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EDUCATIONAL ASSORTATIVE MATING IN THE EUROPEAN REGIONS

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Title: Educational Assortative Mating in the European Regions

Abstract: Measuring social segregation, a complex socioeconomic phenomenon with multifaceted dimensions poses significant challenges. Social segregation has different dimensions that could be framed as cultural, social, economic, or even political. In this paper, we argue that assortative mating can inform us about the segregation level of society as mating choices embrace many of these dimensions. We use the EU-LFS to measure educational assortative mating at the regional NUTS 2 level for 23 European countries. We compare assortative mating patterns between two cohorts: those born between 1957 and 1966 and those born between 1975 and 1984. Our findings reveal notable variations in assortative mating, both across time and regions. We find that assortative mating has markedly increased in specific regions for individuals with lower levels of education, while it has declined in most regions for those with higher levels of education. Significant differences exist in assortative mating across regions, particularly among individuals with lower levels of education. These results are relevant for shaping informed social policies.

JEL Codes: I24, I32, J12

Keywords: educational assortative mating, NUTS 2, social segregation

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1 Introduction

Social segregation affects many aspects of life. With whom one interacts can shape the development of soft skills, aspirations, educational and career choices and opportunities, and even our choices of life partners. It ultimately affects aggregate variables such as income inequality, social mobility, and the prevalence of equal opportunities in a society (Bingley et al., 2022, Heblich et al., 2021). Yet, social segregation is difficult to measure due to its multifaceted nature. It manifests in several dimensions, each challenging to measure. Geographical or physical segregation is one such dimension, where individuals' economic background drives the sorting into neighborhoods with different amenities, such as access to high-quality schools (Heblich et al., 2021, Nieuwenhuis et al., 2020). This conditions the group of individuals with whom you are more likely to interact. Second, segregation may arise from the institutional setting such as the public school choice designs (Calsamiglia et al., 2021, Jenkins et al., 2006, Rich et al., 2021). Given that the school is an important generator of social links, school segregation amplifies social segregation. Third, the level of tolerance to diversity in a society plays an important role in shaping the degree of interaction between individuals with different characteristics. In this respect, the preferences of individuals to interact with others will also affect the segregation level of the economy (Lewis, 2012).

In this paper, we measure assortative mating levels at the regional NUTS 2 level for 23 European countries. Spouse or partner selection results from exposure to potential candidates, individual preferences, and cultural norms (Kalmijn, 1998). In other words, the level of segregation of the economy broadly understood directly affects the partner selection, as it limits with whom you interact and eventually, whom you marry. Moreover, inter-group marriages or partnerships represent one of the most profound manifestations of integration between two groups of individuals. Therefore, we argue that the degree of assortative mating in a region informs us about the level of segregation broadly understood.

We focus on educational assortative mating, which offers certain advantages over other individual characteristics. Partner decisions and spouse selection tend to be done upon education completion, so it is less endogenous than other variables such as occupation or income. Furthermore, it is an important predictor of the future socioeconomic status of the individual. It is therefore relevant when studying the segregation of a region.

Educational assortative mating has been studied across several disciplines, including Sociology, Demography, Political Sciences, and Economics (Bloome and Ang, 2020, Lichter and Qian, 2019, Mare, 1991, Naszodi and Mendonca, 2022, Greenwood et al., 2014, Frémeaux and Lefranc, 2020, Chiappori et al., 2020a,b). Most studies concentrate on one or a few countries and compute measures of assortative mating at a country level. In this paper, we compute measures of educational assortative mating at the regional level for 23 European countries. We compare two cohorts to learn about the evolution of assortative mating over time.

We classify individuals into three levels of education: those with at most lower secondary education, those with upper secondary education, and those with tertiary education. Our findings reveal that assortative mating has increased on average for those with lower levels of education, while it has decreased for those with higher levels of education. Significant differences exist in the levels of assortative mating across regions, especially for the low-education group.

Several papers study the role of educational assortative mating on the increase in between-household income inequality. While Fernandez and Rogerson (2001) construct a dynamic model and find that the increase in assortative mating explains part of the increase in income inequality in the US, Breen and Salazar (Breen and Salazar, 2011) find no or even a small negative effect. We consider that it is important to identify which education level is more affected by assortative mating, as income inequality is probably more related to higher assortative mating at the top education level. As recent papers propose, the categorization of education to construct the measure of assortative mating matters (Almar et al., 2023, Uchikoshi, 2022).

The paper is organized as follows. Section 2 discusses the data used and the assortative mating measures under study. Section 3 displays the level of assortative mating in the European regions for both cohorts and describes the regional and cohort differences. Section 4 concludes the paper by summarizing the main results.

2 Data and methodology

2.1 Data

We use the European Union Labour Force Survey (EU-LFS) to compute several measures of educational assortative mating at the regional level across 23 European countries.[1] These data have household information, including age, gender, educational attainment, and marital status of the respondents at the time of the interview. Data allows us to link individuals who are married or cohabiting and know about their respective characteristics.

We compute assortative mating in terms of education. We use the three-level classification of education provided by the survey. The low education level refers to at most lower secondary education, the medium education level refers to upper secondary education, and the high education level refers to tertiary education.

To analyze the evolution of assortative mating over time, we compare the assortative mating of the birth cohort 1957-1966 to the one of the birth cohort 1975-1984. We pool the 2001-2003 years of EU-LFS to compute the measures for the first cohort, and the 2019-2021 years of the EU-LFS the compute the measures for the second cohort.[2]

When studying assortative mating, one would ideally use the most significant couple of each individual. However, we only know the marital or cohabitation status on the day of the survey. Following other studies (Chiappori et al., 2020b), we retrieve the information for those between the ages of 35 to 44. Figures 1 to 4 show the share of females and males that are married or cohabit with their couple across age groups, distinguishing by education level in the years 2001 and 2020. This share increases strongly between 20 and 35 years old, and it stabilizes afterward in most countries. This trend holds true across genders, educational levels, and all years. As expected, the group of individuals with tertiary education tends to marry/cohabit later than the groups with lower levels of education. Differences however strongly diminish once individuals reach 35 years of age. To ensure a comparable distribution across cohorts, we restrict the sample to individuals

[1] Measures are computed at the NUTS 2 level in most countries, except when data are not available. The exceptions are Austria, Germany, and the UK, for which regions are NUTS 1, and Croatia, Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Netherlands, and Slovenia, for which we compute the measures at the country level.

[2] For Bulgaria, Latvia, and Poland, there is no household information for the year 2000. For Germany, Croatia, and Lithuania there is no regional information for the years 2000 and 2001. The UK lacks data for the years 2020 and 2021.

below 45 years of age.[3] Moreover, one might consider that the probability of divorce or separation is more prominent for non-homogamous couples compared to homogamous couples. Consequently, the persistence of married or cohabiting couples in later ages is likely biased favoring assortative mating (Kalmijn, 1991, Lichter and Qian, 2019).

We consider both the marriage and cohabitation of heterosexual couples in the analysis. We exclude those couples who report not living together. We weigh couples with the household weight provided by the EU-LFS.[4] Table 1 reports the countries in the study, the number of regions in each country, and the descriptive statistics of the sample sizes per country. The sample size ranges between 35 and 20,066 couples per region for the 1957-1966 cohort, with an average size of 1,280 couples per region. The sample size of the younger cohort ranges between 93 and 10,809 couples per region, with an average size of 1,712 couples per region. Only Corsica in France has less than 100 couples in both samples.

2.2 Measures: the likelihood approach

Let's consider three education levels: low, medium, and high. Let n_i and r_i denote the proportion of men and women with education level type i, respectively. Consequently, $n_i r_j$ is the expected share of couples in which men have education level i and women have education level j if matching was random. Let s_{ij} represent the observed share of couples in which men have education level i and women have education level j. This is represented in figure 5. The diagonal elements of this matrix contain the shares of couples where both individuals have the same level of education.

We want measures of assortative mating to be comparable across regions and across generations. One challenge is that the marginal distributions of education for men and women are not constant over time and vary across countries and regions. Figures 6 and 7 report the evolution of the education distribution from 1998 to 2020 in each country among females and males, respectively. The sample includes the same age range as in the assortative mating measure (35 to 44). Most countries start in 1998 with a majority of males and females in this age band with medium education levels. This share gets reduced over time as the high education level group increases. In some countries, such as Italy, Portugal, Spain, and the UK, the majority of individuals in the age range 30 to 44 had a low education level in 1998. This share decreased over time as more individuals attained higher education levels.

We first compute a simple measure of assortative mating for each education level. We compute assortative mating as the observed probability of a couple with both having education level i relative to the expected probability of observing such a couple under random matching (Eika et al., 2019).

$$AM_i = \frac{s_{ii}}{n_i r_i} \text{ where } i \in \{L, M, H\}. \tag{1}$$

In cases of positive assortative mating, these measures will be larger than 1, indicating the degree to which individuals with education level i tend to marry individuals with the same education level. Crucially, by construction, this measure takes into account the shifting marginal distributions of education.

[3]The youngest cohort was between 37 and 46 years old in 2021, the last year available.

[4]Results are very similar if one does not weigh observations. We only report measures computed with household weights.

We also compute a general measure of assortative mating using the likelihood approach described in (Chiappori et al., 2020b) and used among others in (Greenwood et al., 2014) and (Eika et al., 2019). This measure accounts for the differences in marginal distributions of education. The main idea is to aggregate the assortative mating measures of each level of education using the marginal distributions of education as weights. The resulting general weighted index of assortative mating (δ_w) is computed as follows:

$$\delta_w = \sum_{i=L}^{H} \phi_i AM_i, \ i \in \{L, M, H\} \tag{2}$$

where AM_i is the assortative mating in education level i as measured above and ϕ_i denotes the weight assigned to education level i. These weights serve as correctors to account for the changes in the marginal distributions of education over time and across regions. We consider two alternative weighting methods. First, we follow Greenwood et al (Greenwood et al., 2014) and use:

$$\phi_i = \frac{r_i n_i}{\sum_i r_i n_i} \tag{3}$$

Let δ_G be the assortative measure using these weights. It becomes:

$$\delta_G = \frac{\sum_i s_{ii}}{\sum_i r_i n_i}. \tag{4}$$

Chiappori et al (Chiappori et al., 2020b) propose to weigh each element by the marginal distribution of education, but since there are two marginal distributions (one for males and one for females), they take the average of the two weighted indices. We denote by δ_C the measure applying these weights.

$$\delta_C = 0.5 \left(\sum_{i=L}^{H} n_i AM_i + \sum_{i=L}^{H} r_i AM_i \right). \tag{5}$$

These two aggregate measures of assortative mating provide different insights into assortative mating of a region.

3 Results

3.1 Assortative mating in Cohort 1

The first panel of Table 2 reports the descriptive statistics of the main variables for the cohort born in 1957-1966. For this cohort, assortative mating was more prevalent among the highest-education group, with 3.6 times more couples in which both members have tertiary education compared to what random matching would predict. For the lowest-education group, assortative mating was also significant, with 2.9 times more couples with both members having low education than the random matching would predict. The medium education level exhibits the lowest assortative mating, with an average below 1.4. Variation in assortative mating across regions for low and high education levels was large as the standard deviation reveals, while assortative mating for the medium education level has the smallest variation across regions.

The aggregate indices of assortative mating do not display the differences observed when looking at different education levels. The δ_C measure provides slightly larger numbers than the δ_G measure. The interpretation of these values is not as straightforward as with the previous measures. (Schwartz and Mare, 2005) already shows the importance of studying assortative mating at each education level.

The first panel of Table 3 shows the correlation coefficients between the different measures of assortative mating for the cohort born in 1957-1966. A negative correlation between AM_L and AM_M is observed, indicating that regions with high assortative mating for low-educated individuals tend to exhibit low assortative mating for middle-educated individuals. In contrast, there is a positive and significant correlation between AM_M and AM_H. Therefore, regions with high assortative mating for middle-educated individuals also tend to show a significant assortative mating for the high-educated individuals. The δ_G (Greenwood et al) and δ_C (Chiappori et al) measures are positively correlated, albeit not strongly for the cohort 1957-1966. Surprisingly, δ_G is negatively correlated with the low and high-education assortative mating measures, while δ_C presents a positive correlation with these measures.

Figures 10 to 12 show the levels of assortative mating at the three education levels across the European regions for the cohort born in 1957-1966. This cohort was 36 years old a few years after the Berlin Wall fell down. Figure 10 shows that the highest levels of assortative mating at the lower education level are found in Eastern Europe, while the lowest levels are observed in the Iberian Peninsula, Corsica, Sardinia, and the southern regions of Italy. Greece and Cyprus exhibit intermediate levels of assortative mating for the lowest educated group. Meanwhile, France, Belgium, the UK, and Northern Italy show the largest disparity across regions, with low and intermediate levels of assortative mating for the low-educated. The regions of the capital cities like Madrid, London, and Paris fall within the range of intermediate levels of assortative mating.

Figure 11 illustrates the negative correlation observed between AM_L and AM_M in the old cohort. Regions with the highest levels of assortative mating in terms of upper secondary education are found in Spain, Southern Italy, Sardinia, Greece, and Cyprus. Additionally, most of Belgium, along with city regions, such as Ile de France, London, Berlin, and Prague, exhibit high levels of assortative mating. In contrast, Eastern European countries, Austria, and Croatia show lower levels of assortative mating for the upper secondary education group. Meanwhile, Germany, some regions in France, and the UK have intermediate levels of assortative mating of the middle education level in the older cohort.

Figure 12 exhibits the level of assortative mating of the tertiary education level for the cohort born between 1957 and 1966. Regions in Poland, Romania, Slovakia, Czechia, Italy, and Portugal exhibit the highest level of assortative mating for this education level. Conversely, the lowest levels are found in the UK, Estonia, some regions in Germany, most northern regions in Spain, and most regions in Germany. Greece and France have rather intermediate levels of assortative mating of the tertiary education group.

3.2 Assortative Mating in Cohort 2

The second panel of Table 2 reports the descriptive statistics of the main variables for the cohort born between 1975 and 1984. For this cohort, assortative mating is more prevalent among the low-education group, with 4.5 times more couples in which both members have low education than random matching would suggest. For the high-education group, assortative mating was 1.8, indicating that there are 1.8 times more couples in which both members have high education than the random matching would predict. As in the previous cohort, assortative mating for the middle education level remains the lowest, with an average value of 1.4. Variation in assortative mating across regions for low education levels is large as the standard deviation reveals. The assortative mating for medium education levels has the least dispersion, as observed in the previous cohort. The aggregate indices of assortative mating do not seem to capture the differences observed when looking at different education levels. δ_C is slightly larger than δ_G and presents a higher dispersion.

The second panel of Table 3 shows the correlation coefficients between the different measures of assortative mating for the cohort born between 1975 and 1984. It shows a negative correlation between AM_M and AM_H, indicating that those regions with high assortative mating for middle-educated individuals present low assortative mating for high-educated individuals. The rest of the correlations between the AM_j measures are not statistically significantly different from 0. The δ_G (Greenwood et al) and δ_C (Chiappori et al) measures are strongly positively correlated, with a coefficient of 0.71. δ_G is now positively correlated with the middle and high-education assortative mating measures (AM_M and AM_H) and negatively correlated with the low-educated measure (AM_L). δ_C presents a positive correlation with all these measures.

Finally, Figures 13 to 15 plot the levels of assortative mating at the three education levels in the European regional map for the cohort born between 1975 and 1984. Since the thresholds change, it is not possible to make a direct comparison with the previous maps. However, they provide insights into the distribution of assortative mating across Europe. Figure 13 shows that assortative mating at the lowest education level remains high in Eastern Europe, and low in Spain and Italy. Figure 14 reveals that assortative mating of the middle education group is the largest in Spain, Romania, Scotland, and parts of France. The lowest level is in Czechia, Hungary, and Austria, among other regions. Figure 15 shows that the largest assortative mating at the tertiary education level is in Romania, Italy, Greece, and parts of Germany. The lowest levels are in the UK, north of Spain, south of France, Estonia, and Lithuania.

3.3 Changes in assortative mating between cohorts

The third panel of Table 2 reports the changes in assortative mating, measured as the difference in the levels of assortative measure between the two cohorts. On average, assortative mating increased for the group of individuals with lower levels of education (AM_L), it displayed minor variations for the middle-education group (AM_M), and it significantly decreased for the high-education group (AM_H). A comparison of the standard deviations between the top and middle panels of the table highlights an increase in cross-regional variation of assortative mating for individuals with low education and a reduction in the cross-regional variation of AM_M and AM_H between the two cohorts under study. These trends are illustrated in the histograms presented in Figure 8. The top-left histogram shows how the dispersion of assortative mating across regions of the low-educated individuals has increased between the two cohorts. In contrast, the top-right histogram shows that the assortative mating of the middle education group is concentrated for both cohorts (the x-axis ranges from 1 to 5), and the differences across regions have decreased among the two cohorts. Finally, the bottom histogram shows how the assortative mating of the tertiary education level group has decreased and become more concentrated in the younger cohort. The values ranged between 1.5 and 13.5 in the older cohort but narrowed to a range between 1.2 and 5 in the younger cohort. These findings suggest that regional differences in assortative mating are particularly relevant at the bottom education level, highlighting the importance of considering these variations when designing policies aimed at reducing poverty and social exclusion.

Figure 9 shows the distribution of the aggregate measures of assortative mating across cohorts. δ_G distribution has shifted to the right, indicating a general increase in assortative mating. The thick left tail in the distribution of cohort 1 disappears, indicating that these regions increased the level of assortative mating. Changes in the δ_C distribution are less clear, with an increase in the mass of regions in both tails and a reduction in the range of 1.8 to 2.2.

Figures 16, 18, and 20 plot the changes in assortative mating that occurred between the two cohorts for each education level. Increases are represented in bluish colors and decreases are represented in reddish colors. Figure 16 shows that the assortative mating for the lowest education level has increased in most European regions, with some decreases in a large part of Romania, many northern German regions, Estonia, Lithuania, and a few Polish and UK regions. The most substantial increases in AM_L occurred in several Polish regions, Croatia, Czechia, and parts of Austria and France. The south of Italy, Portugal, Spain, and most of the UK experienced relatively small increases.

Figure 17 focuses on the differences that are statistically significant at the 95% confidence level. The largest significant increases in AM_L occurred in the Polish regions of Slaskie (18) and Lubelskie (10), the North-East of the Check Republic (12), the South-Western region of Bulgaria (6.5), Central Hungary (6.1), Croatia (5.7), Slovakia (4.8) and Attiki and Slovenia (4.5). Most of these regions include large cities, like Katowice, Sofia, Budapest, and Athens.

Figure 18 shows a starker picture. Southern European countries, including Portugal, Spain, Italy, and Greece, have witnessed a reduction in assortative mating for the middle education level. However, only a few regions have experienced statistically significant decreases, as it is shown in Figure 19. Conversely, many northern European regions have seen a slight increase in assortative mating for the middle education level, although the magnitude is small (less than 0.60).

Figure 20 has a reddish color all around, indicating a reduction in assortative mating at the tertiary education level, except for the former East Germany, where it has increased. The most significant decreases in assortative mating for the tertiary education group have occurred in regions of Romania, Slovakia, Poland, Portugal, and Italy. The decrease has been less pronounced in the UK, Western Germany, some northern Spanish regions, and Estonia. Figure 21 shows that most reductions in assortative mating at the tertiary education level are statistically significant.

4 Conclusion

Assortative mating helps us understand the social segregation in a given territory. Social values, economic factors, exposure to particular social contexts, and social classes shape individuals' choices of partners. Therefore assortative mating can give us a broader understanding of social segregation. However, assortative mating measures could be endogenous as your partner's features modify your own ones. For that reason, we rely on educational assortative mating as it is the less endogenous personal feature to explain assortative mating. Education usually is completed before partner selection and it is a crucial socio-economic status predictor.

This study is the first to we present cross-time regional-level assortative mating measures for many European countries using EU-LFS data. Our findings can be summarized in two key points. First, we have found great differences among Europe across regions and cohorts. European educational assortative mating is different among the European geography and it varies across time. We have found that it is particularly high in the former communist Eastern economies. Second, our paper shows that for each educational level, assortative mating presents different patterns across time. While assortative mating for those with low secondary education has increased in some regions, it has decreased for those with tertiary education in most parts of Europe. The assortative mating for high secondary education has remained relatively stable over time. These findings suggest that social segregation in Europe is deepening for the lowest social classes, particularly in Eastern Europe.

Assortative mating is a critical phenomenon for understanding social segregation as it embraces its cultural, social, and economic features. It is intrinsically linked to the equality of opportunities and social mobility within a region, which in turn manifests as intergenerational inequalities that are challenging to overcome. A robust measure of assortative mating is a necessary first step to understanding the barriers to social cohesion and defining effective policies to address social inequality and immobility.

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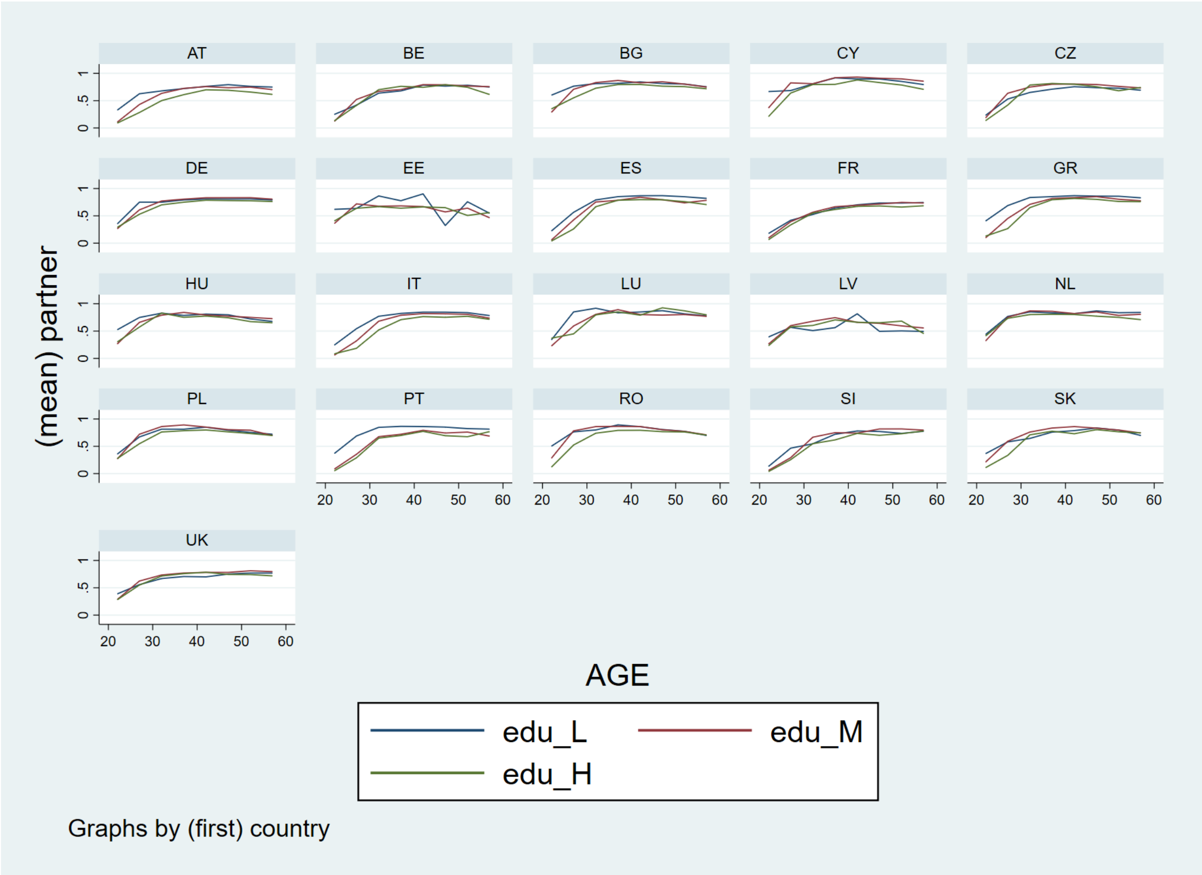
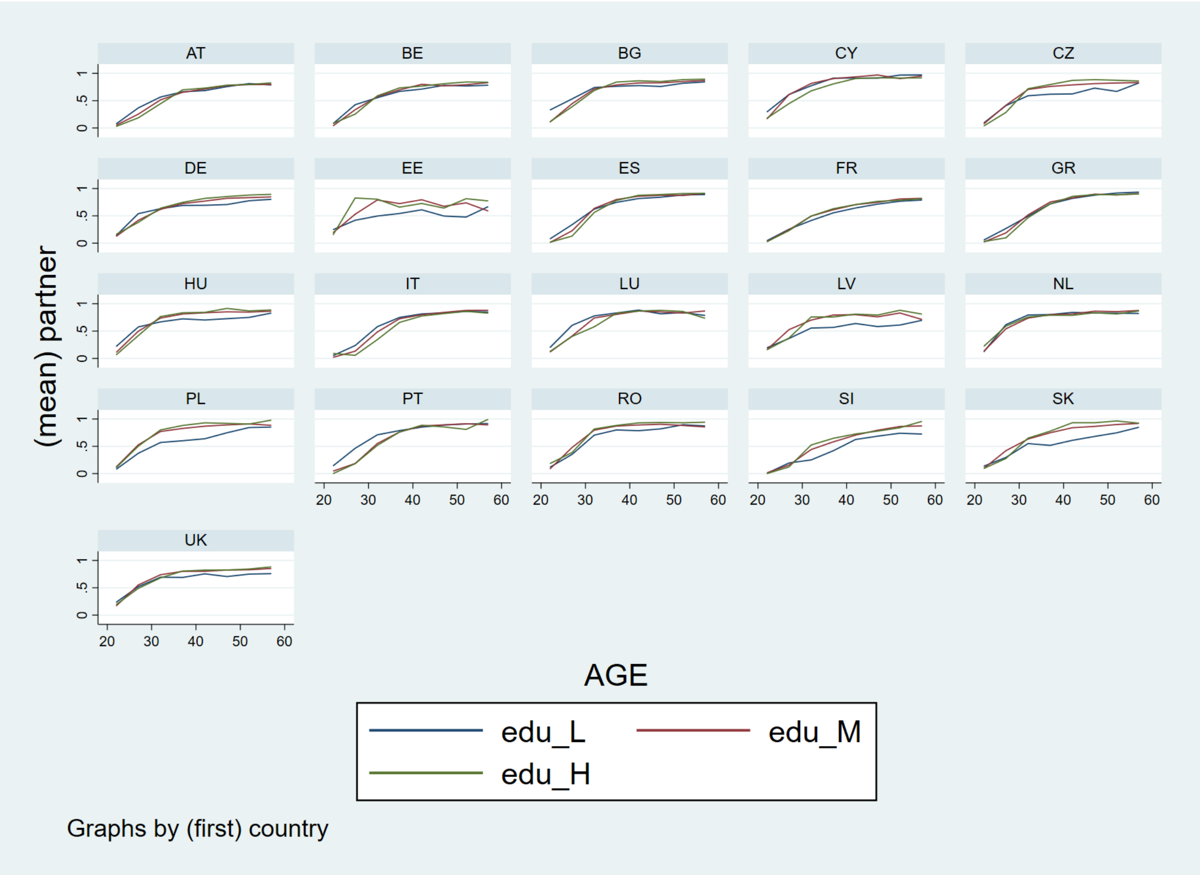
Tables and Figures

Figure 1: Partner rate for females in 2001



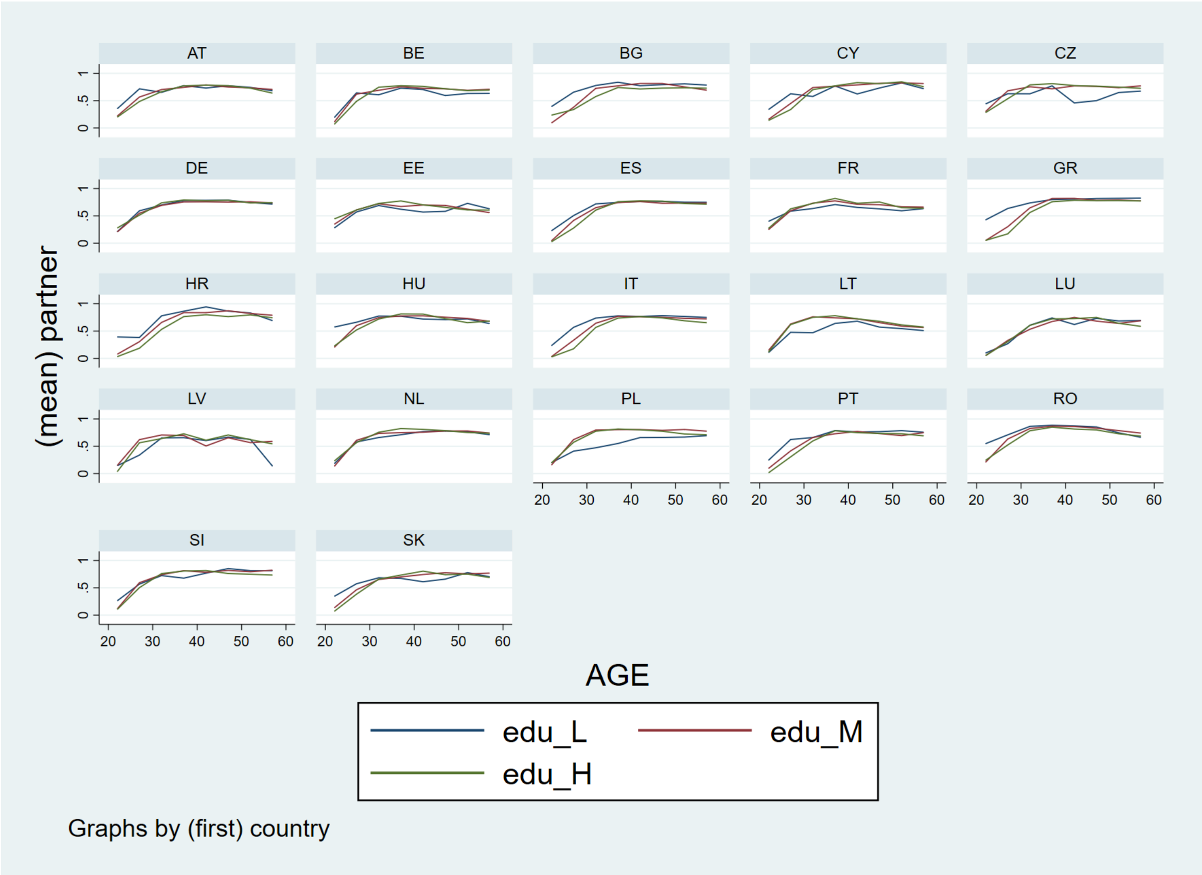
Note: This figure illustrates the share of females that were married or cohabitated with a partner in 2001 by age and education groups.

Figure 2: Partner rate for males in 2001



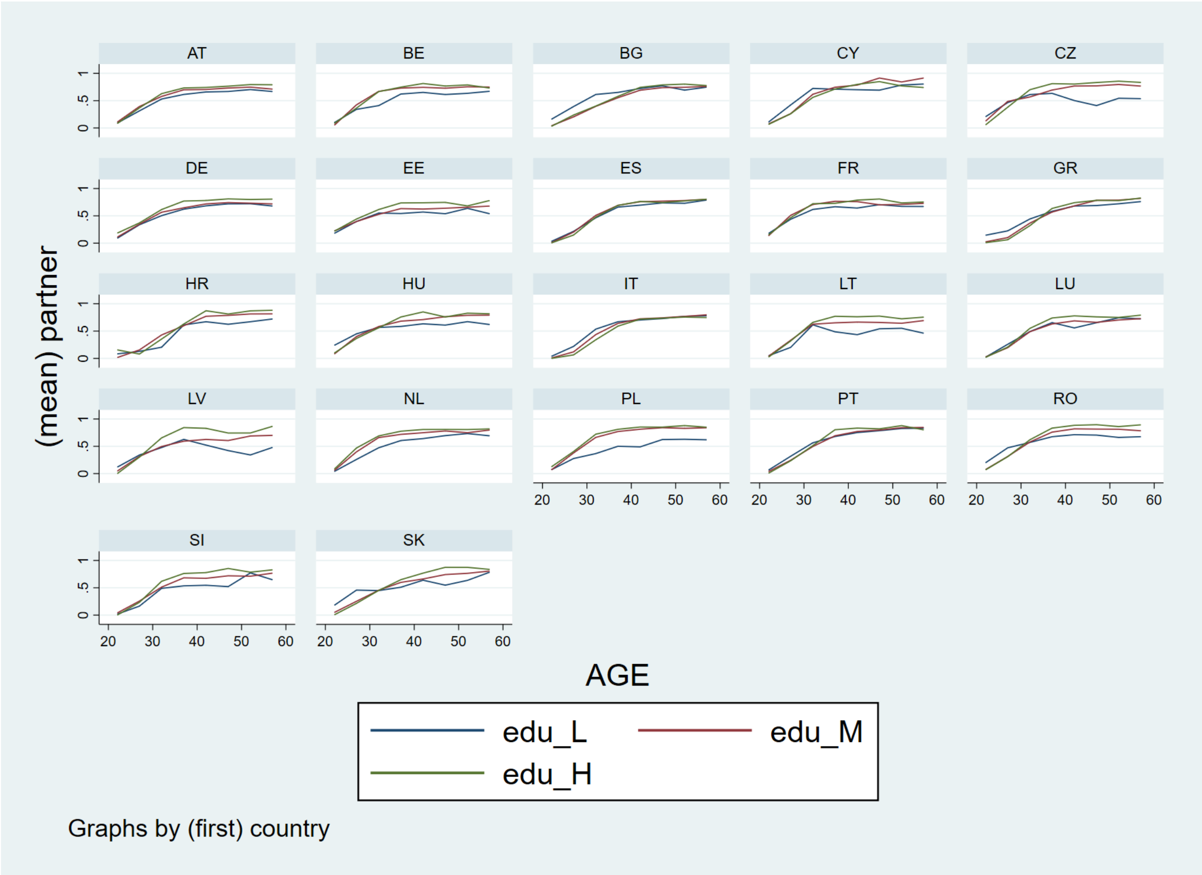
Note: This figure illustrates the share of males that were married or cohabitated with a partner in 2001 by age and education groups.

Figure 3: Partner rate for females in 2020



Note: This figure illustrates the share of females that were married or cohabitated with a partner in 2020 by age and education groups.

Figure 4: Partner rate for males in 2020



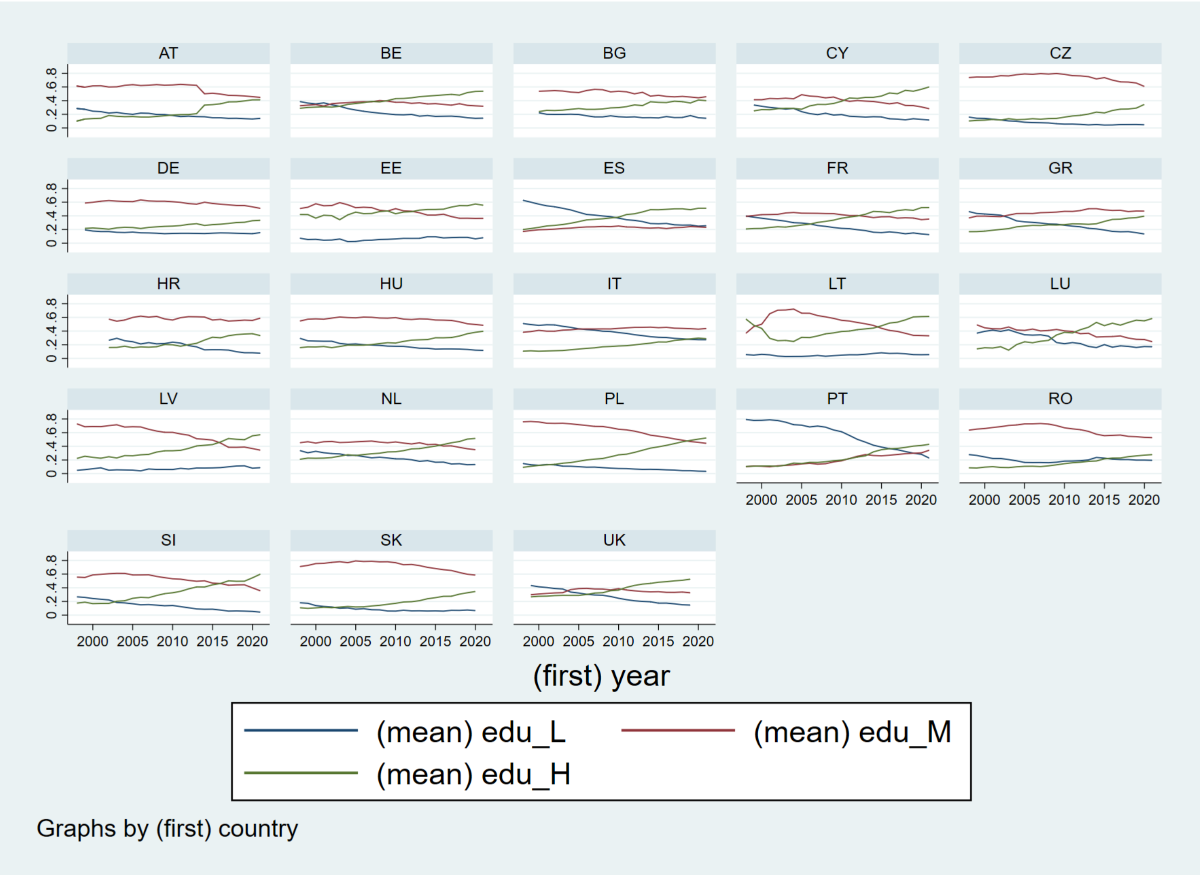
Note: This figure illustrates the share of males that were married or cohabitated with a partner in 2020 by age and education groups.

Figure 5: Contingency Table

f \ m	Low n_L	Medium n_M	High n_H
Low r_L	s_{LL}	s_{ML}	s_{HL}
Medium r_M	s_{LM}	s_{MM}	s_{HM}
High r_H	s_{LH}	s_{MH}	s_{HH}

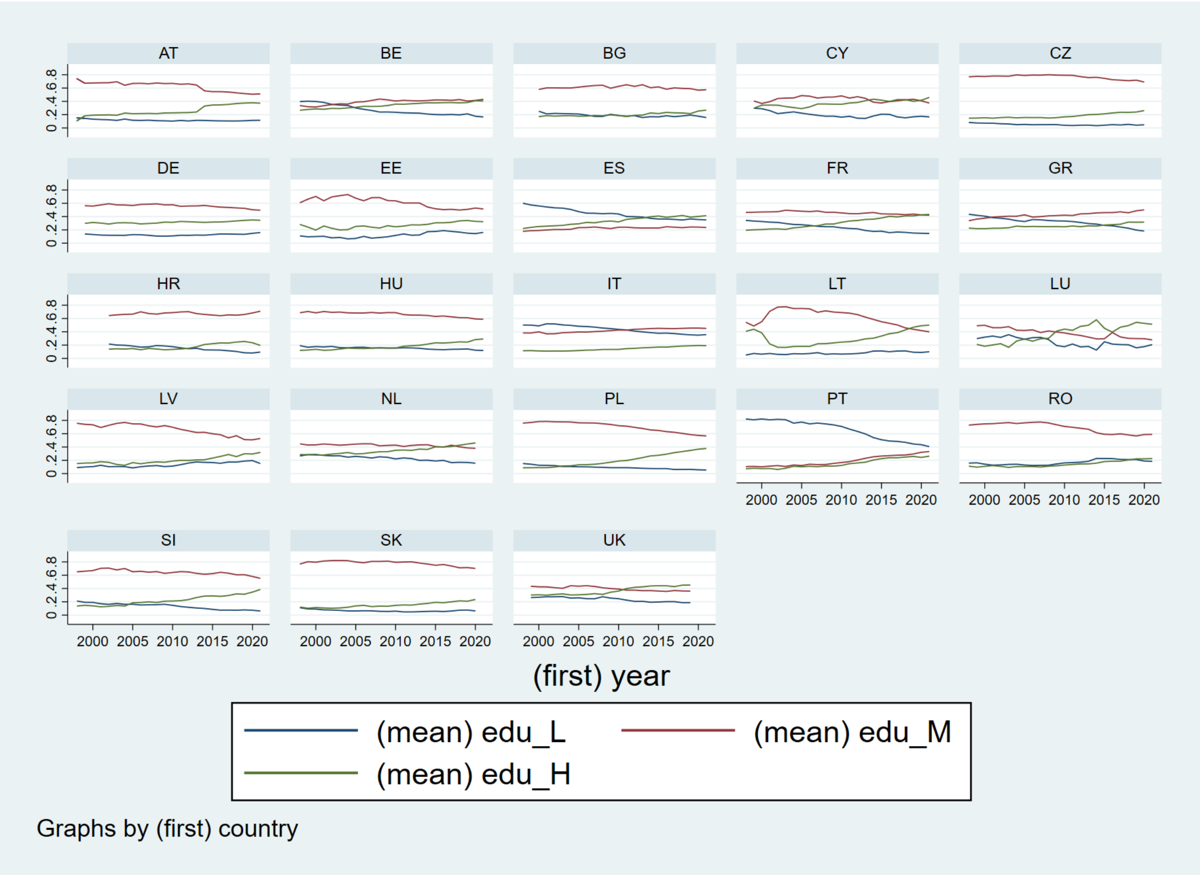
Note: This matrix shows the marginal distribution of education for males and females in the couple, as well as the observed matching. r_i refers to the share of women with education level i, n_j refers to the share of men with education level j, and s_ij refers to the observed share of couples where the woman has education level i and the man has education level j. The random matching in each cell would be $r_i * n_j$.

Figure 6: Education distribution for females



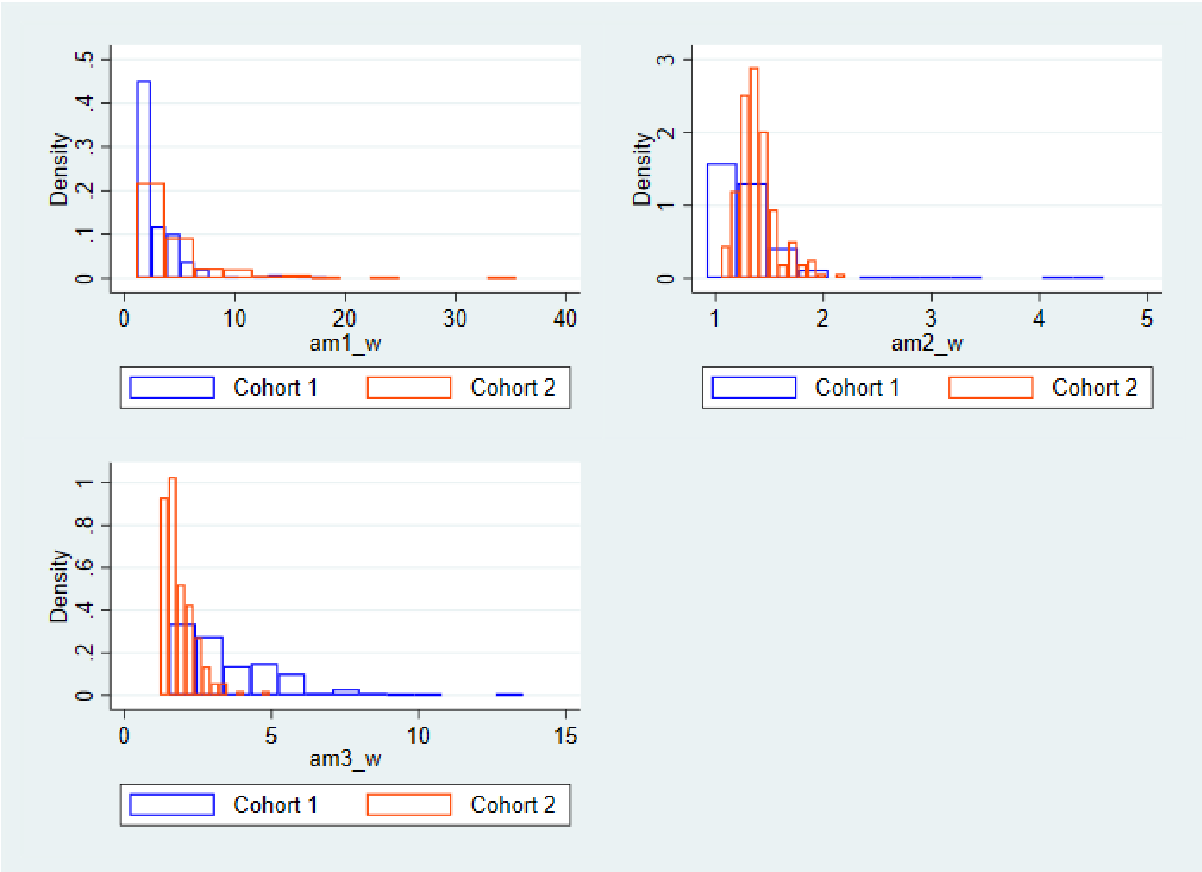
Note: This figure illustrates the evolution of the education distribution of females from 1998 to 2020 in each country. The sample consists of all females between 36 and 45 years old.

Figure 7: Education distribution for males



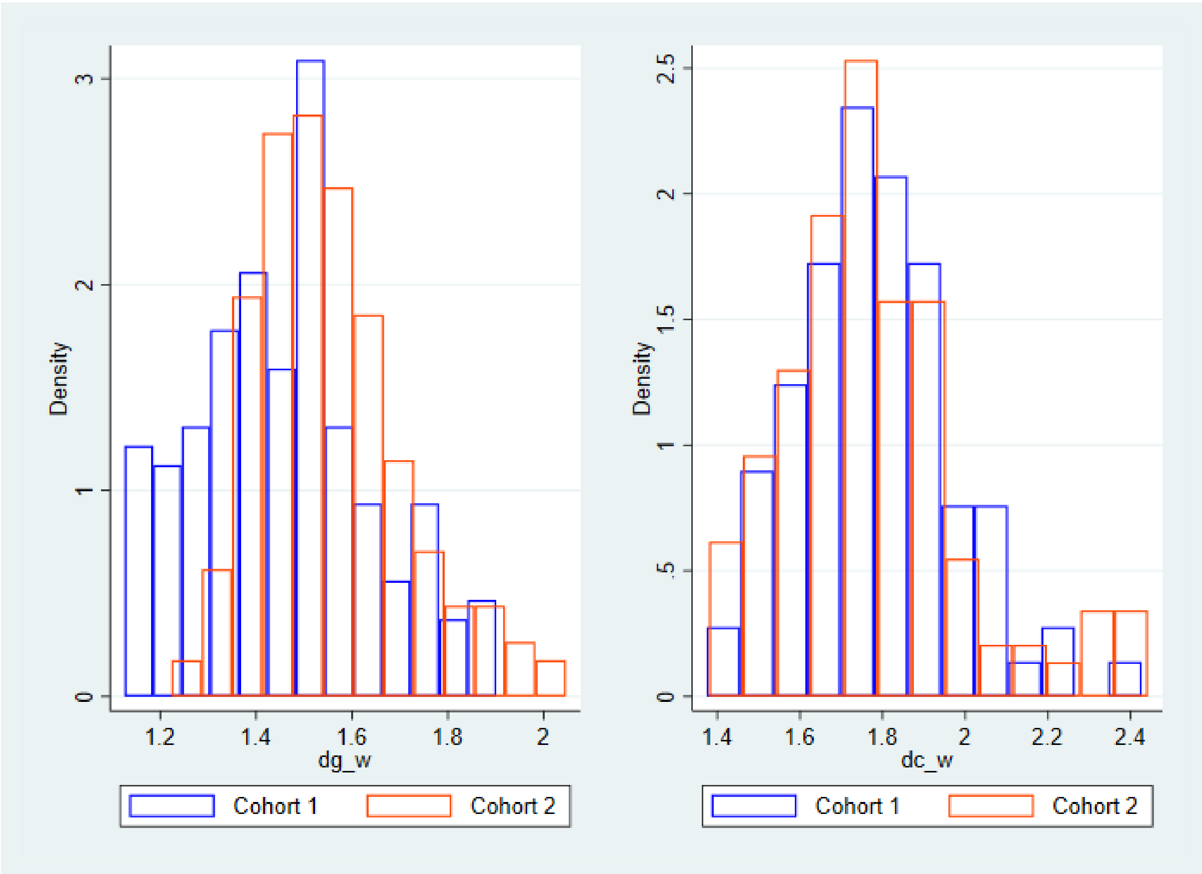
Note: This figure illustrates the evolution of the education distribution of males from 1998 to 2020 in each country. The sample consists of all males between 36 and 45 years old.

Figure 8: Distribution of assortative mating across regions over cohorts



Note: These figures show the changes in the distribution of assortative mating across regions that occurred during the two cohorts of study. The blue distributions refer to the cohort born in 1957-1966, and the red distributions correspond to the cohort born in 1975-1984.

Figure 9: Distribution of aggregate measure of assortative mating across regions over cohorts



Note: These figures show the changes in the distribution of aggregate measure of assortative mating across regions that occurred during the two cohorts of study. The histogram on the left uses δ_G to measure assortative mating, while the histogram on the right uses the δ_C measure of assortative mating. The blue distribution refers to the cohort born in 1957-1966, and the red distribution corresponds to the cohort born in 1975-1984.

Figure 10: Map of the AM_1 measure for the cohort born in 1957-1966

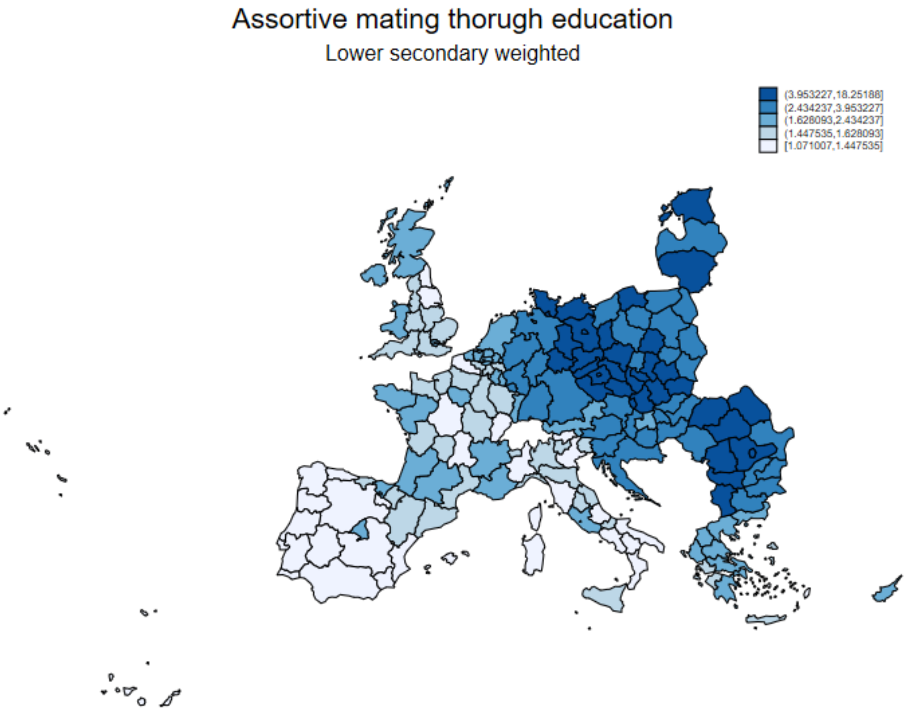


Figure 11: Map of the AM_2 measure for the cohort born in 1957-1966

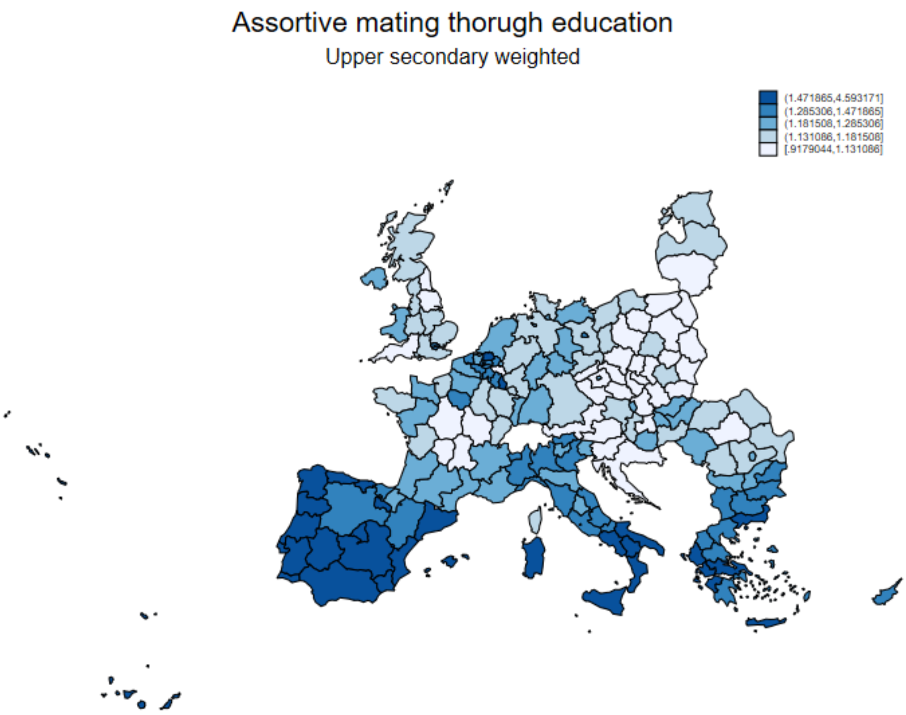


Figure 12: Map of the AM_3 measure for the cohort born in 1957-1966

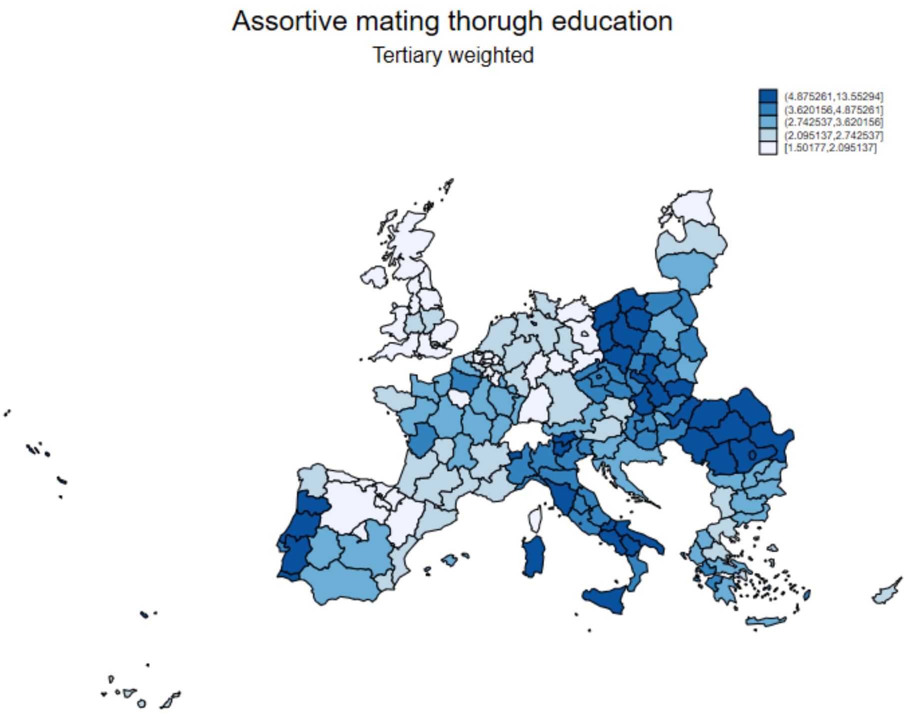


Figure 13: Map of the AM_1 measure for the cohort born in 1975-1984

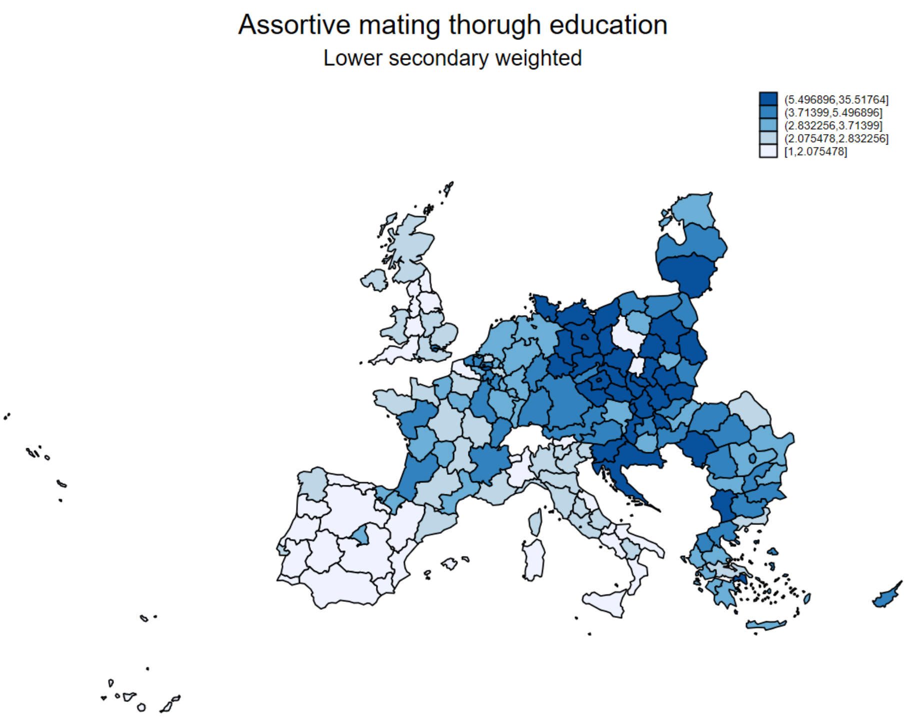


Figure 14: Map of the AM_2 measure for the cohort born in 1975-1984

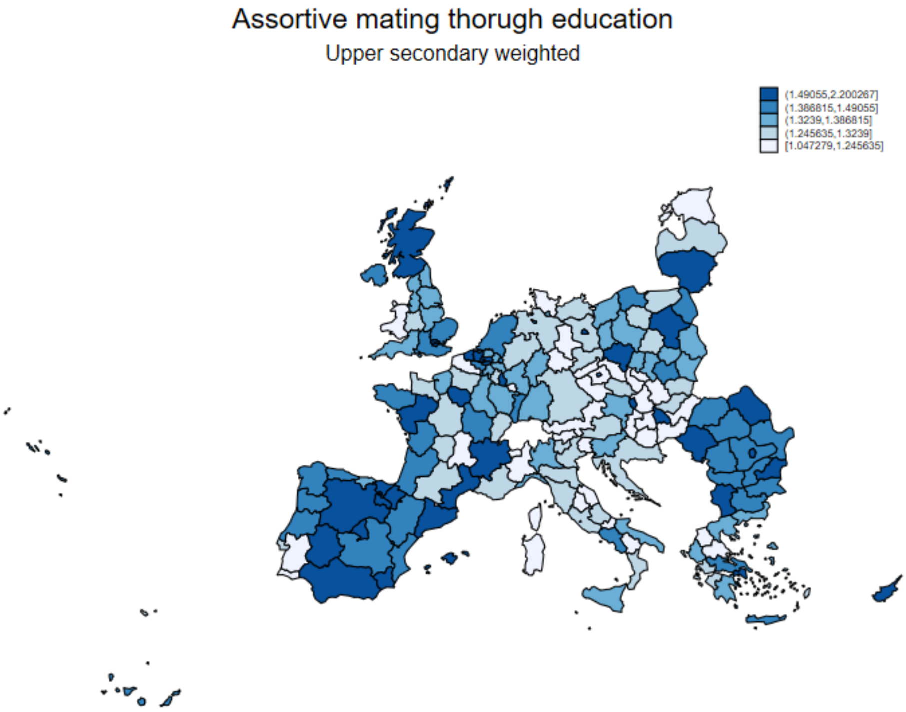


Figure 15: Map of the AM_3 measure for the cohort born in 1975-1984

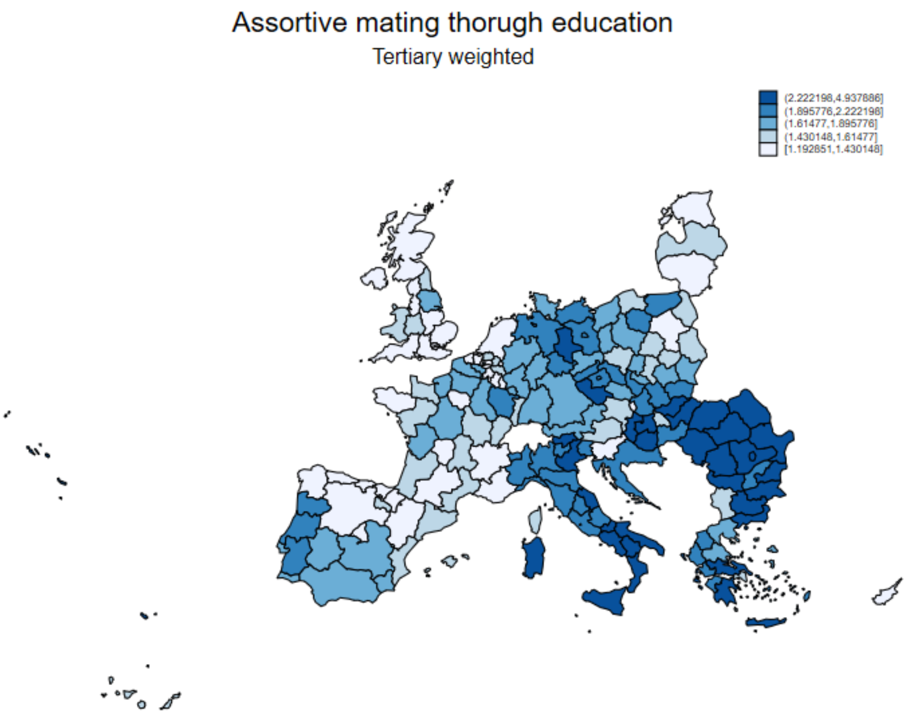


Figure 16: Map of the change in AM_1

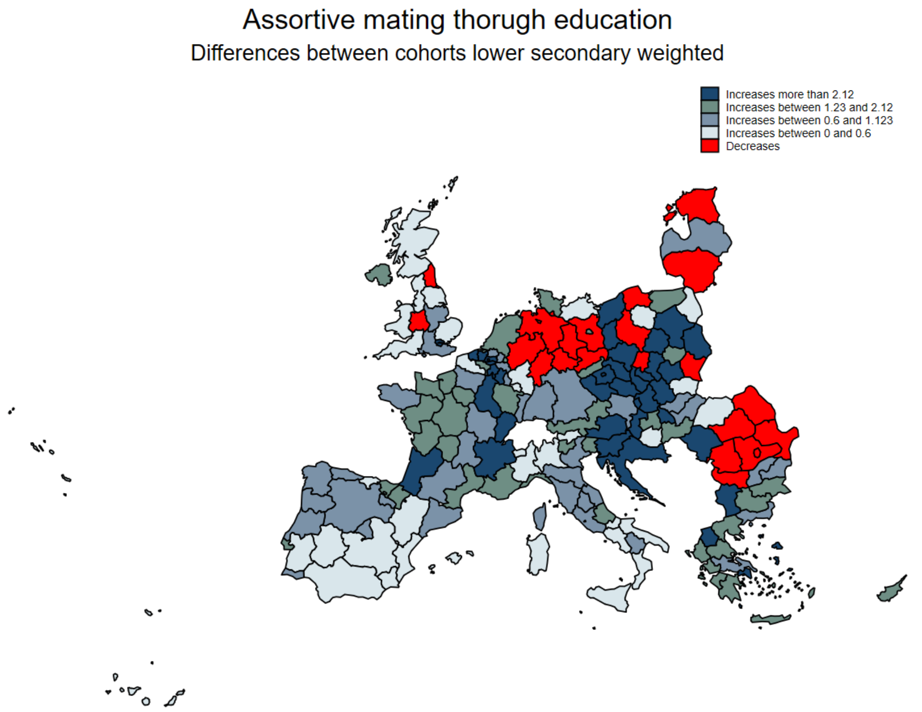


Figure 17: Map of the significant changes in AM_1 at the 95 % confidence level

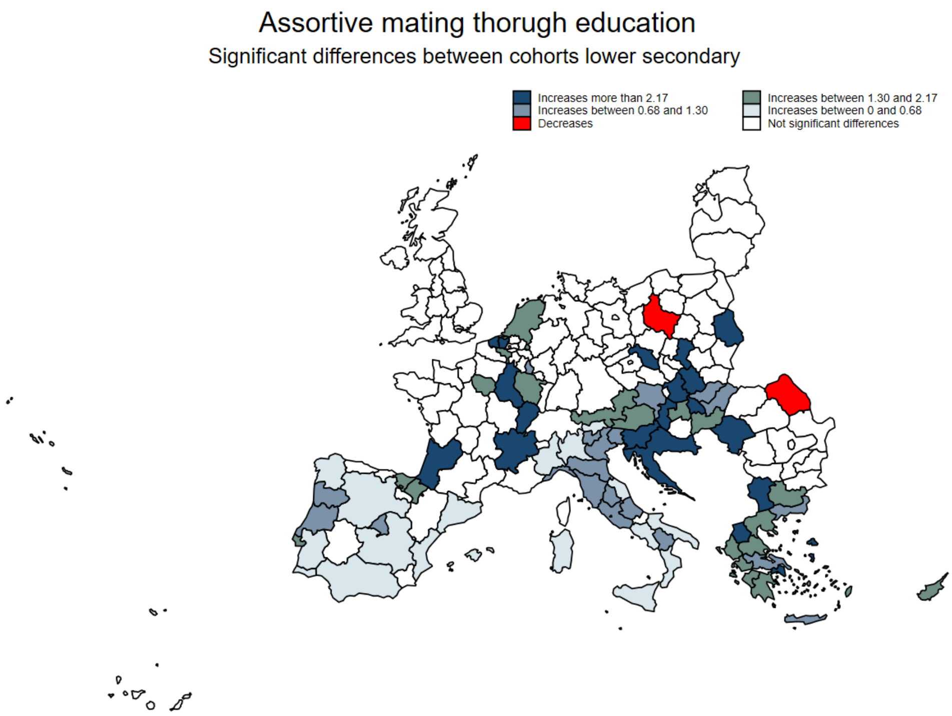


Figure 18: Map of the change in AM_2

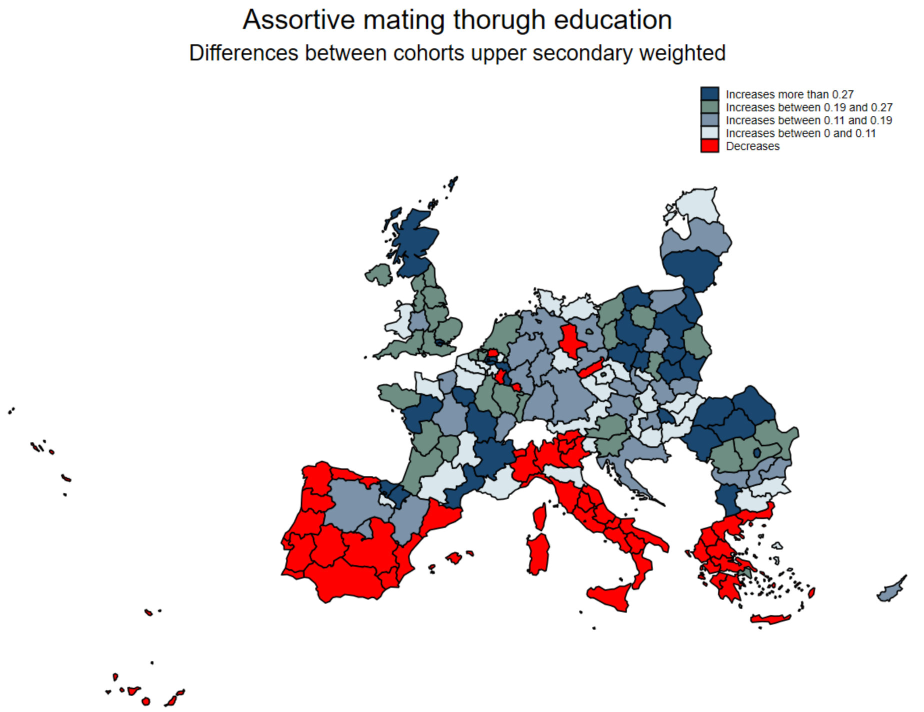


Figure 19: Map of the significant changes in AM_2 at the 95 % confidence level

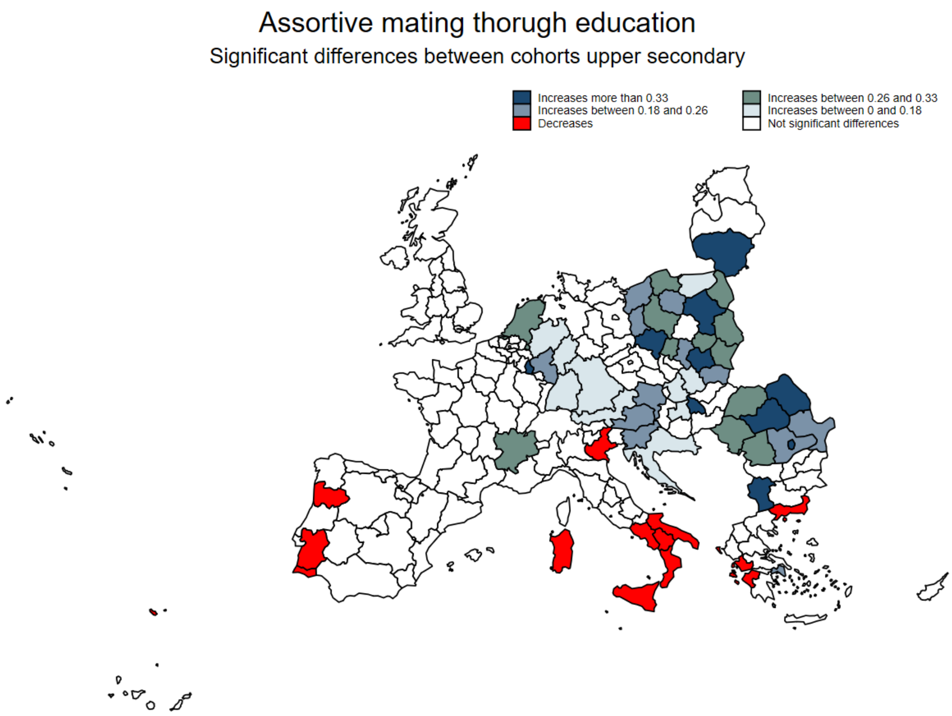


Figure 20: Map of the change in AM_3

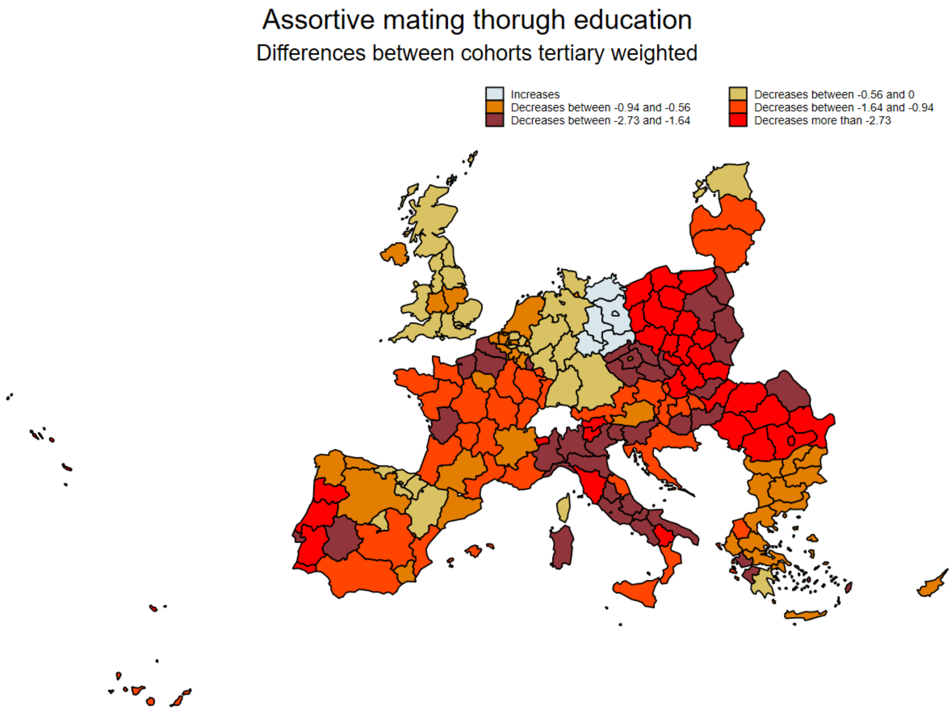


Figure 21: Map of the significant changes in AM_3 at the 95 % confidence level

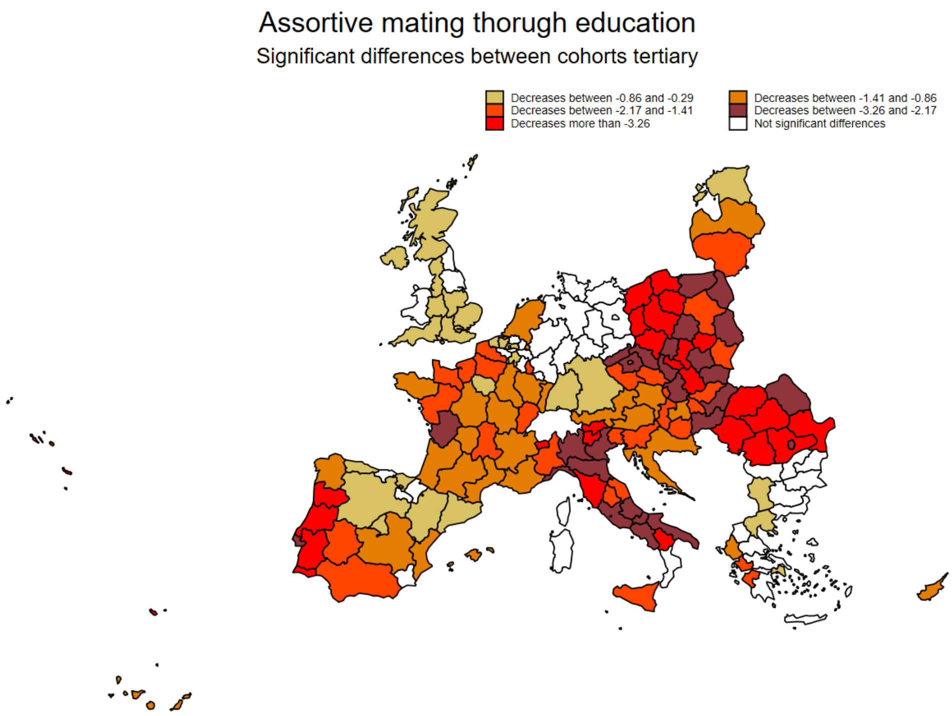


Table 1: Sample size in terms of the number of couples.

		Sample size in number of couples							
		Cohort 1				Cohort 2			
Country	N. regions	Mean	St. Dev	Min	Max	Mean	St. Dev	Min	Max
AT	3	3487	1489	2042	5017	7575	3198	4415	10809
BE	11	346	80	243	527	363	140	189	680
BG	6	926	468	359	1589	479	213	277	849
CY	1	1970	.	1970	1970	5175	.	5175	5175
CZ	8	1201	326	633	1638	402	112	216	546
DE	16	1025	817	253	3179	1662	1581	247	5086
EE	1	688	.	688	688	3469	.	3469	3469
ES	17	1658	1240	379	5274	766	551	251	2313
FR	22	1258	789	35	4309	1103	870	93	4187
GR	13	884	981	231	3796	1200	976	381	3749
HR	1	1120	.	1120	1120	2879	.	2879	2879
HU	7	1684	367	1237	2227	3844	765	2904	4834
IT	21	1497	931	486	3731	2678	1740	688	7744
LT	1	512	.	512	512	4135	.	4135	4135
LU	1	3016	.	3016	3016	2574	.	2574	2574
LV	1	1094	.	1094	1094	568	.	568	568
NL	1	20066	.	20066	20066	6121	.	6121	6121
PL	16	365	77	251	503	2167	657	1399	4101
PT	7	892	578	435	2133	1465	690	861	2812
RO	8	724	136	536	934	2937	562	2301	3866
SI	1	2602	.	2602	2602	7818	.	7818	7818
SK	4	1108	468	407	1378	1558	565	827	2042
UK	12	1622	593	802	2931	314	101	147	514
Total	179	1280	1677	35	20066	1713	1696	93	10809

Note: This table reports the number of regions in each country, their mean sample size in terms of the number of couples per region, the standard deviation, and the minimum and maximum sample size.

Table 2: Assortative Mating Measures: Descriptive statistics

	Cohort 1957-1966			
	Mean	Std. dev.	Min	Max
AM_L	2.903	2.570	1.071	18.252
AM_M	1.357	0.454	0.918	4.593
AM_H	3.620	1.833	1.502	13.553
δ_G	1.458	0.182	1.126	1.901
δ_C	1.780	0.187	1.374	2.427
	Cohort 1975-1984			
	Mean	Std. dev.	Min	Max
AM_L	4.511	4.155	1.000	35.518
AM_M	1.386	0.182	1.047	2.200
AM_H	1.872	0.548	1.193	4.938
δ_G	1.554	0.155	1.223	2.046
δ_C	1.777	0.219	1.381	2.442
	Cohort Difference (Δ)			
	Mean	Std. dev.	Min	Max
ΔAM_L	1.608	3.532	-9.486	29.380
ΔAM_M	0.029	0.478	-3.298	0.889
ΔAM_H	-1.747	1.574	-11.124	0.210
$\Delta\delta_G$	0.096	0.196	-0.401	0.675
$\Delta\delta_C$	-0.003	0.143	-0.494	0.349

Table 3: Assortative Mating Measures: Correlations

	AM_L	AM_M	AM_H	δ_G
	Cohort 1957-1966			
AM_M	-0.2498	1		
	0.0007			
AM_H	-0.0378	0.4959	1	
	0.6157	0		
δ_G	-0.2913	0.0217	-0.4444	1
	0.0001	0.7731	0	
δ_C	0.3829	0.0915	0.4467	0.1664
	0	0.2233	0	0.026
	Cohort 1975-1984			
	AM_L	AM_M	AM_H	δ_G
AM_M	0.0123	1		
	0.8706			
AM_H	-0.1135	-0.2713	1	
	0.1304	0.0002		
δ_G	-0.2522	0.2941	0.5459	1
	0.0007	0.0001	0	
δ_C	0.241	0.1679	0.6265	0.7105
	0.0012	0.0247	0	0

Note: This table displays all the pairwise correlation coefficients between the measures of assortative mating and the significance levels.