

## Trends and Cross-National Differences in Educational Homogamy in Europe: The Role of Educational Composition\*

Wilfred Uunk

**Abstract:** The extent of educational homogamy has important consequences for social inequalities and social cohesion. However, little is known about current trends, cross-national differences, and the drivers of educational homogamy in Europe. This study aims to fill this gap by (a) describing trends in absolute educational homogamy (i.e., the share of similarly educated partners) and relative educational homogamy (i.e., homogamy corrected for the distribution of spouses' education) for European countries; and (b) examining the association between a population's educational composition and the level of absolute and relative educational homogamy. Given the large changes in the educational composition of European populations and the presumed consequences for absolute and relative educational homogamy, this focus on educational composition is warranted. Our aggregate-level regression analyses covering 36 countries and five birth cohorts (1940-1989) from the European Social Survey show that absolute and relative educational homogamy has not changed. However, this obscures variation by education group and country. We find that the extent of absolute educational homogamy in a country cohort is strongly associated with educational composition and observe statistical effects of educational expansion (positive for the higher educated), educational heterogeneity (negative), educational gender symmetry (positive), educational income inequality (positive), and educational reproduction (positive). Relative educational homogamy is only weakly associated with a population's educational composition, and its effects are confined to gender symmetry (positive) and educational reproduction (positive). Our findings suggest that changes in educational composition in Europe affect educational homogamy in various directions and indicate that these effects come from structural opportunities rather than changing preferences for educational homogamy.

**Keywords:** Educational Homogamy · Educational Composition · Trends · Cross-national Differences

---

\* This article belongs to a special issue on "Changes in Educational Homogamy and Its Consequences".

\*\* This article has an Online Appendix with supplementary material URL:

<https://www.comparativepopulationstudies.de/index.php/CPoS/article/view/601/413>

## 1 Introduction

Socioeconomic homogamy, i.e., the tendency of people to marry within their social group or to marry a person close to them in status, is an important indicator and determinant of a society's extent of social inequality and intergroup cohesion (Kalmijn 1998). Higher levels of socioeconomic homogamy indicate less "openness" of a society's social structure and stronger social boundaries between groups (Berent 1954) and may increase economic inequalities through income pooling and wealth concentration (Schwartz 2010; 2013) and erode social cohesion through reduced intergroup contact (Kalmijn 1998; Schwartz 2013). In addition, higher socioeconomic homogamy exacerbates social inequalities in future generations, for example, by affecting children's education (Beck/González-Sancho 2009; Edwards/Roff 2016; Hillmert 2021).

A particularly interesting form of socioeconomic homogamy is educational homogamy. One reason to examine educational homogamy is that it may bear major consequences for social inequalities and cohesion because education is a prime determinant of cultural values and economic resources in contemporary societies (Davis 1982; Treiman/Terrell 1975). Concerningly, educational homogamy may increase existing social, economic, cultural, and political cleavages between lower- and higher-educated people (Esping-Andersen 2016; McLanahan 2004; Norris/Inglehart 2019; Schwartz/Mare 2005) and may reproduce these inequalities in future generations (Mare/Schwartz 2006; Schwartz 2013). Another reason to examine educational homogamy is that it is likely to have changed in recent decades, given substantial changes in the educational composition of Western industrialised countries, with educational expansion and the gender gap reversal in education (DiPrete/Buchmann 2013; Esteve et al. 2016; Grow/Van Bavel 2015; Schofer/Meyer 2005; Van Bavel et al. 2018). Educational homogamy may not trivially relate to these and other changes in the educational composition of populations. Educational expansion, for example, may increase absolute educational homogamy among the higher-educated because of higher meeting chances in this group and decrease educational homogamy among the lower-educated because of lower meeting chances. In contrast, the reversal of the gender gap in education may weaken overall educational homogamy (Permanyer et al. 2019).<sup>1</sup>

Notwithstanding, little is known about current trends and cross-national differences in educational homogamy and its drivers. Most studies on educational homogamy focus on examining levels of *relative* educational homogamy, i.e., educational assortative mating holding constant the distribution of spouses' education. Scholars do this in the assumption that relative homogamy is a more appropriate indicator of social group distance and a society's openness than

---

<sup>1</sup> Permanyer et al. (2019) find that educational expansion is a more important driver of educational homogamy than the reversal of the gender gap in education. However, compared to our study, Permanyer et al. do not use country fixed effects. This methodological objection is important for estimating the effect of educational expansion on educational homogamy (see footnote 10 below).

absolute homogamy, as the supply of marriage candidates strongly determines absolute homogamy (*Kalmijn* 1998: 405; *Ultee/Luijkx* 1990). However, large-scale cross-country comparative studies on trends in relative educational homogamy mostly examine data from decades ago (*Smits* 2003; *Smits et al.* 2000; *Ultee/Luijkx* 1990), before large changes in the educational composition of Western industrialised countries took place (educational expansion and the reversal of the gender gap in education). Some newer cross-country comparative studies on relative educational homogamy are confined to a restricted number of countries (*Katrnak et al.* 2006; *Katrnak/Manea* 2020; *Halpin/Chan* 2003) or not aimed at describing trends (*Bouchet-Valat* 2018; *Domanski/Przybysz* 2007; *Katrnak et al.* 2012), which limits their ability to study drivers of variation in the levels of educational homogamy. In addition, cross-country comparative studies have mainly focused on testing the effects of more general factors of societal openness on relative educational homogamy, such as social mobility, economic development, and the degree of political democracy (*Bouchet-Valat* 2018; *Domanski/Przybysz* 2007; *Katrnak et al.* 2012; *Smits et al.* 2000; *Smits et al.* 1998; *Ultee/Luijkx* 1990). The studies did so under the umbrella of modernisation theory, assuming a weakening of socioeconomic group boundaries with modernisation (cf. *Schwartz* 2013). Research on relative educational homogamy has hardly investigated the effects of more immediate factors of educational group barriers in mate selection, such as the educational composition of populations. Educational expansion, for example, may have raised the minimum level of education people seek in a partner (*Schwartz* 2013).

Cross-national comparative studies on *absolute* educational homogamy, i.e., the observed proportion of people marrying within their educational group, are even more scarce.<sup>2</sup> Studies on relative educational homogamy in Europe (*Domanski/Przybysz* 2007; *Katrnak et al.* 2006; 2012; *Katrnak/Manea* 2020; *Ultee/Luijkx* 1990) describe patterns of absolute educational homogamy, but suffer from the abovementioned limitations. The scarcity of studies on absolute educational homogamy may be explained by the fact that it does not inform us about group boundaries. However, patterns of absolute educational homogamy must also be investigated because absolute homogamy is, like relative homogamy, highly consequential for social cohesion and socioeconomic inequalities (*Kalmijn* 1994; *Schwartz* 2010; 2013). For example, educationally mixed marriages that were ‘forced’ by the supply of marriage candidates, e.g., through a lack of higher-educated women for higher-educated men, increase intergroup cohesion just as educationally mixed marriages caused by weaker group boundaries do (cf. *Kalmijn/Uunk* 2015). In addition, as previously stated, absolute educational homogamy may not trivially relate to the educational composition of populations.

<sup>2</sup> However, quite a few studies have investigated hypergamy (women partnering with higher educated men) and hypogamy (women partnering with lower educated men) and their associations with a population’s educational composition. *Erat* (2021) and *De Hauw, Grow, and Van Bavel* (2017), for example, found that the female advantage in education is associated with decreased hypergamy. As these patterns are quite well established, we do not focus on intermarriage patterns by gender. Another reason is that we already assess educational homogamy by education group

We fill in the gaps in the literature and describe and explain absolute and relative educational homogamy across 36 European countries and five birth cohorts (1940-1989) derived from six waves of the European Social Survey (ESS). In our explanatory analyses, we focus on the effects of the educational composition of populations (educational expansion, the gender gap in educational attainment, and heterogeneity in the distribution of education) and (economic) inequalities by education (intergenerational reproduction of education and educational income inequality). These factors have been neglected in the literature, yet have shown considerable changes in Western populations in Europe and elsewhere (*DiPrete/Buchmann* 2013) and may affect educational homogamy (*Katrnak et al.* 2012; *Permanyer et al.* 2019; *Schwartz* 2013; *Smits* 2003; *Torche* 2010). A population's educational composition and inequality by education may not only affect educational homogamy by altering the opportunities for intermarriage, as Blau's theory of structural opportunities generally argues for homogamy (*Blau* 1977; *Blau et al.* 1982),<sup>3</sup> but also by altering the boundaries of intermarriage between education groups. This is why we also test the association of educational composition and inequalities with relative educational homogamy, which is done only rarely (however, see *Fong* 2024; *Katrnak et al.* 2012; *Smits* 2003; *Torche* 2010). Furthermore, since educational composition may affect educational homogamy differently for the higher- and lower-educated, as may be the case for educational expansion, we conduct our analyses by education group (cf. *Katrnak/Manea* 2020; *Schwartz/Mare* 2005; *Smits/Park* 2009).

We address the following research questions:

1. How does absolute and relative educational homogamy change across birth cohorts (1940-1989) in Europe, and how does this differ by education group?
2. What European countries display higher and lower levels of absolute and relative educational homogamy, and to what extent do countries differ in trends?
3. To what extent and how are educational expansion, educational heterogeneity, gender symmetry in education, educational income inequality, and educational reproduction associated with absolute and relative educational homogamy in country cohorts?

## 2 Theory and hypotheses

Partner choice, and thus the selection of a partner with similar (homogamy) or dissimilar traits (heterogamy), is dependent on opportunities (or constraints), preferences, and social pressures (*Goode* 1970 (1963); *Kalmijn* 1991, 1998; *Schwartz* 2013). The greater the opportunities and preferences for mating a similarly educated person – a preference for similarity is the basic assumption for matching on

---

<sup>3</sup> *Blau et al.* (1982) tested the effects of several (educational) composition factors and educational reproduction on a region's level of educational homogamy. Yet, in contrast to our study, the approach is bivariate and correlational.

education (*Kalmijn* 1991; *Hitsch et al.* 2010) – and the greater the social desirability of educational homogamy, the greater the likelihood of homogamy. Based on this general theory, we assume that educational composition factors and factors of (economic) inequalities by education are associated with (absolute levels of) educational homogamy through the opportunities for mating a similarly educated person and the preferences for a similarly educated partner. In the absence of strong (institutionalised) norms on educational homogamy, social pressure is considered less relevant for educational homogamy than for other forms of homogamy, e.g., religious homogamy (*Kalmijn* 1998).

The interpretation of educational composition and inequality effects on educational homogamy via opportunities is based on *Blau's* structural opportunity theory (1977; *Blau/Schwartz* 1984; *Blau et al.* 1982). *Blau* and colleagues contend that structural opportunity or supply-side factors such as group size, heterogeneity, sex ratio, inequality, “intersection” (the overlap between characteristics, by which they also mean educational income inequality and educational reproduction), proximity, and whether the marriage market is local determine the likelihood of meeting the preferred partner and thus affect the rate of absolute homogamy. For example, when one’s group is relatively large within a population, the likelihood of meeting and mating a group member increases (*Blau et al.* 1982). Interestingly, *Simkus* (1984) makes similar arguments regarding the effect of social structure on intergenerational social mobility.

Educational composition and inequality factors may also affect educational homogamy by altering partner preferences and group boundaries (cf. *Fong* 2024; *Schwartz* 2013; *Smits* 2003; *Torche* 2010). Educational expansion, for example, may not only imply greater opportunities for higher-educated persons to meet other higher-educated persons, but also implies that a match on higher education becomes more important for that group, though counterarguments exist (see below). If educational composition and inequality factors influence preferences for educational homogamy, it is likely that these factors also affect relative educational homogamy, the assortative mating indicative of group boundaries.

Below, we present our hypotheses on the effects of educational composition and inequalities on the extent of absolute and relative educational homogamy.

## 2.1 Educational expansion

By “educational expansion,” we mean the rising level of education in populations, specifically the increasing share of higher-, tertiary-educated people. This expansion has occurred in all Western industrialised countries, including across Europe, yet differences between countries exist in the share of higher education and the pace of educational expansion (*DiPrete/Buchmann* 2013; *Blossfeld et al.* 2015; 2016).

Theoretically, educational expansion – disregarding the developments by gender – may first affect educational homogamy by altering meeting and mating opportunities. Following *Blau's* (1977) theory of structural opportunity effects and his argument on group size effects, we expect that a larger share of higher-educated people in a population increases the likelihood of homogamy among

higher-educated people and decreases the likelihood of homogamy among lower-educated people. The reason lies in the logic of meeting chances: the larger one's group, the greater the chances of meeting ingroup members and the lower the chances of meeting outgroup members. Another opportunity mechanism pertains to the timing of marriage and the type of meeting places. By prolonging schooling, educational expansion has made the pool of potential partners more homogeneous, and potential partners more often meet at school (*Blossfeld 2009; Mare 1991*). However, as the age of first marriage has risen faster than the age of school completion, this mechanism becomes less relevant (*Schwartz 2013*).

Educational expansion may also influence educational homogamy via partner preferences and group boundaries.<sup>4</sup> However, the effect of educational expansion on these preferences and boundaries is not *a priori* clear, as there exist arguments for stronger and weaker educational boundaries in mate selection. Arguments favouring stronger boundaries include, first, that with educational expansion, the importance of education for labour market success and other life outcomes increases (*Goldin/Katz 2008; Kalmijn 1991; Schwartz/Mare 2005*). This makes it less attractive to "marry down." Second, educational expansion means that people's cultural values and attitudes are increasingly shaped by education, through a longer period of secondary socialisation. This implies, given preferences for cultural similarity, increased assortative mating by education (*Kalmijn 1991*). Third, individuals' preferences may change as the supply of higher-educated partners increases, raising the minimum level of education they seek in a partner (*Fong 2024; Schwartz 2013*). Arguments favouring weaker boundaries are, first, that educational expansion implies more competition among the higher educated in marriage markets. This may lower preferences for similarity (*Fong 2024*), particularly among higher-educated persons. Second, through upward intergenerational educational mobility, educational expansion has reduced the selectivity of the higher-educated group. This may have lowered barriers to educational intermarriage (*Kalmijn/Uunk 2015; Smits 2003*).

Given the above, we expect that educational expansion increases absolute educational homogamy among higher-educated people and decreases absolute educational homogamy among lower-educated people (H1a). How the overall rate of absolute educational homogamy in society will be affected is unclear, as this depends on whether the higher educated become a dominant group (see the discussion of educational heterogeneity below). Next, we expect that educational expansion is not associated with relative educational homogamy (H1b). The reason for this is that there are good arguments that educational expansion both raises and decreases preferences for educational similarity in mating.

---

<sup>4</sup> The argument that group size can influence preferences for homogamy has also been made about racial/ethnic intermarriage, e.g., to account for the surprising decline in Hispanic-native intermarriage in the US between the mid-1990s and 2000s. The growth in the Hispanic immigrant population may not only have increased opportunities for homogamy but also reinforced a shared cultural identity, decreasing preferences for intermarriage (*Qian/Lichter 2007, 2011; Schwartz 2013: 455*).

## 2.2 Educational heterogeneity

Heterogeneity is another structural factor at the population level that may affect the chances of meeting a group member and marrying within one's group (*Blau* 1977). Heterogeneity refers to the relative shares of groups in society. Generally, the more equally groups in a population are distributed (i.e., more equal shares), the more heterogeneous the population, and the greater the chances that persons of distinct groups will meet. Heterogeneity should therefore diminish homogamy (*Blau* 1977). It is important to note that the heterogeneity effect may exist beyond the group size effect, provided the population has more than two groups. In a 5 percent-15 percent-80 percent population, for example, the size of the largest group is the same as in a 10 percent-10 percent-80 percent population, but the latter population is more heterogeneous. This is not purely hypothetical: for instance, in our sample, the Netherlands is more heterogeneous in educational attainment than Sweden, despite having the same share of higher-educated people.

Furthermore, we expect that educational heterogeneity weakens group boundaries. More encounters between groups in heterogeneous societies may lead to increased mutual acceptance, as is argued in *Allport's* (1954) contact theory, yet not in *Blau's* (1977) theory. Given the above, we expect a population's educational heterogeneity to lower absolute educational homogamy (H2a) and relative educational homogamy (H2b).

## 2.3 Gender symmetry in education

Another obvious structural opportunity factor for meeting a group member and marrying within one's group is the sex ratio, i.e., the number of men to women in one's group and vice versa (cf. *Blau* 1977). The sex ratio hypothesis holds that the more men to women in a group, the higher the chances of homogamy for women (because of increased meeting chances with ingroup members) and the lower the chances of homogamy for men (because of increased competition among men over similarly educated women). On the aggregate population level, the sex ratio may be important because a more balanced gender ratio, i.e., more gender symmetry in the distribution of a trait, increases the chances that men and women from the same group meet. This raises educational homogamy (cf. *Esteve et al.* 2012).

Greater gender equality in educational attainment may also increase preferences for educational homogamy. *Schwartz* notes:

"as women's economic prospects grow and egalitarian marriage becomes more normative, men may begin competing for highly educated, high-earning women just as women have traditionally competed for high-earning men (*England/Farkas* 1986; *Sweeney/Cancian* 2004). The increasing similarity of men's and women's preferences drives up competition for high-status partners and results in increased homogamy" (*Schwartz* 2013: 456).

Furthermore, once women start to acquire higher education than men, women may match less on education (*Schwartz* 2013: 456). Higher-educated women



may have to “marry down,” provided they want to marry, and may “lower” their preferences regarding their partner’s education.

In summary, we expect that greater gender symmetry in educational attainment in a population (i.e., more similarity in educational distribution between men and women) increases absolute educational homogamy (H3a) and relative educational homogamy (H3b).

## 2.4 Educational income inequality and reproduction

Besides educational composition, (economic) inequalities by education – measured here by educational income inequality and educational reproduction – may be important for a population’s degree of educational homogamy (Schwartz 2013). *Blau* (1977) acknowledged this arguing from an opportunity perspective. He proposed that intersection, i.e., the overlap between groups along multiple dimensions, may affect homogamy levels. For example, the overlap between ethnicity and income increases geographical segmentation (e.g., migrants being overrepresented in low-income neighbourhoods), restricting intergroup contact opportunities. Below, we will argue that educational income inequality and reproduction may also affect educational homogamy via homogamy preferences.

We expect that *educational income inequality*, i.e., the differences in income by education (also known as returns to schooling), increases absolute educational homogamy (H4a). This is, first, due to opportunities, as *Blau* (1977) argued with respect to intersection. Research has shown that higher income differentials between education groups are associated with greater geographic segregation of these groups, which reduces intergroup contact and intermarriage (*Jarvis et al.* 2023; *Reardon/Bischoff* 2011). Second, educational income inequality may raise preferences for educational homogamy because the economic and social distance between groups is larger in times of high inequality (Schwartz 2013). Higher inequality also means that people have more to lose, i.e., they can pool fewer resources if they “marry down” (*Fernández et al.* 2005; in *Schwartz* 2003: 455). Therefore, educational income inequality should also increase relative educational homogamy (H4b).

Finally, we expect that *educational reproduction*, i.e., the association between the education of parents and their children, increases absolute educational homogamy (H5a; also see *Mare* 1991; *Katrnak et al.* 2012). When educational reproduction is higher, social groups mix less. Greater school and residential segregation and educational income inequality, which accompany educational reproduction, may weaken opportunities for intermarriage. In addition, educational reproduction may strengthen group boundaries in mating because of the increased distance between education groups. Therefore, educational reproduction should also be positively associated with relative educational homogamy (H5b).

Table 1 provides an overview of the hypotheses. The table highlights that educational composition and inequality factors may have distinct effects on educational homogamy (e.g., a negative effect of educational heterogeneity and a positive effect of gender symmetry on absolute homogamy). This makes it interesting to test its effects.



**Tab. 1:** Overview of expectations regarding absolute and relative educational homogamy by explanatory factor

	Effect on	
	A. Absolute homogamy	B. Relative homogamy
1. Educational expansion	0; + for high-educated; - for low-educated	0
2. Educational heterogeneity	-	-
3. Gender symmetry	+	+
4. Educational income inequality	+	+
5. Educational reproduction	+	+

Source: own design

### 3 Data, measures, and methods

#### 3.1 Data

We use data from six waves of the European Social Survey (2010, 2012, 2014, 2016, 2018, 2020) to answer our research questions and test our hypotheses.<sup>5</sup> The European Social Survey (ESS) is a cross-national comparative survey conducted every two years among about 40 countries. The country samples are derived from random probability sampling and are nationally representative of all persons aged 15 and over (no upper age limit) resident within private households. Each country has a sample size of about 1,500 respondents, or 800 in countries with ESS populations of less than 2 million (for details on sampling procedures, see <https://www.europeansocialsurvey.org/methodology/ess-methodology/sampling>).

To assess trends, country differences, and drivers of educational homogamy, we pool the ESS waves and compare educational homogamy measures across country and birth cohorts. We perform our analyses on the aggregate country cohort level because our hypotheses involve the effects of population characteristics on aggregate levels of educational homogamy and because relative homogamy is,

<sup>5</sup> Since waves before 2010 have a substantial share of non-harmonised education codes (more than one-third) and waves before 2008 did not collect the partner's education, we confine our analyses to 2010 and later.

by definition, an aggregate characteristic.<sup>6</sup> To assess educational homogamy in a country cohort, we selected persons who were married or cohabiting at the time of the interview and reported on their and their partners' educational attainment. We examine heterosexual couples because we are interested in, e.g., the effect of sex ratios. Unfortunately, the data do not allow us to distinguish first from further relationships. Furthermore, we selected persons aged at least 30 years at the time of interview to ensure that we measured final educational attainment and selected persons born between 1940 and 1989. In addition, we excluded four specific country waves that displayed an odd distribution of education across the ESS waves (an unexpectedly large change in the share of education across waves with more than eight percentage points after weighing the data; Great Britain, ESS round 10; Montenegro, round 10; the Republic of Serbia, round 10; Russia, round 5).

In total, our sample of analysis consists of 171 country cohorts. These cover 36 countries and five birth cohorts. Homogamy measures for these country cohorts are derived from 135,296 married or cohabiting individuals. Country cohorts with less than 100 married or cohabiting individuals were omitted (N=8; a large enough number of cases is a requirement for our analyses of marriage tables, cross-tabulating partners' educations). We also excluded country cohorts with missing values on independent variables (N=1; cf. Appendix Table A2 for sample sizes by country and cohort).

### 3.2 Measures

Our first dependent measure, *absolute educational homogamy*, is measured as the proportion of couples in a country cohort in which partners have the same attained educational level. ESS uses the internationally standardised International Standard Classification of Education (ISCED) classification to measure educational level. To meaningfully compare education across the 36 European countries – countries with distinct educational systems –, we recoded the seven-category ISCED classification in the individual-level data into three levels: low (primary and lower secondary education; ISCED 1, 2), medium (upper secondary, post-secondary, non-tertiary, and short-cycle tertiary education; ISCED 3, 4, 5), and high (bachelor's or master's degree, or equivalent tertiary education; ISCED 6, 7; cf. *De Hauw et al.* 2017). There are only a few missing or "other" codes (less than 1 percent), which were therefore omitted. The

---

<sup>6</sup> However, due to the limited number of cohorts per country, we used the individual-level data to assess cohort effects on educational homogamy by country. We note that when we used the individual-level data to assess the effects of educational composition on absolute educational homogamy (modelling the probability of being in an educationally homogamous partnership with OLS regression, including country and cohort dummies and robust standard errors), we obtained the same outcomes as our aggregate country-cohort OLS regressions (Appendix, Table A1). However, the effect of educational reproduction was insignificant in the individual-level analyses. We further note that to derive aggregated estimates of educational composition and educational homogamy per country cohort, we applied the available ESS post-stratification weights in the individual-level data. These account for differential sample selection probabilities across countries and population groups (*Kaminska* 2020).

summary statistics for absolute educational homogamy are: mean=0.65; SD=0.08; min.=0.45; max.=0.85; N=171. We further computed the proportion of homogamous relationships among lower-, medium-, and higher-educated persons in a country cohort using the same procedure as above.

Our second dependent measure, *relative educational homogamy*, is measured as the proportion of couples in a country cohort with the same attained educational level, *given* the educational distribution of men and women in that population. We assessed relative homogamy by estimating for each country cohort a loglinear model for the marriage table cross-classifying the husband's by the wife's education. In the loglinear model, the cell frequencies within marriage tables (i.e., the combinations of spouses' education) are estimated as a function of the margins of this table (i.e., the main effects of spouses' education) and the association between spouses' education (i.e., relative homogamy; *Ultee/Luijkx* 1990). We chose a relatively simple association measure, so-called diagonal parameters, for total relative homogamy and relative homogamy by educational group.<sup>7</sup> The diagonal parameters model the combinations where the spouses' educations match exactly (also known as "intrinsic homogamy"; *Johnson* 1980), similar to our definition of absolute homogamy. Another reason to use these relatively simple measures of association is that we have few degrees of freedom to model relative homogamy in the 3 x 3 marriage tables. Summary statistics for relative educational homogamy are: mean=1.13; SD=0.26; min.=0.43; max.=1.84; N=171. Higher values of the diagonal parameter indicate greater relative educational homogamy. Note that relative educational homogamy, as assessed with loglinear models controlling for the distribution of spouses' education, is mostly interpreted in terms of group boundaries (*Kalmijn* 1998). However, it may also be driven by structural factors not accounted for by the distribution of spouses' education, such as residential and school segregation and the supply of singles (*Schwartz* 2013).

We measure the independent measures regarding *educational composition* and *inequality* not only from cohabiting and married persons, but by also including single persons to better represent the population of potential partners. Using the same age and birth year restriction as for the prime respondents, we define educational composition and inequality measures as follows (see Appendix Table A3 for correlations):

- Educational expansion is the share of higher-educated persons in the country-cohort population (i.e., with ISCED 5, 6, or 7; mean=0.26; SD=0.12; min.=0.05; max.=0.57; N=171).

<sup>7</sup> The log-linear model for the general diagonal parameter is:  $\text{Log } F_{kl} = \lambda + \lambda H_{ek} + \lambda W_{el} + \delta v$ . The loglinear model for the variable diagonal parameters is:  $\text{Log } F_{kl} = \lambda + \lambda H_{ek} + \lambda W_{el} + \delta v_k$ , where  $F$  is the cell frequency,  $H_{ek}$  is the education of the husband with educational categories  $k$ ,  $W_{el}$  is the education of the wife with educational categories  $l$ ,  $v$  is educational homogamy (where  $v = 1$  if  $k = l$ ;  $v = 0$  otherwise), and  $\lambda$  and  $\delta$  are the coefficient estimates, for the margins and the diagonal parameter(s), respectively.

- Educational heterogeneity is the equality in the shares of the three distinct education groups in a country cohort (cf. *Blau* 1982) and is measured as one minus the summed (absolute) differences of an education group's share to an equal share (33 percent). Theoretically, it may range from -0.33 (perfect homogeneity: one group is 100 percent and the two others 0 percent) to 1 (perfect heterogeneity; all three groups 33 percent). Summary statistics are: mean=0.49; SD=0.20; min.=0.03; max.=0.96; N=171. When modelling it jointly with educational expansion, an effect of educational heterogeneity represents equality in the shares of the two lower education groups.
- Gender symmetry is the equality in the distribution of education of men and women in a country cohort, measured as one minus the summed, absolute differences of an education group's share of men and women. Theoretically, it may range from 0 (maximum gender asymmetry; e.g., men in lowest education group 100 percent, in other groups 0 percent) and 1 (perfect gender symmetry; all three groups have equal shares of men and women). Summary statistics are: mean=0.83; SD=0.10; min.=0.44; max.=0.98; N=171.
- Educational income inequality is the (absolute) difference in the mean income of the highest-educated group in a country cohort (level 3 on the three-category education classification) and the mean income of the lowest-educated group (level 1) in that country cohort (cf. *Blau et al.* 1982). Income in ESS is measured as a household's total income (after tax and compulsory deductions, from all sources) in decile groups, from low (1) to high (10; countries could choose weekly, monthly or annual amounts, each corresponding broadly to deciles of the actual household income range in the country). Theoretically, it may range from 0 (perfect equality; both education groups have the same mean income decile) to 9 (perfect inequality; one group has a decile score of 10 and the other a decile score of 1). Since in each country cohort, the mean income decile of the higher-educated is higher than that of the lower-educated, our inequality measure indicates the income advantage of the higher-educated. Summary statistics are: mean=2.80; SD=0.75; min.=0.48; max.=4.52; N=171.
- Educational reproduction is the share of respondents with the same education as their parents in a country cohort. Parental education is assessed by the highest education level attained among parents, measured in ISCED, and coded similarly to respondents. Theoretically, it may range from 0 (perfect mobility; no respondents have the same education as their parents) to 1 (perfect reproduction; all respondents have the same education as their parents). Summary statistics are: mean=0.47; SD=0.11; min.=0.15; max.=0.78; N=171).<sup>8</sup>

---

<sup>8</sup> In regression analyses, the educational composition and inequality variables are standardised (mean=0; SD=1) to compare effect sizes.

As stated, we estimate changes in homogamy across *birth cohorts* and identify five cohorts ten years in length (1940-1989; cf. *De Hauw et al.* 2017, who also used birth cohorts from the ESS for this purpose). This covers marriages concluded from approximately 1960 to 2009. We do not use marriage cohorts. Marriage cohorts may represent the moment of partner choice better than birth cohorts do. Birth cohorts may bias trends in homogamy due to selective patterns of relationship formation and divorce, remarriage, and mortality (cf. *Erat* 2021). However, unlike birth cohorts, marriage cohorts do not represent the educational distribution of populations well (cf. *Kalmijn/Uunk* 2015). Singles can neither be represented by marriage cohorts. Furthermore note that ESS lacks information on the year of first marriage and the year of cohabitation.

### 3.3 Method

To assess trends and country differences in educational homogamy across all 36 countries, we describe the mean level of (absolute and relative) homogamy by country and cohort and regress the educational homogamy measures on country and cohort using Ordinary Least Squares (OLS) regression. We thereby estimate linear and curvilinear cohort effects.

We also use OLS regressions to assess the association of educational composition and inequality variables with the level of (absolute and relative) educational homogamy in a country cohort.<sup>9</sup> We thereby fix general country and cohort effects (i.e., include country and cohort dummies). In doing so, we model the variation in time trends between countries and control all time-constant (unobserved) country characteristics and general cohort trends that potentially confound conclusions on educational composition and inequality effects. This leaves 132 degrees of freedom (171 country cohorts minus 4 cohort dummies and 35 country dummies). A potential confounder may, for example, be social democracy: social-democratic countries have more highly educated populations than other countries and show less relative educational homogamy (*Smits et al.* 1998), which may bias the effect of educational expansion on relative educational homogamy.<sup>10</sup> We regard this fixed effect design as another contribution to the cross-national comparative literature on homogamy. Nonetheless, our analyses cannot prove causation. Endogeneity likely exists, for example, regarding the effect of educational income inequality on educational homogamy: Homogamy may reinforce educational income inequality, specifically because the income measure refers to household income.

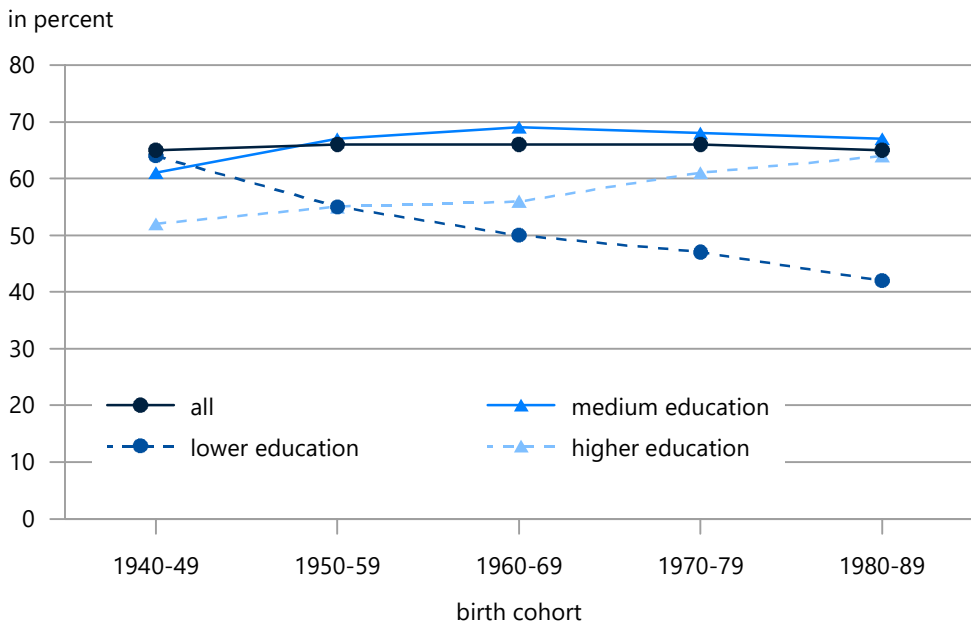
<sup>9</sup> Loglinear models could also have been used to model trends and cross-national differences in absolute and relative educational homogamy and its drivers (e.g., *Smits et al.* 1998). Yet, these models cannot assess the variance in homogamy measures across country cohorts and the extent to which this variance can be attributed to independent factors. For a similar methodological approach—regressing aggregated levels of relative homogamy in contextual units (European regions) on macro-level covariates while fixing country dummies—see *Bouchet-Valat* (2018).

<sup>10</sup> Additional analyses showed that controlling for country dummies especially altered the effect of educational expansion on absolute and relative educational homogamy, rendering it insignificant (Appendix Table A4). This underlines the importance of our fixed effects approach. Composition and inequality effects changed less when controlling for cohort dummies.

## 4 Findings

Our descriptive analyses of country and cohort differences in educational homogamy show that overall *absolute* educational homogamy did not change in Europe across birth cohorts from 1940-1989, neither in a linear nor curvilinear fashion (Table 2) and has consistently remained at a rate of about 65 percent (Fig. 1). However, this stability hides variation in the level of and change in educational homogamy by education group and country. While absolute educational homogamy was higher for lower- than for higher-educated people for the oldest birth cohort (1940-1949), homogamy significantly decreased among the lower-educated and significantly increased among the medium- and higher-educated (Table 2). Consequently, the pattern of educational homogamy by education group has reversed in recent cohorts. Figure 1 shows that the changes were substantial for lower- and higher-educated people: for lower-educated persons, educational homogamy decreased from a rate of 64 percent for cohort 1940-1949 to a rate of 42 percent for cohort 1980-1989, while for higher-educated persons, educational homogamy increased from 52 percent to 64 percent. Thus, both the lower- and higher-educated increasingly marry higher-educated people, two trends that can be attributed to the sharp rise in tertiary education in European populations.

**Fig. 1:** Absolute educational homogamy by birth cohort and education group



Source: ESS 2008-2020, own calculations.

**Tab. 2:** OLS regressions of absolute and relative educational homogamy: cohort effects

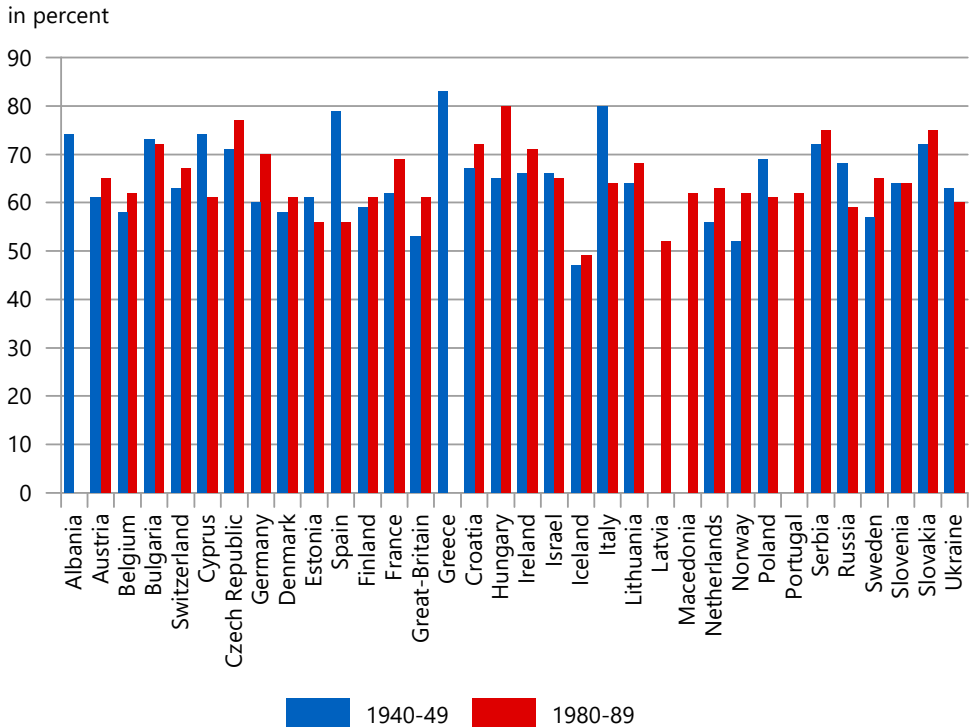
	Absolute homogamy			Relative homogamy				
	M1 All	M2 Lower- educated	M3 Medium- educated	M4 Higher- educated	M5 All	M6 Lower- educated	M7 Medium- educated	M8 Higher- educated
<i>A Linear cohort</i>								
Cohort (1-5; linear)	-0.000 (0.003)	-0.049** (0.006)	0.015** (0.003)	0.032** (0.004)	-0.013 (0.008)	-0.130** (0.042)	0.158** (0.039)	-0.116** (0.041)
Constant	0.703** (0.022)	0.909** (0.050)	0.617** (0.027)	0.449** (0.034)	1.404** (0.072)	3.760** (0.359)	-1.400** (0.334)	3.334** (0.349)
R <sup>2</sup>	0.721	0.773	0.865	0.595	0.740	0.584	0.447	0.518
<i>B Curvilinear cohort</i>								
Cohort (1-5; linear)	0.019 (0.013)	-0.099** (0.030)	0.097** (0.015)	0.042* (0.020)	-0.038 (0.044)	-0.350 (0.217)	0.300 (0.202)	-0.082 (0.211)
Cohort-squared	-0.003 (0.002)	0.008~ (0.005)	-0.014** (0.002)	-0.002 (0.003)	0.004 (0.007)	0.037 (0.035)	-0.024 (0.033)	-0.006 (0.034)
Constant	0.681** (0.026)	0.968** (0.060)	0.521** (0.030)	0.437** (0.041)	1.433** (0.088)	4.018** (0.437)	-1.566** (0.407)	3.294** (0.426)
R <sup>2</sup>	0.726	0.778	0.892	0.596	0.741	0.588	0.450	0.518

N=171 country-cohorts; Standard errors in parentheses; ~ p < 0.10, \* p < 0.05, \*\* p < 0.01; Country fixed effects (country dummies are not shown); reference group: Italy.

Source: ESS 2008-2020, own calculations.



**Fig. 2:** Absolute educational homogamy by country and birth cohorts 1940-49 and 1980-89



Source: ESS 2008-2020, own calculations.

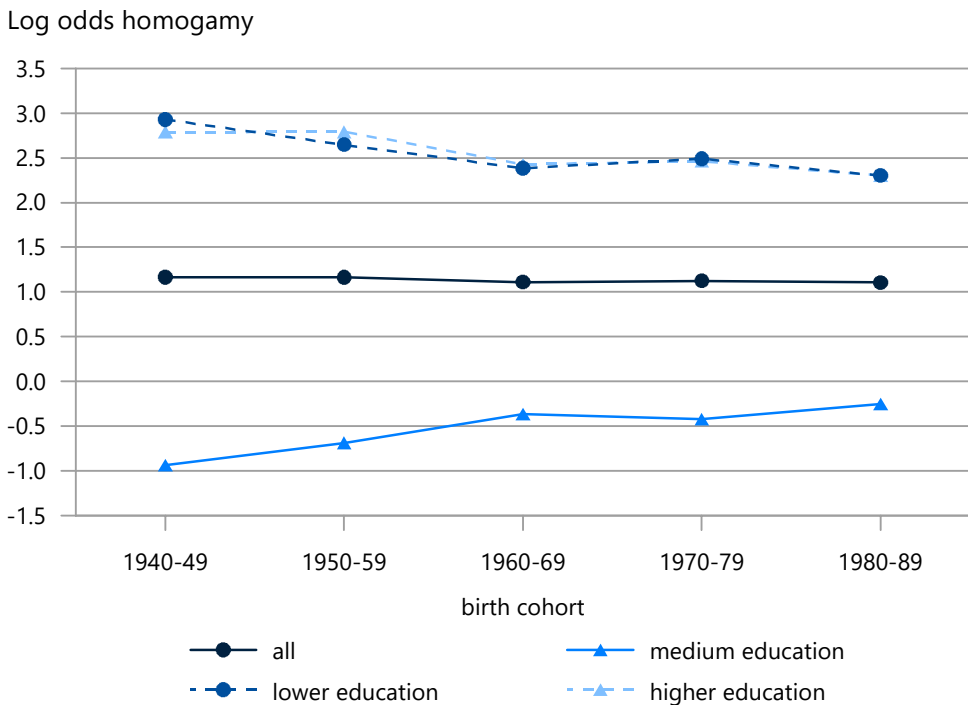
Figure 2 shows that European countries also vary in the level of and change in absolute educational homogamy. For the first cohort, 1940-1949, educational homogamy is weakest in Iceland (47 percent) and strongest in Greece (83 percent). The country pattern generally indicates larger educational homogamy in Eastern and Southern European countries than in Northern and Western European countries (see Appendix Figure A1). Countries also differ in trends in educational homogamy (cf. Fig. 2). This variation is substantial: when modelling country and cohort dummies, the remaining country-cohort variance in absolute educational homogamy is 27 percent (Appendix Table A5). Absolute educational homogamy significantly increased in 12 countries, decreased in 8 countries and remained stable in 16 countries when modelling linear cohort effects on the individual level by country (cf. Appendix Table A6). Particularly large increases in absolute homogamy between the first and last birth cohort can be observed for Hungary (15 percentage point increase), Germany (10 percentage points), and Norway (10 percentage points), while particularly large decreases are evident in Cyprus (12 percentage points), Spain (23 percentage points), and Italy (15 percentage points; Fig. 2). For the most recent birth

cohort, 1980-1989, Eastern European countries have the highest levels of absolute educational homogamy (cf. Appendix Figure A1).

Similar to absolute homogamy, the extent of relative educational homogamy – which is positive overall, indicating a general tendency to marry within rather than outside one's group – remained stable in Europe between birth cohorts from 1940-1989 (Fig. 3). It changed neither linearly nor curvilinearly (cf. Table 2).

Yet again, this general stability in relative educational homogamy hides variation in the level of and trends in relative homogamy by education group and country. Relative educational homogamy is stronger for the higher- and lower-educated than for the medium-educated (cf. Fig. 3), indicating that the educational hierarchy's top and bottom rungs are more closed (cf. *Kalmijn* 1998). The medium-educated tend to marry outside their group, as indicated by the negative ingroup marriage parameter. Furthermore, while relative educational homogamy decreased among the lower- and higher-educated, it increased among the medium-educated (Fig. 3 and Table 2). For the higher-educated group, the decrease in relative homogamy is remarkable because we noted that this group's absolute homogamy increased (cf. Fig. 1). So, while highly educated people increasingly marry within their group,

**Fig. 3:** Relative educational homogamy by birth cohort and education group



Source: ESS 2008-2020, own calculations.

the boundary of this group in mating with other groups – indicated by relative homogamy – became weaker. The supply of marriage candidates may reconcile these two findings: a greater supply of highly educated men and women in European populations, caused by educational expansion, implies higher homogamy rates among the higher educated despite lower mating boundaries. This supply effect outweighs the group boundary effect.

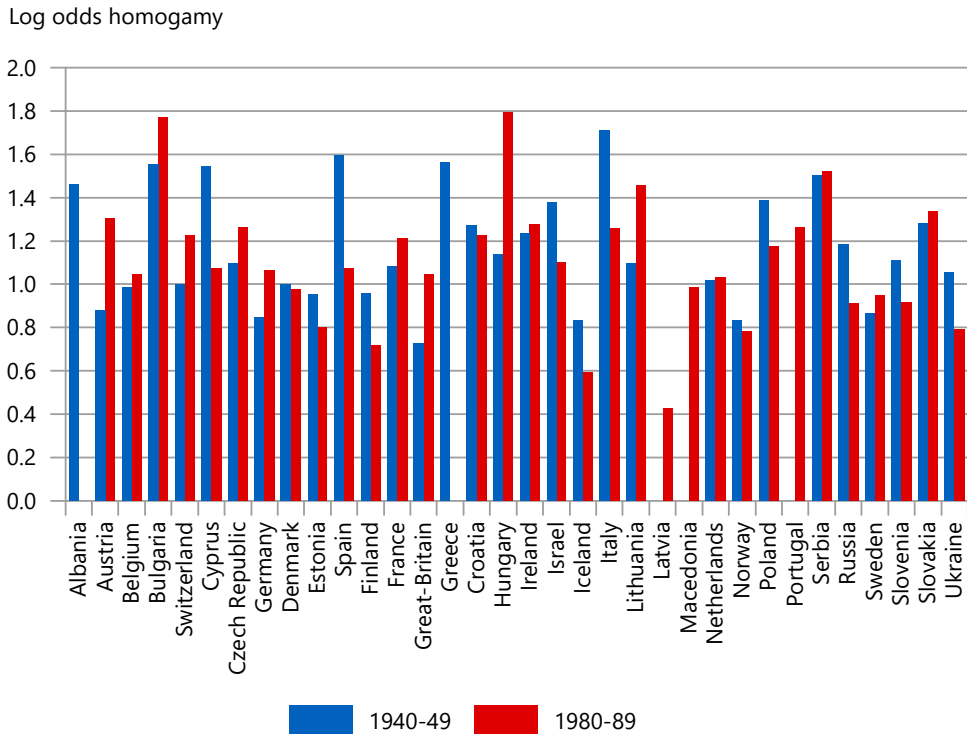
Countries also differ in relative educational homogamy and patterns resemble those for absolute educational homogamy.<sup>11</sup> Figure 4 displays that in the first cohort (1940-1949), relative educational homogamy is weakest in Great Britain and strongest in Italy. Generally, the country pattern indicates higher rates of relative homogamy for Southern European countries (cf. Appendix Fig. A2). Furthermore, countries differ in trends in relative educational homogamy (cf. Fig. 4). This variation is substantial: when modelling country and cohort dummies, the remaining country-cohort variance is 26 percent (cf. Appendix Table A5). Relative educational homogamy significantly increased in five countries, decreased in eight countries, and remained stable in 23 countries. This indicates less change in European countries than for absolute homogamy (cf. Appendix Table A6). We notice substantial increases between the first and last birth cohort in relative homogamy for Austria, Great Britain, and Hungary, and substantial decreases for Cyprus, Spain, and Italy (Fig. 4). The changes resulted in higher relative homogamy in Eastern European countries in the last birth cohort (1980-1989), similar to absolute homogamy (Appendix Figure A2; cf. *Bouchet-Valat* 2018; *Domanski/Przybysz* 2007).

In Table 3, we model the country variation in trends in absolute educational homogamy (M1-M4) and relative educational homogamy (M5-M8) and assess the association with educational composition and inequality factors. We observe that the extent of absolute educational homogamy in a country cohort is negatively associated with educational heterogeneity and positively associated with gender symmetry, educational income inequality, and educational reproduction, whereby heterogeneity has the strongest statistical effect (M1). Educational expansion is not associated with overall absolute educational homogamy, but it raises absolute homogamy among those with high levels of education and lowers it among those with medium levels (M2-M4). These findings support our hypotheses (H1a, 2a, 3a, 4a, and 5a). We also observe some other education-specific effects. For example, educational heterogeneity is only associated with homogamy of the lower-educated and educational income inequality is only associated with homogamy of the higher-educated. However, these effects are hard to interpret.

Together, the educational composition and inequality factors account for more than half of the between-country cohort variation in absolute homogamy. The unexplained, between-country cohort variance is 27 percent when only cohort and country dummies are modelled (cf. Appendix, Table A5) and 12 percent when

---

<sup>11</sup> Absolute and relative educational homogamy correlate highly at the country level:  $r=0.91$  for cohort 1940-1949 ( $p<0.01$ ;  $N=31$  countries);  $r=0.82$  for cohort 1980-1989 ( $p<0.01$ ;  $N=32$  countries; cf. Appendix Fig. A3).

**Fig. 4:** Relative educational homogamy by country and birth cohorts 1940-49 and 1980-89

Source: ESS 2008-2020, own calculations.

adding composition variables (M1, Table 3). Therefore, the “composition effects” can be deemed to be strong.<sup>12</sup>

Educational composition and inequality characteristics are also associated with relative educational homogamy, though this is confined to gender symmetry and educational reproduction. Both factors are positively associated with the total level of relative educational homogamy in a country cohort, whereby the statistical effect of educational reproduction is strongest (M5, Table 3). These findings confirm the hypotheses concerning gender symmetry (H3b) and educational reproduction (H5b) and the hypothesis concerning educational expansion (H1b, for which we postulated no effect), but not those regarding educational heterogeneity (H2b) and educational income inequality (H4b). The educational composition and inequality factors account for one-fourth of the between-country cohort variation in relative homogamy

<sup>12</sup> Bivariate analyses also display a strong association of absolute homogamy with the educational composition and inequality factors, from a correlation of  $r=0.31$  (gender symmetry) to  $r=-0.51$  (educational heterogeneity; see Appendix Table A1).

**Tab. 3:** OLS regression of absolute and relative educational homogamy: educational composition and inequality effects

	Absolute homogamy			Relative homogamy				
	M1 All	M2 Lower- educated	M3 Medium- educated	M4 Higher- educated	M5 All	M6 Lower- educated	M7 Medium- educated	M8 Higher- educated
Educational expansion	-0.007 (0.008)	-0.037 (0.025)	-0.030* (0.012)	0.042* (0.017)	-0.030 (0.037)	-0.128 (0.206)	0.080 (0.193)	-0.261 (0.199)
Educational heterogeneity	-0.032** (0.004)	0.047** (0.013)	-0.007 (0.006)	0.011 (0.009)	-0.017 (0.019)	-0.054 (0.107)	-0.013 (0.100)	0.066 (0.103)
Gender symmetry	0.019** (0.004)	0.031** (0.011)	0.010* (0.005)	0.030** (0.007)	0.037* (0.016)	-0.031 (0.088)	0.122 (0.082)	-0.143~ (0.085)
Educational income inequality	0.010* (0.004)	0.006 (0.011)	0.010~ (0.005)	0.034** (0.008)	0.011 (0.017)	-0.018 (0.093)	0.012 (0.087)	0.038 (0.090)
Educational reproduction	0.015** (0.005)	0.053** (0.015)	-0.041** (0.007)	-0.005 (0.010)	0.077** (0.022)	0.151 (0.121)	0.056 (0.114)	-0.122 (0.117)
Constant	0.689** (0.020)	0.757** (0.059)	0.579** (0.028)	0.545** (0.039)	1.297** (0.087)	3.457** (0.479)	-1.235** (0.449)	2.855** (0.463)
Observations	171	171	171	171	171	171	171	171
R <sup>2</sup>	0.879	0.834	0.922	0.707	0.800	0.605	0.467	0.546

Standardised variables (mean 0; SD=1); Standard errors in parentheses. ~ p < 0.10, \* p < 0.05, \*\* p < 0.01; Country and cohort fixed effects (country and cohort dummies are not shown); reference groups: Italy and cohort 1940-1949. Source: ESS 2008-2020, own calculations.

(unexplained, between-country cohort variance is 26 percent (cf. Appendix, Table A5) and 20 percent in M5, Table 3). Therefore, educational composition and inequality characteristics explain less of the country-cohort variation in relative educational homogamy than absolute educational homogamy. This was to be expected because relative educational homogamy already accounts for part of the educational distribution effects. Still, some educational composition characteristics are associated with group boundaries in educational assortative mating.

## 5 Conclusions and discussion

This paper aimed to advance the cross-comparative literature on educational homogamy by describing trends and cross-national differences in absolute and relative educational homogamy in Europe and assessing the association of absolute and relative educational homogamy with educational composition and inequality measures.

Our descriptive analyses on 36 countries and five birth cohorts from several waves of the ESS show that the overall level of absolute and relative educational homogamy did not change across birth cohorts from 1940-1989 in Europe. However, this stability conceals variation in the level of and change in educational homogamy by education group and country. Absolute educational homogamy decreased for the lower-educated and increased for the higher-educated, and for the younger birth cohorts, educational homogamy among the higher-educated is considerably higher than among the lower-educated. These changes imply that both lower-educated and higher-educated people increasingly marry higher-educated people, two trends that can be attributed to the sharp rise of the share of higher-educated people in European populations (i.e., educational expansion). On the other hand, relative educational homogamy decreased for both lower- and higher-educated people, whereas it increased for those with intermediate levels of education. This may indicate weaker preferences for educational homogamy among those with lower and higher levels of education in Europe and stronger preferences for educational homogamy among those with medium education level. Furthermore, absolute and relative educational homogamy have differed substantially among countries – with a higher level of absolute and relative homogamy in Eastern European countries in the most recent cohorts – and countries have substantially differed in absolute and relative homogamy trends.

These descriptive findings – the overall stability in absolute and relative educational homogamy in Europe, with country and educational group variation in homogamy trends – align with findings from systematic reviews of worldwide studies on relative educational homogamy (*Blossfeld 2009; Kalmijn 1998*) and with *De Hauw et al.'s* (2017) analysis of absolute homogamy in Europe. On the other hand, the large-scale cross-country comparative study by *Ultee and Luijkx* (1990) observed decreases in absolute and relative homogamy. However, this study examined an older period and shows substantial country variation in homogamy trends (cf. *Smits et al. 2000* for countries worldwide). Smaller-scale comparative and single-country

studies for Europe also display varying trends. *Katrnak and Manea (2020)* showed increases in absolute homogamy in the Czech Republic, Hungary, Italy, Poland, Slovakia, and Sweden. Decreases in relative educational homogamy were found for France (*Bouchet-Valat 2014*) and Great Britain (*Halpin/Chan 2003*); increases for Ireland (*Halpin/Chan 2003*), Hungary, and Slovakia (*Katrnak et al. 2006*); and stability for the Czech Republic (*Katrnak et al. 2006*), West Germany (*Wirth 1996*), the Netherlands (*Kalmijn/Uunk 2015*), and Poland (*Katrnak et al. 2006*).<sup>13</sup> Like our study, prior studies observed that homogamy trends differ by educational group. Studies report decreasing relative educational homogamy among tertiary-educated people worldwide (*Smits 2003*) and in Europe (*Katrnak/Manea 2020*), yet some single-country studies note an increase (for Spain: *Esteve and Cortina 2006*).

Our regression analyses of the country-cohort variation in absolute and relative educational homogamy displayed that (changes in) educational composition and inequality characteristics are associated with (changes in) educational homogamy. Educational gender symmetry, educational income inequality, and educational reproduction are positively associated, and educational heterogeneity is negatively associated with the level of absolute educational homogamy in a country cohort. Educational expansion is not associated with the overall level of absolute homogamy. However, it is positively associated with homogamy among the higher-educated and negatively with homogamy among the medium-educated. A population's educational composition is less strongly associated with relative educational homogamy. Only gender symmetry and educational reproduction are associated, in a positive direction, with relative educational homogamy.

These findings indicate that educational composition and inequality characteristics are likely important drivers of educational homogamy. We regard this finding as an advancement of the homogamy literature, in which composition effects have generally been neglected.<sup>14</sup> We interpret the composition effects via meeting opportunities – using *Blau's* theory of structural opportunities for intermarriage (*Blau 1977; Blau et al. 1982*) – and preferences for educational homogamy. Educational heterogeneity, for example, may have lowered educational homogamy by increasing meeting opportunities with other education groups and by raising mutual acceptance. However, our findings suggest that an interpretation of educational composition and inequality effects in terms of opportunities is more likely than preferences since relative educational homogamy is associated more weakly with educational composition characteristics than absolute educational homogamy. This was to be expected, because relative educational homogamy already partly accounted for the educational distribution effects. Still, we observe some associations, indicating

<sup>13</sup> The findings for single countries cannot be easily compared to our study because they refer to distinct marriage periods and apply different educational classifications and methods to measure change (cf. *Blossfeld 2009*).

<sup>14</sup> But see *Katrnak et al. (2012)* regarding educational reproduction and relative homogamy, *Torche (2010)* regarding educational income inequality and relative homogamy, and *Permanyer et al. (2019)* regarding educational expansion and gender symmetry and absolute educational homogamy.



that the effects of educational composition on homogamy go beyond opportunity effects.

Based on the following limitations of our study, we see several avenues for further research. First, our study was limited to analysing educational homogamy among three broad educational groups. How educational composition affects homogamy at the top and the bottom of the educational hierarchy, when using a more detailed classification, is also of interest. A decline in the share of the least educated may imply more relative homogamy among this group due to greater homogeneity. Similarly, further educational expansion may imply new social closure and more relative homogamy within the educational elite (cf. *Bouchet-Valat* 2014), for example, to ensure cultural similarity in mate selection or as a form of social distinction (*Bourdieu* 1974). Second, our measure of relative homogamy is, as stated, not a perfect indicator of homogamy preferences, as this measure may still be an outcome of unaccounted structural factors (geographical segmentation and the number of singles). Future studies may model the preferences for homogamy more directly, as done in online dating studies, and test the effects of the structure of marriage markets (cf. *Fong* 2024). Third, we limited ourselves to studying the effects of some educational composition and inequality factors. Future studies may compare the strength of these effects with those of other (potentially) relevant drivers of educational homogamy, such as the educational gradient in marriage (cf. *Leesch/Skopek* 2023), the selectivity of higher education institutions (cf. *Uchikoshi* 2022), residential segregation of educational groups (cf. *Blau/Schwartz* 1984), and educational differences in human values. Fourth, although our study improved upon other cross-national comparative studies on homogamy by examining trends across countries while controlling for general country and cohort effects, our study cannot make causal claims. Unobserved time-varying factors may still exist that present an alternative explanation of our findings on educational composition effects. In addition, some of the drivers of educational homogamy, e.g., educational income inequality, may be endogenously determined by educational homogamy (*Torche* 2010). Further studies may therefore model the recursive effects of marriage market constraints and partner choice (cf. *Jarvis et al.* 2023).

## References

- Allport, Gordon W.* 1954: The nature of prejudice. Boston: Addison-Wesley.
- Beck, Audrey; González-Sancho, Carlos* 2009: Educational assortative mating and children's school readiness. Princeton: Center for Research on Child Wellbeing.
- Berent, Jerzy* 1954: Social mobility and marriage: a study of trends in England and Wales. In: *Glass, David V.* (Ed.): Social mobility in Britain. London: Routledge.
- Blau, Peter M.* 1977: A macrosociological theory of social structure. In: *American Journal of Sociology* 83: 26-54. <https://doi.org/10.1086/226505>
- Blau, Peter M.; Blum, Terry C.; Schwartz, Joseph E.* 1982: Heterogeneity and Inter marriage. In: *American Sociological Review* 47,1: 45-62. <https://doi.org/10.2307/2095041>
- Blau, Peter M.; Schwartz, Joseph E.* 1984: Crosscutting Social Circles. London: Academic.

- Blossfeld, Hans-Peter* 2009: Educational assortative marriage in comparative perspective. In: *Annual Review of Sociology* 35: 513-530. <https://doi.org/10.1146/annurev-soc-070308-115913>
- Blossfeld, Pia N.; Blossfeld, Gwendolin J.; Blossfeld, Hans-Peter* 2015: Educational expansion and inequalities in educational opportunity: Long-term changes for East and West Germany. In: *European Sociological Review* 31,2: 144-160. <https://doi.org/10.1093/esr/jcv017>
- Blossfeld, Pia N.; Blossfeld, Gwendolin J.; Blossfeld, Hans-Peter* 2016: Changes in educational inequality in cross-national perspective. In: *Shanahan, Michael J.; Mortimer, Jeylan T.; Kirkpatrick Johnson, Monica* (Eds.): *Handbook of the Life Course*. Cham: Springer: 223-247. [https://doi.org/10.1007/978-3-319-20880-0\\_10](https://doi.org/10.1007/978-3-319-20880-0_10)
- Bouchet-Valat, Milan* 2014: Changes in Educational, Social Class and Social Class of Origin Homogamy in France (1969-2011). Greater Openness Overall but Increased Closure of Elites. In: *Revue Française de Sociologie* 55,3: 459-505. <https://doi.org/10.3917/rfs.553.0459>
- Bouchet-Valat, Milan* 2018: Educational and socioeconomic homogamy, development level, and metropolisation across 149 European regions. In: *Revue européenne des sciences sociales* 56,1: 53-84. <https://doi.org/10.4000/ress.3989>
- Bourdieu, Pierre* 1974: Avenir de classe et causalité du probable. In: *Revue Française de Sociologie* 15: 3-42. <https://doi.org/10.2307/3320261>
- Davis, James A.* 1982: Achievement Variables and Class Cultures: Family, Schooling, Job, and Forty-nine Dependent Variables in the Cumulative GSS. In: *American Sociological Review* 47,5: 569-586. <https://doi.org/10.2307/2095159>
- De Hauw, Yolien; Grow, André; Van Bavel, Jan* 2017: The reversed gender gap in education and assortative mating in Europe. In: *European Journal of Population* 33,4: 445-474. <https://doi.org/10.1007/s10680-016-9407-z>
- DiPrete, Thomas A.; Buchmann, Claudia* 2013: *The rise of women: The growing gender gap in education and what it means for American schools*. New York: Russell Sage Foundation.
- Domański, Henryk; Przybysz, Dariusz* 2007: Educational Homogamy in 22 European Countries. In: *European Societies* 9,4: 495-526. <https://doi.org/10.1080/14616690701314119>
- Edwards, Ryan D.; Roff, Jennifer* 2016: What mom and dad's match means for junior: Marital sorting and child outcomes. In: *Labour Economics* 40: 43-56. <https://doi.org/10.1016/j.labeco.2016.04.005>
- England, Paula; Farkas, George* 1986: *Households, Employment, and Gender: A Social, Economic, and Demographic View*. New York: Aldine.
- Erát, Dávid* 2021: Educational assortative mating and the decline of hypergamy in 27 European countries. An examination of trends through cohorts. In: *Demographic Research* 44: 157-188. <https://doi.org/10.4054/DemRes.2021.44.7>
- Esping-Andersen, Gøsta* 2016: *Families in the 21st Century*. Stockholm: SNS Förlag.
- Esteve, Albert; Cortina, Clara* 2006: Changes in Educational Assortative Mating in Contemporary Spain. In: *Demographic Research* 14,17: 405-428. <https://doi.org/10.4054/DemRes.2006.14.17>
- Esteve, Albert; García-Román, Joan; Permanyer, Iñaki* 2012: The Gender-Gap Reversal in Education and Its Effect on Union Formation: The End of Hypergamy? In: *Population and Development Review* 38,3: 535-546. <https://doi.org/10.1111/j.1728-4457.2012.00515.x>
- Esteve, Albert et al.* 2016: The end of hypergamy: Global trends and implications. In: *Population and Development Review* 42,4: 615-625. <https://doi.org/10.1111/padr.12012>

- Fernández, Raquel; Guner, Nezi; Knowles, John* 2005: Love and money: a theoretical and empirical analysis of household sorting and inequality. In: *The Quarterly Journal of Economics* 120,1: 273-344. <https://doi.org/10.1162/0033553053327498>
- Fong, Jessica* 2024: Effects of Market Size and Competition in Two-Sided Markets: Evidence from Online Dating. <http://dx.doi.org/10.2139/ssrn.3458373>
- Goldin, Claudia D.; Katz, Lawrence F.* 2008: *The Race Between Education and Technology*. Cambridge, MA: Belknap.
- Goode, William J.* 1970 (1963): *World Revolution and Family Patterns*. New York: Free Press.
- Grow, André; Van Bavel, Jan* 2015: Assortative mating and the reversal of gender inequality in education in Europe: An agent-based model. In: *PloS one* 10,6: e0127806. <https://doi.org/10.1371/journal.pone.0127806>
- Halpin, Brendan; Chan, Tak Wing* 2003: Educational homogamy in Ireland and Britain: trends and patterns. In: *The British Journal of Sociology* 54,4: 473-495. <https://doi.org/10.1111/j.1468-4446.2003.00473.x>
- Hillmert, Steffen* 2021: Three spheres of stratification in how social origin relates to educational achievement: a large-scale analysis. In: *Contemporary Social Science* 16,3: 325-343. <https://doi.org/10.1080/21582041.2020.1794020>
- Hitsch, Gunter J.; Hortaçsu, Ali; Ariely, Dan* 2010: Matching and sorting in online dating. In: *American Economic Review* 100,1: 130-163. <https://doi.org/10.1257/aer.100.1.130>
- Jarvis, Benjamin F.; Mare, Robert D.; Nordvik, Monica K.* 2023: Assortative mating, residential choice, and ethnic segregation. In: *Research in Social Stratification and Mobility* 88: 100809. <https://doi.org/10.1016/j.rssm.2023.100809>
- Johnson, Robert A.* 1980: *Religious assortative marriage in the United States*. New York: Academic Press.
- Kalmijn, Matthijs* 1991: Status homogamy in the United States. In: *American Journal of Sociology* 97,2: 496-523. <https://doi.org/10.1086/229786>
- Kalmijn, Matthijs* 1994: Mother's occupational-status and children's schooling. In: *American Sociological Review* 59: 257-275. <https://doi.org/10.2307/2096230>
- Kalmijn, Matthijs* 1998: Inter-marriage and homogamy: Causes, patterns, trends. In: *Annual Review of Sociology* 24: 395-421. <https://doi.org/10.1146/annurev.soc.24.1.395>
- Kalmijn, Matthijs; Uunk, Wilfred J.G.* 2015: Opleidingshomogamie in Nederland revisited: Stabiliteit of toenemende segmentatie op de huwelijksmarkt? [Educational homogamy in the Netherlands revisited: Stability or increasing segmentation on the marriage market?] In: *Mens en Maatschappij* 90,4: 379-404. <https://doi.org/10.5117/MEM2015.3.KALM>
- Kaminska, Olena* 2020: Guide to using weights and sample design indicators with ESS data. Institute for social and economic research, University of Essex [[https://www.europeansocialsurvey.org/sites/default/files/2023-06/ESS\\_weighting\\_data\\_1\\_1.pdf](https://www.europeansocialsurvey.org/sites/default/files/2023-06/ESS_weighting_data_1_1.pdf), 15.08.2024].
- Katrňák, Tomáš; Kreidl, Martin; Fónadová, Laura* 2006: Trends in Educational Assortative Mating in Central Europe: The Czech Republic, Slovakia, Poland, and Hungary, 1988-2000. In: *European Sociological Review* 22,3: 309-322. <https://doi.org/10.1093/esr/jci059>
- Katrňák, Tomáš; Fucík, Petr; Luijckx, Ruud* 2012: The relationship between educational homogamy and educational mobility in 29 European countries. In: *International Sociology* 27,4: 551-573. <https://doi.org/10.1177/0268580911423061>
- Katrňák, Tomáš; Manea, Beatrice Chromková* 2020: Change in prevalence or preference? Trends in educational homogamy in six European countries in a time of educational expansion. In: *Social Science Research* 91: 102460. <https://doi.org/10.1016/j.ssresearch.2020.102460>

- Leesch, Julia; Skopek, Jan* 2023: Decomposing trends in educational homogamy and heterogamy: The case of Ireland. In: *Social Science Research* 110: 102846. <https://doi.org/10.1016/j.ssresearch.2023.102846>
- Mare, Robert D.* 1991: Five decades of educational assortative mating. In: *American Sociological Review* 56,1: 15-32. <https://doi.org/10.2307/2095670>
- Mare, Robert D.; Schwartz, Christine R.* 2006: Educational assortative mating and the family background of the next generation: a formal analysis. In: *Sociological Theory and Methods* 21,2: 253-278.
- McLanahan, Sara* 2004: Diverging destinies: how children are faring under the second demographic transition. In: *Demography* 41,4: 607-627. <https://doi.org/10.1353/dem.2004.0033>
- Norris, Pippa; Inglehart, Ronald* 2019: *Cultural Backlash: Trump, Brexit and Authoritarian Populism*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781108595841>
- Permanyer, Iñaki; Esteve, Albert; Garcia, Joan* 2019: Decomposing patterns of college marital sorting in 118 countries: structural constraints versus assortative mating. In: *Social Science Research* 83: 102313. <https://doi.org/10.1016/j.ssresearch.2019.06.004>
- Qian, Zhenchao; Lichter, Daniel T.* 2007: Social boundaries and marital assimilation: interpreting trends in racial and ethnic intermarriage. In: *American Sociology Review* 72,1: 68-94. <https://doi.org/10.1177/000312240707200104>
- Qian, Zhenchao; Lichter, Daniel T.* 2011: Changing patterns of interracial marriage in a multiracial society. In: *Journal of Marriage and Family* 73,5: 1065-1084. <https://doi.org/10.1111/j.1741-3737.2011.00866.x>
- Reardon, Sean F.; Bischoff, Kendra* 2011: Income inequality and income segregation. In: *American Journal of Sociology* 116,4. <https://doi.org/10.1086/657114>
- Schofer, Evan; Meyer, John W.* 2005: The worldwide expansion of higher education in the twentieth century. In: *American sociological review* 70,6: 898-920. <https://doi.org/10.1177/000312240507000602>
- Schwartz, Christine R.* 2010: Earnings inequality and the changing association between spouses' earnings. In: *American Journal of Sociology* 115,5: 1524-1557. <https://doi.org/10.1086/651373>
- Schwartz, Christine R.* 2013: Trends and variation in assortative mating: Causes and consequences. In: *Annual Review of Sociology* 39: 451-470. <https://doi.org/10.1146/annurev-soc-071312-145544>
- Schwartz, Christine R.; Mare, Robert D.* 2005: Trends in educational assortative marriage from 1940 to 2003. In: *Demography* 42,4: 621-645. <https://doi.org/10.1353/dem.2005.0036>
- Simkus, Albert* 1984: *Structural Transformation and Social Mobility: Hungary 1938-1973*. *American Sociological Review* 49,3: 291-307. <https://doi.org/10.2307/2095275>
- Smits, Jeroen* 2003: Social closure among the higher educated: trends in educational homogamy in 55 Countries. In: *Social Science Research* 32,2: 251-277. [https://doi.org/10.1016/S0049-089X\(02\)00049-2](https://doi.org/10.1016/S0049-089X(02)00049-2)
- Smits, Jeroen; Park, Hyunjoon* 2009: Five decades of educational assortative mating in 10 East Asian societies. In: *Social Forces* 88,1: 227-256. <https://doi.org/10.1353/sof.0.0241>
- Smits, Jeroen; Ultee, Wout; Lammers, Jan* 1998: Educational homogamy in 65 Countries: an explanation of differences in openness using country-level explanatory variables. In: *American Sociology Review* 63,2: 264-285. <https://doi.org/10.2307/2657327>

- Smits, Jeroen; Ultee, Wout; Lammers, Jan* 2000: More or less educational homogamy? A test of different versions of modernisation theory using cross-temporal evidence for 60 Countries. In: *American Sociological Review* 65,5: 781–788. <https://doi.org/10.2307/2657547>
- Sweeney, Megan M.; Cancian, Maria* 2004: The changing importance of white women's economic prospects for assortative mating. In: *Journal of Marriage and Family* 66,4: 1015–1028. <https://doi.org/10.1111/j.0022-2445.2004.00073.x>
- Torche, Florencia* 2010: Educational assortative mating and economic inequality: a comparative analysis of three Latin American countries. In: *Demography* 47,2: 481–502. <https://doi.org/10.1353/dem.0.0109>
- Treiman, Donald J.; Terrell, Kermit* 1975: The Process of Status Attainment in the United States and Great Britain. In: *American Journal of Sociology* 81,3: 563–583. <https://doi.org/10.1086/226108>
- Uchikoshi, Fumiya* 2022: Explaining declining educational homogamy: the role of institutional changes in higher education in Japan. In: *Demography* 59,6: 2161–2186. <https://doi.org/10.1215/00703370-10271332>
- Ultee, Wout; Luijkx, Ruud* 1990: Educational heterogamy and father-to-son occupational mobility in 23 industrial nations: general societal openness or compensatory strategies of reproduction? In: *European Sociological Review* 6,2: 125–149. <https://doi.org/10.1093/oxfordjournals.esr.a036554>
- Van Bavel, Jan; Schwartz, Christine R.; Esteve, Albert* 2018: The reversal of the gender gap in education and its consequences for family life. In: *Annual Review of Sociology*, 44: 341–360. <https://doi.org/10.1146/annurev-soc-073117-041215>
- Wirth, Heike* 1996: Wer heiratet wen? Die Entwicklung der bildungsspezifischen Heiratsmuster in Westdeutschland. In: *Zeitschrift für Soziologie* 25,5: 371–394. <https://doi.org/10.1515/zfsoz-1996-0503>

Date of submission: 31.10.2023

Date of acceptance: 20.06.2024

Prof. Dr. Wilfred Uunk (✉). University of Innsbruck. Innsbruck, Austria.

E-mail: [Wilfred.Uunk@uibk.ac.at](mailto:Wilfred.Uunk@uibk.ac.at)

URL: <https://www.uibk.ac.at/de/soziologie/studium/unser-institut/team/soziologie-team-wilfred-uunk/>

## Comparative Population Studies

*www.comparativepopulationstudies.de*

ISSN: 1869-8980 (Print) – 1869-8999 (Internet)

### Published by

Federal Institute for Population Research  
(BiB)  
65180 Wiesbaden / Germany

### Managing Publisher

Dr. Nikola Sander



2024

### Editor

Prof. Dr. Roland Rau  
Prof. Dr. Heike Trappe

### Managing Editor

Dr. Katrin Schiefer

### Editorial Assistant

Beatriz Feiler-Fuchs  
Wiebke Hamann

### Layout

Beatriz Feiler-Fuchs

E-mail: [cpos@bib.bund.de](mailto:cpos@bib.bund.de)

### Scientific Advisory Board

Kieron Barclay (Stockholm)  
Karsten Hank (Cologne)  
Ridhi Kashyap (Oxford)  
Natalie Nitsche (Canberra)  
Alyson van Raalte (Rostock)  
Pia S. Schober (Tübingen)  
Rainer Wehrhahn (Kiel)

### Board of Reviewers

Bruno Arpino (Barcelona)  
Laura Bernardi (Lausanne)  
Gabriele Doblhammer (Rostock)  
Anette Eva Fasang (Berlin)  
Michael Feldhaus (Oldenburg)  
Alexia Fürnkranz-Prskawetz (Vienna)  
Birgit Glorius (Chemnitz)  
Fanny Janssen (Groningen)  
Frank Kalter (Mannheim)  
Stefanie Kley (Hamburg)  
Bernhard Köppen (Koblenz)  
Anne-Kristin Kuhnt (Rostock)  
Hill Kulu (St Andrews)  
Nadja Milewski (Wiesbaden)  
Thorsten Schneider (Leipzig)  
Tomas Sobotka (Vienna)  
Jeroen J. A. Spijker (Barcelona)  
Helga de Valk (The Hague)  
Sergi Vidal (Barcelona)  
Michael Wagner (Cologne)