, the changes do not reach statistical significance, nor do they contribute much to the overall trend in homogamy in parental social class.

All in all, from the perspective of group-specific changes, the declining tendency towards homogamy among the upper strata – those with an upper-tertiary education or from an upper-white-collar family – is indicative of more social openness in Finnish society. With regard to education this development is at odds with modernization theory, according to which educational credentials and thus educational homogamy become increasingly significant in partner choice. On the other hand, what is not a good sign in terms of societal openness is the slightly growing tendency towards homogamy among people with no more than a basic level of education: it points to increasing selectivity and marginalization in this group. Hence, whereas previous results from the Nordic countries imply a decrease in educational homogamy in recent decades (Henz & Jonsson 2003), our results suggest decline only among those with a tertiary education.

In conclusion, we put forward some suggestions for further research. First, this article focuses on homogamy in the strict sense: partners sharing the same status. It is well known that other patterns of association in partner selection also prevail, such as the tendency of union formation to become less likely the larger the educational gap between two people. The next step would be to examine changes in the pattern and strength of the association in off-diagonal cells with respect to both educational level and parental social class. Evidence of changes in the propensity of union formation between people with highly uneven educational attainments, or between individuals from upper-white-collar and manual-worker families, for instance, would give further insight into the development of boundaries between socioeconomic groups. Second, it would be worth investigating whether or not parallel or divergent trends would emerge if other indicators of socioeconomic status were used. Our focus was on parental occupational class because the data did not include other measures of socioeconomic family background. Given the contribution of homogamy to social and economic inequalities between families, it would be particularly useful to trace the development of income homogamy – in terms of both parental and individual income.

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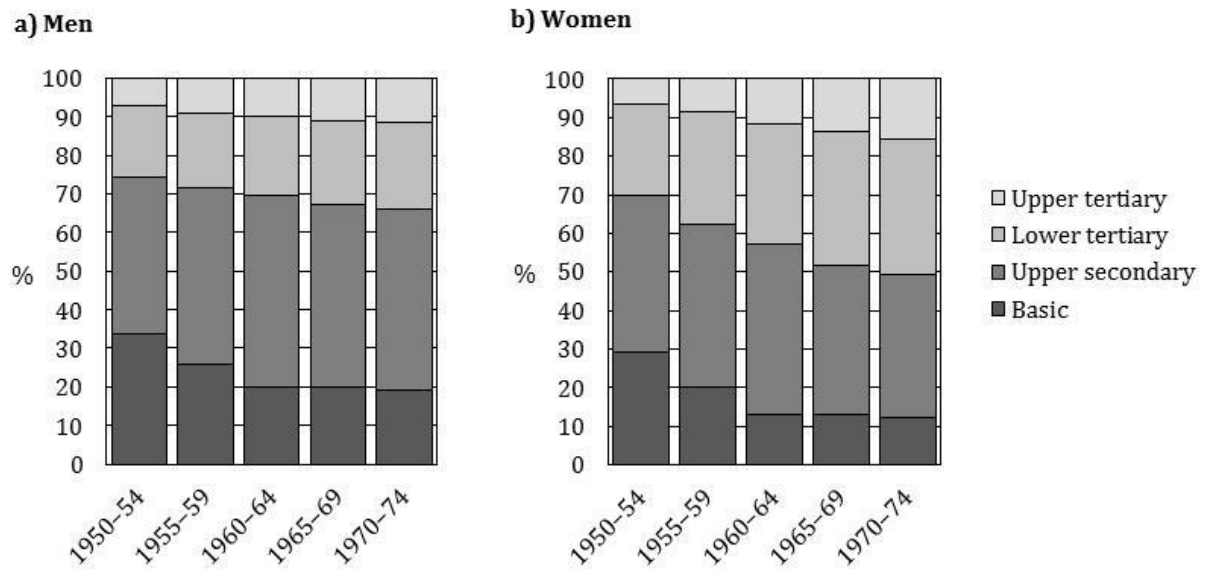
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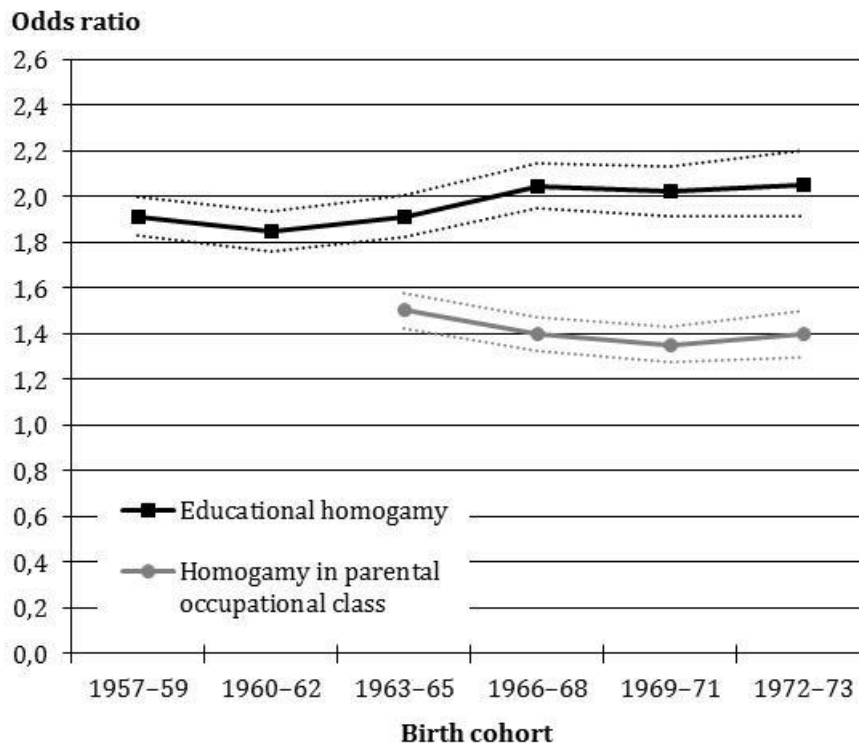
Figure 1. Educational attainment¹ by birth cohort, men (a) and women (b)



¹Highest level of education achieved by 31 Dec 2003

Source: Register data from Statistics Finland; $n = 207,328$

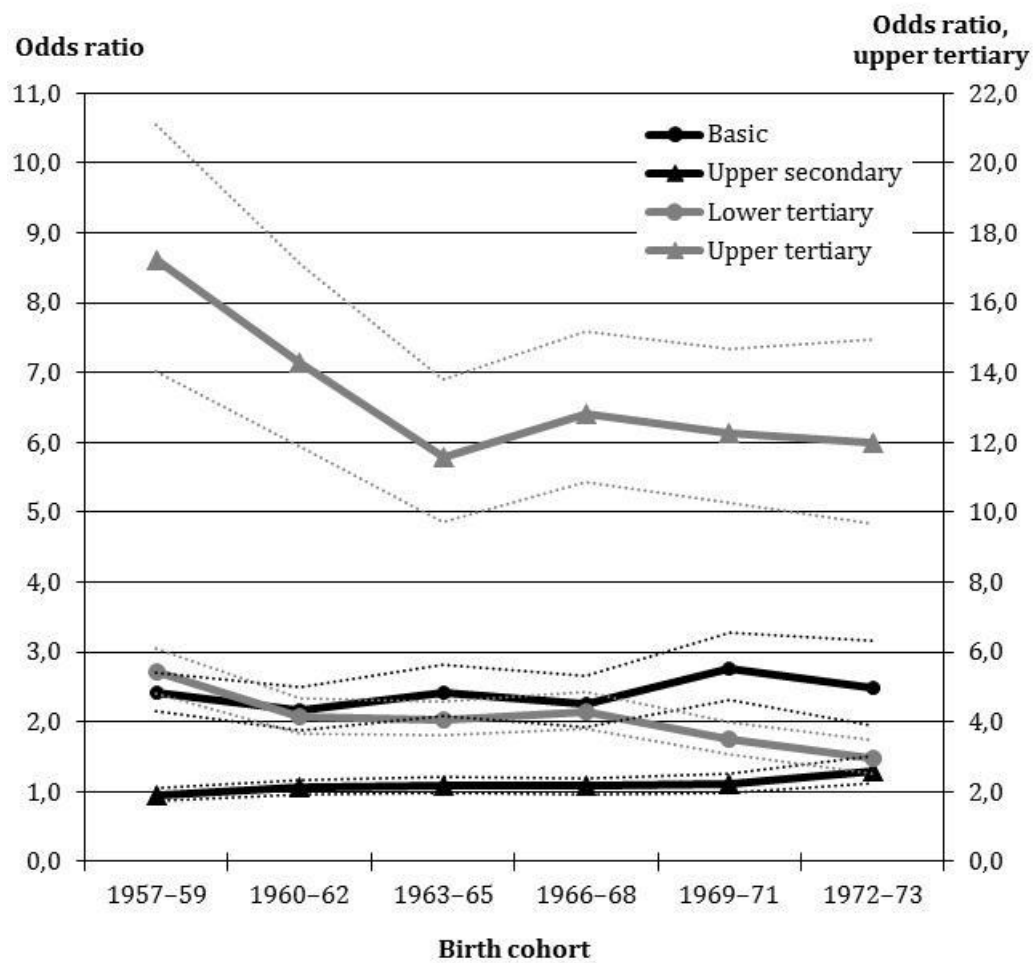
Figure 2. Estimates of general homogamy in educational level¹ and parental occupational class² with 95-per-cent confidence bounds by birth cohort



¹Estimates from model $M^E C + F^E C + Homog^E C$

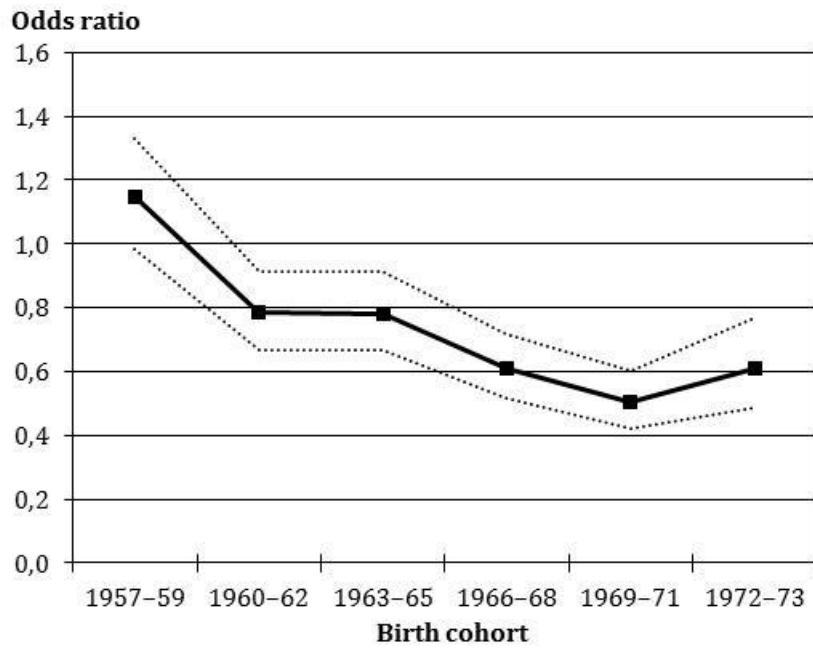
²Estimates from model $M^P C + F^P C + Homog^P C$

Figure 3. Estimates of group-specific educational homogamy with 95-per-cent confidence bounds by birth cohort¹



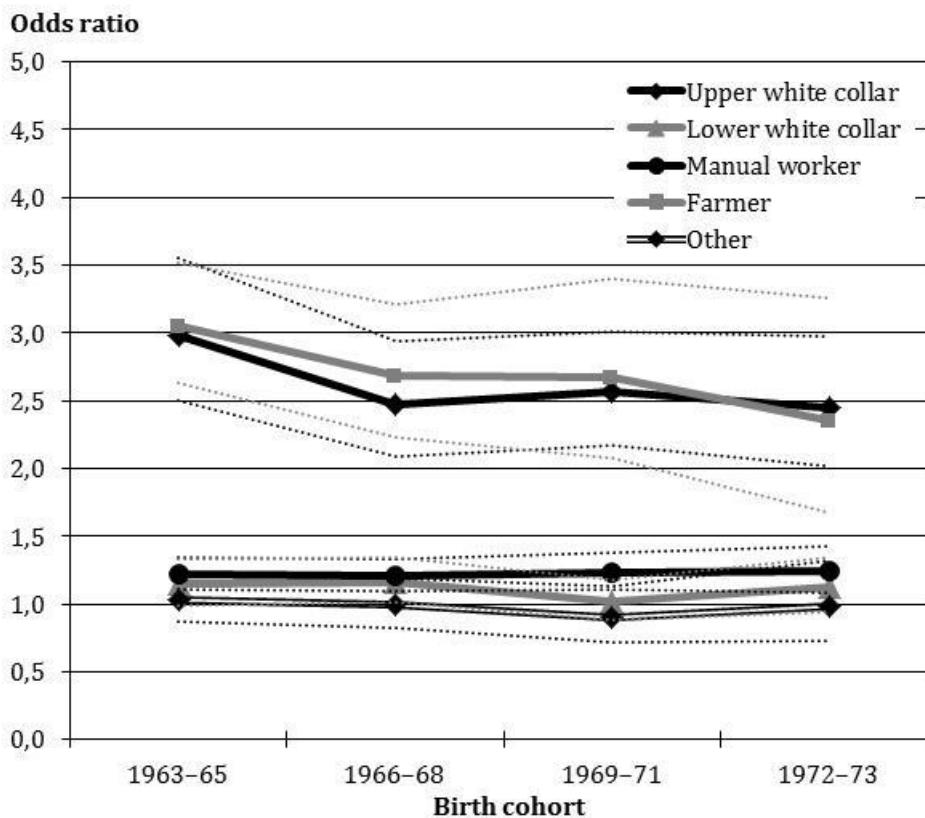
¹Estimates from model $M^{EC} + F^{EC} + \text{Diag}^{EC}$

Figure 4. Estimate of educational hypergamy with 95-per-cent confidence bounds by birth cohort¹



¹Estimates from model $M^E C + F^E C + Homog^E C + HypergC$

Figure 5. Estimates of group-specific homogamy in parental occupational class with 95-per-cent confidence bounds by birth cohort¹



¹Estimates from model $M^P C + F^P C + Diag^P C$

Table 1. Descriptive statistics concerning unions of Finnish women at the age of 30, cohorts born in 1957–59

Birth cohort	1957–59	1960–62	1963–65	1966–68	1969–71	1972–73
<i>N</i> of women in a union at age 30 (% of total cohort¹)	9,196 (76.3)	8,853 (73.4)	8,517 (70.9)	7,710 (68.7)	6,591 (67.6)	4,026 (69.5)
Foreign-born partner², %	1.1	1.7	2.3	2.3	3.0	3.4
<i>N</i> in analyses of educational homogamy	9,091	8,703	8,325	7,530	6,396	3,891
Mean age difference between partners (years; male age–female age)	2.7	2.7	2.5	2.6	2.7	2.6
Cohabiting, %	18.7	24.6	28.7	33.3	38.6	40.9
Partner born before 1956³, %	-	-	6.8	3.1	1.4	0.6
<i>N</i> in analyses of homogamy in parental social class	-	-	7,758	7,300	6,308	3,869

¹ Total cohort refers to women born in Finland who were in the population of Finland on 31 December in the year they turned 30 years of age

² Unions in which the partner was born abroad are excluded from all the analyses

³ Unions in which the partner was born before 1956 are excluded from analyses of homogamy in parental social class

Table 2. The prevalence of homogamy in unions of Finnish women at the age of 30, cohorts born in 1957–73

Birth cohort	1957–59	1960–62	1963–65	1966–68	1969–71	1972–73
Educational assorting (%)						
Homogamy (M = F)	45.7	46.1	46.2	45.9	44.3	44.8
Hypergamay (M > F)	24.7	21.9	21.1	20.4	18.9	20.1
Hypogamy (M < F)	29.6	32.0	32.7	33.7	36.8	35.1
Homogamy in parental social class (%)¹	-	-	32.8	32.5	32.3	32.5
Homogamy in both dimensions (%)¹	-	-	15.6	15.7	15.0	15.2

¹Only women whose partner was born in 1956 or later

Appendix Table 1. Distributions of partners' educational levels by birth cohort (%)

1957–59		Female				
		Basic	Upper sec	Lower tert	Upper tert	Total
Male	Basic	9.1	12.8	4.1	0.3	26.3
	Upper sec	10.0	24.0	10.2	0.9	45.0
	Lower tert	1.8	7.9	9.8	1.4	20.9
	Upper tert	0.2	1.5	3.4	2.8	7.8
	Total	21.1	46.2	27.4	5.3	100
<i>N=9,091</i>						
1960–62		Female				
		Basic	Upper sec	Lower tert	Upper tert	Total
Male	Basic	5.0	11.8	3.9	0.3	21.1
	Upper sec	7.3	28.8	12.2	1.7	49.9
	Lower tert	1.2	8.4	8.7	2.0	20.2
	Upper tert	0.1	2.0	3.0	3.7	8.8
	Total	13.6	50.9	27.7	7.8	100
<i>N=8,703</i>						
1963–65		Female				
		Basic	Upper sec	Lower tert	Upper tert	Total
Male	Basic	3.9	9.6	3.9	0.4	17.7
	Upper sec	6.3	27.5	14.3	2.3	50.5
	Lower tert	0.8	8.4	10.6	2.3	22.1
	Upper tert	0.1	1.9	3.5	4.2	9.7
	Total	11.2	47.4	32.3	9.1	100
<i>N=8,325</i>						
1966–68		Female				
		Basic	Upper sec	Lower tert	Upper tert	Total
Male	Basic	3.5	8.4	3.7	0.4	16.0
	Upper sec	6.6	24.2	15.4	2.8	49.0
	Lower tert	1.0	7.3	12.2	3.0	23.6
	Upper tert	0.1	2.0	3.3	6.0	11.4
	Total	11.2	41.9	34.7	12.2	100
<i>N=7,530</i>						
1969–71		Female				
		Basic	Upper sec	Lower tert	Upper tert	Total
Male	Basic	3.9	7.6	4.6	0.4	16.5
	Upper sec	6.3	21.6	17.6	2.8	48.3
	Lower tert	0.7	6.7	12.6	3.8	23.8
	Upper tert	0.1	1.8	3.3	6.2	11.4
	Total	11.1	37.6	38.1	13.2	100
<i>N=6,396</i>						
1972–73		Female				
		Basic	Upper sec	Lower tert	Upper tert	Total
Male	Basic	3.2	6.2	4.1	0.5	13.9
	Upper sec	6.1	21.3	17.3	3.1	47.7
	Lower tert	1.3	7.3	13.1	4.0	25.7
	Upper tert	0.1	1.6	3.8	7.2	12.7
	Total	10.6	36.4	38.2	14.7	100
<i>N=3,891</i>						

Appendix Table 2. Distributions of partners' parental occupational classes by birth cohort (%)

1963–65		Female					
		Upper w collar	Lower w collar	Manual worker	Farmer	Other	Total
Male	Upper w collar	2.8	2.5	3.4	1.0	1.3	11.0
	Lower w collar	2.7	3.5	6.4	1.5	2.6	16.7
	Manual worker	3.5	7.2	19.1	5.0	7.1	41.8
	Farmer	0.9	2.2	5.4	4.7	2.9	16.1
	Other	1.4	2.2	6.3	2.0	2.7	14.5
	Total	11.2	17.5	40.6	14.2	16.5	100
							<i>N=7,758</i>
1966–68		Female					
		Upper w collar	Lower w collar	Manual worker	Farmer	Other	Total
Male	Upper w collar	3.2	3.1	4.5	0.9	1.7	13.3
	Lower w collar	3.0	4.4	7.8	1.4	2.3	18.9
	Manual worker	3.8	7.9	20.2	3.6	6.1	41.6
	Farmer	0.9	1.7	5.2	2.6	1.8	12.2
	Other	1.3	2.5	6.3	1.7	2.1	14.0
	Total	12.2	19.6	44.0	10.3	14.0	100
							<i>N=7,300</i>
1969–71		Female					
		Upper w collar	Lower w collar	Manual worker	Farmer	Other	Total
Male	Upper w collar	4.3	3.9	4.8	0.8	1.6	15.4
	Lower w collar	3.9	5.1	8.8	1.0	1.9	20.7
	Manual worker	4.1	9.2	19.8	2.6	4.9	40.7
	Farmer	0.8	1.6	4.4	1.5	1.4	9.6
	Other	1.8	2.9	6.4	1.0	1.6	13.6
	Total	14.9	22.7	44.1	6.9	11.4	100
							<i>N=6,308</i>
1972–73		Female					
		Upper w collar	Lower w collar	Manual worker	Farmer	Other	Total
Male	Upper w collar	5.2	3.8	4.9	0.9	2.1	16.9
	Lower w collar	4.2	5.8	8.5	1.1	2.2	21.9
	Manual worker	5.1	9.7	18.7	2.6	4.7	40.7
	Farmer	1.0	1.7	3.5	1.3	1.5	8.9
	Other	1.8	2.0	5.3	1.1	1.5	11.6
	Total	17.3	23.0	40.9	6.9	11.9	100
							<i>N=3,869</i>

Appendix Table 3. Goodness-of-fit statistics of the log-linear models for changes in educational homogamy

Model	Specification	G^2	BIC	df	Change in model fit	ΔG^2	Δdf	p
M1: Baseline: no homogamy	$M^E C + F^E C$	9,464	8,886	54				
M2a: Constant general homogamy	$M1 + \text{Homog}^E$	5,554	4,987	53	1–2a	3,910	1	< .001
M3a: Constant group-specific homogamy	$M1 + \text{Diag}^E$	2,675	2,140	50	1–3a	6,789	4	< .001
M4a: Constant general homogamy and hypergamy	$M1 + \text{Homog}^E + \text{Hyperg}$	5,481	4,925	52	2a–4a	72	1	< .001
M2b: Changing general homogamy	$M1 + \text{Homog}^E C$	5,540	5,026	48	2a–2b	14	5	< .05
M3b: Changing group-specific homogamy	$M1 + \text{Diag}^E C$	2,615	2,294	30	3a–3b	60	20	< .001
M4b: Changing general homogamy, constant hypergamy	$M1 + \text{Homog}^E C + \text{Hyperg}$	5,467	4,964	47	2b–4b	73	1	< .001
M4c: Changing general homogamy and hypergamy	$M1 + \text{Homog}^E C + \text{Hyperg} C$	5,408	4,959	42	4b–4c	59	5	< .001

M^E = Male partner's educational level

F^E = Female partner's educational level

C = Cohort

Homog^E = General homogamy parameter

Diag^E = Group-specific homogamy parameter

Hyperg = Hypergamy parameter

Appendix Table 4. Goodness-of-fit statistics of the log-linear models for changes in homogamy in parental occupational class

Model	Specification	G^2	BIC	df	Change in model fit	ΔG^2	Δdf	p
M1: Baseline: no homogamy	$M^P C + F^P C$	1,397	748	64				
M2a: Constant general homogamy	$M1 + Homog^P$	857	218	63	1–2a	540	1	< .001
M3a: Constant group-specific homogamy	$M1 + Diag^P$	402	-196	59	1–3a	995	5	< .001
M2b: Changing general homogamy	$M1 + Homog^P C$	849	241	60	2a–2b	8	3	< .05
M3b: Changing group-specific homogamy	$M1 + Diag^P C$	393	-53	44	3a–3b	9	15	.868

M^P = Male partner's parental occupational class
 F^P = Female partner's parental occupational class
 C = Cohort
 $Homog^P$ = General homogamy parameter
 $Diag^P$ = Group-specific homogamy parameter