Heterogeneity in demographic change: the educational gradient of 'Second Demographic Transition'-behaviors in Europe and the US[1]

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When family formation behaviors change, they often change in tandem. This is one of the underlying premises of the Second Demographic transition, one of the most widespread demographic "theories" of the late twentieth century (Lesthaeghe and Neidert 2006; Lesthaeghe 2010). The SDT posits that shifts in values and attitudes have led to the postponement of marriage and childbearing, increases in cohabitation and increases in childbearing within cohabitation. Although proponents of the SDT do not usually suggest that these behaviors emerge at the same time or in the same sequence across all countries, they do suggest that the behaviors are related to one another (Lesthaeghe and Neidert 2006; Lesthaeghe 2010). It is not clear, however, that all of these behaviors are similar across all strata of society. Indeed, studies show that in most countries, the most highly educated are most likely to postpone childbearing and marriage (Hoem 1986; Blossfeld and Huinink 1991; Goldstein and Kenney 2001; Neels 2006; Neels and De Wachter 2010), while a recent study shows that childbearing within cohabitation across Europe is more likely to occur among those with the least education (Perelli-Harris, Sigle-Rushton et al. 2010). Thus, the highly educated may be more likely to practice certain behaviors, while the least educated may be more likely to practice others.

Although demographers have compared period and cohort fertility (Frejka and Calot 2001) and union formation behavior using life-tables (Heuveline and Timberlake 2004; Andersson and Philipov 2002), few studies have compared the postponement of behaviors with ever experiencing behaviors by education. And little is known about how the educational gradient of these behaviors differs by country. In this paper, we examine the educational gradient of a set of behaviors for cohorts born between 1930 and 1979 in the United States and across Europe using a variety of measures and indicators that allow us to compare the timing of events with ever having experienced the events. We first examine how the proportion of women ever experiencing an event differs by education. We focus on 1) having experienced a union; 2) cohabitation, among those ever in a union; 3) entry into parenthood, and 4) having a nonmarital birth, among those having had a birth. We then use hazard models to explore the educational gradient for a range of behaviors such as: 1) entrance into first co-residential union; 2) entrance into marriage for those in cohabiting unions; 3) first birth in any union; and 4) first birth for those in a cohabiting union. This comparison of behaviors from two analytical perspectives shows whether and when different educational groups have adopted new behaviors, and whether the educational gradient for different behaviors is similar across countries.

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THE SECOND DEMOGRAPHIC TRANSITION: A DESCRIPTION OF DEMOGRAPHIC CHANGE

Our fundamental goal in this paper is to examine the educational gradient of a set of behaviors commonly referred to as the Second Demographic Transition (SDT). In doing so, we will unpack the theory of the Second Demographic Transition to see how consistently it can be applied to a range of behaviors and countries. First, we trace the history and theoretical underpinnings of the concept in order to distinguish it from alternative perspectives.

The concept of the 'second demographic transition' was coined by Lesthaeghe and Van de Kaa in 1986 to describe contemporary trends in demographic behavior and living arrangements taking place after 1970 (Lesthaeghe and Van De Kaa 1986). Although the description initially covered the low countries (and by extension Northwestern Europe), later contributions documented the emergence of the second demographic transition in Central and Eastern Europe (Lesthaeghe and Surkyn 2002), the US (Lesthaeghe and Neidert 2006), Latin America and Asia (Lesthaeghe 2010). In response to early critiques of the SDT (see Cliquet in Lestheaghe & Neels 2002) which maintained that the second demographic transition is merely a continuation of the first, Lesthaeghe and colleagues explicitly contrasted the first and the second demographic transition by comparing the opposing in nuptiality and fertility regimes in the first and the second demographic transitions (Lesthaeghe and Neels 2002; Lesthaeghe 2010).

Contrasting Patterns of Union Formation

The first demographic transition in Western Europe is characterized by a weakening of the Malthusian pattern of late and non-universal marriage (see Coale & Watkins). As a result, starting in the second part of the 19th century, many European countries witnessed a decline in the mean age at marriage as well as declining proportions never marrying. This trend was associated with a decline in unmarried cohabitation, low prevalence of divorce and high remarriage following widowhood. In many countries, these trends initiated in the second part of the 19th century continued well into the 20th century with the lowest mean ages at first marriage generally occurring in the 1960s. However, starting in the mid 1950s and early 1960s, the trends associated with the FDT started reversing and the second demographic transition is associated with increasing divorce levels, rising mean ages at marriage and higher proportions never marrying, an increase of unmarried cohabitation, both before marriage and following divorce and widowhood (Lesthaeghe and Neels 2002).

Fertility contrasts

Apart from contrasting nuptiality regimes the SDT is also concerned with fertility trends. During the first demographic transition, fertility became increasingly associated with marriage, mean ages at first birth declined and nonmarital fertility was low. Given the lack of efficient contraceptives, parity failures were relatively common and kept total fertility well above the replacement level. During the SDT these trends reversed. With the advent and adoption of efficient contraceptives, higher-order births declined, bringing period fertility levels close to the replacement level by the late 1960s. The subsequent adoption of contraceptive use by younger women supported the postponement of parenthood, starting in the early 1970s. Mean ages at first birth increased consistently throughout the 1970s, 1980s and 1990s, and this tempo-effect is largely responsible for pushing period fertility levels well below the replacement level (Bongaarts and Feeney 2001). Particularly the rapid postponement of fertility and the resulting subreplacement fertility are considered to constitute the hallmark of the second demographic transition (Lesthaeghe and Neels 2002). The changes in living arrangements that occurred simultaneously, fostered an increase of nonmarital births, which had become increasingly rare during the early 20th century.

THE SECOND DEMOGRAPHIC TRANSITION: A THEORY OF DEMOGRAPHIC CHANGE

Cultural Change as a Driving Factor

Apart from providing a succinct description of trends in living arrangements and demographic behavior, the second demographic transition also provides a partial explanation of these trends by relating them to cultural change (Lesthaeghe and Van De Kaa 1986; Lesthaeghe and Surkyn 1988). In this respect, the second demographic transition as a descriptive notion of demographic trends is clearly distinct from the second demographic transition as a *theory* of demographic change. The stress on cultural change as a distinctive factor underlying these trends sets the SDT-narrative apart from alternative explanations, such as micro-economic theories that stress structural factors as rising educational attainment and, ceteris paribus, changing opportunity costs of living arrangements and family formation (Lesthaeghe and Surkyn 1988).

The focus on ideational change as a distinctive factor shaping demographic behavior in the low countries can be traced back to the Princeton Fertility Project, where regional differentiation in secularization turned out to be a decisive factor in accounting for the regional leads and lags in the decline of marital fertility between 1880 and 1910, both in Belgium (Lesthaeghe 1977) and a larger set of European countries (Lesthaeghe and Wilson 1986). Although industrialization had affected the economic role of the family, the varying reactions of clergy and patrons to the demands of the rapidly increasing industrial proletariat entailed articulated regional differentiation in the pace of secularization that proved to be a non-reducible factor explaining regional differences in the pace of the marital fertility decline during the first demographic transition. Whereas moral acceptability of parity-specific birth control was considered the cultural innovation in the first demographic transition, the cultural change underlying the behaviors associated with the second demographic transition is the emergence of Maslowian 'higher-order needs'. In a period where material needs become increasingly fulfilled, higher-order or nonmaterial needs (autonomy, self-actualisation,…) are increasingly accentuated, leading to the disenchantment with the existing moral order embodied in institutions such as the church, legal and political systems (Lesthaeghe and Surkyn 1988). Although improving material conditions may have sparked the emergence of higher-order needs, it is the subsequent re-ordering of meaning-giving (ideational) goals that is considered to constitute the fundamental driving force of demographic change in the SDT-framework.

In line with the SDT-theory's stress on ideational change, indicators of living arrangements considered typical of the SDT have repeatedly been shown to correlate with ideational factors such as secularization and voting behavior at an aggregate level (Lesthaeghe and Neels 2002; Lesthaeghe and Neidert 2006). The inclusion of indicators of fertility postponement into the analysis of the spatial pattern of SDT-behaviors, however, has revealed a partial dissociation between new household forms and the postponement of fertility in the US and a complete dissociation between these dimensions in the Belgian spatial pattern of the SDT (Neels 2006; Lesthaeghe 2010). Whereas the increase of cohabitation may initially have run counter to moral and legal codes in many countries, the postponement of parenthood may be less conditioned by moral objections and more responsive to material conditions (Lesthaeghe 2010). Although diversification of living arrangements and postponement of parenthood may have emerged more or less simultaneously in Western Europe (SDT as descriptive notion), the ideational factors stressed in the SDT theory seem less relevant to explain the onset and pace of fertility postponement. Structural factors such as increasing enrollment in education and lengthening of educational careers, economic context, access to employment and transformation of career paths seem to have played a major role (Kreyenfeld ; Adsera 2005; Neels, Theunynck et al. 2012).

Heterogeneity in Demographic Change

In the SDT-framework, the link between new family behaviors and cultural change also provides the key to understanding heterogeneity in demographic change at the individual level. As Lesthaeghe

and Surkyn state: 'the building of ideational systems in general, and the patterning of preferences more specifically, are strongly related to social stratification' (Lesthaeghe & Surkyn, 1988, 5). Cultural innovation is further assumed to take place in the highest social strata (as a result of privilege, resources and education), whereas lower classed adopt new preferences (behaviors) by imitation. The rigidity of social class distinctions subsequently determines whether preferences spread from high to lower classes. In a setting characterized by strong social stratification, strata articulate their own preference map and ideology, whereas downward cultural mobility is more likely to take place in settings where social class boundaries are less distinct. The link between demographic behavior, ideational systems and education thus suggests that higher social strata act as vanguard populations in developing SDT-behaviors and that – in case of open social boundaries - the social class gradient of SDT-behaviors gradually fades as lower classes pick up these new family behaviors by imitation (Lesthaeghe and Surkyn 1988). Within the SDT framework, rising education among younger cohorts is thus seen as an important factor driving both ideational and demographic change. Although some of the family behaviors that spread under the SDT may initially have been associated with lower social groups (e.g. cohabitation in Latin America), a characteristic feature of the SDT is that the spread of these behaviors is subsequently carried by the middle and higher social strata.

Empirical evidence on the differentiation of SDT-behaviors by social groups, however, points out an apparent contradiction: lower educated individuals often embrace values that can be characterized as rather traditional, but at the same frequently practice family behaviors associated with the second demographic transition (Sobotka 2008). In many countries – e.g. the UK, US, Latin America, but also Sweden - unmarried cohabitation has been typically associated with lower socio-economic classes. The picture is even more uniform for nonmarital childbearing, where a consistently negative educational gradient emerges across countries (Perelli-Harris, Sigle-Rushton et al. 2010). Although ideational change may have created a context of increased tolerance to new family behaviors, the varying educational gradient of these behaviors suggests that very different motives may be operating at the individual and household level to practice these behaviors. Whereas the education-cohort mechanisms outlined by Lesthaeghe and Surkyn predominantly associates new family behaviors with emancipation, the negative educational gradient of these behaviors may be equally symptomatic for the disadvantaged position of lower socio-economic strata as partnership, family and work trajectories increasingly diverge between lower and higher educated women (McLanahan 2004).

In sum, the SDT-theory is relevant at a general level for drawing attention to the interaction between material conditions, ideational change and the changing normative context in which demographic behavior takes place. Moreover, the historical stability of cultural patterns shows that ideational factors do not necessarily change in tandem with economic factors, making cultural factors a determinant of demographic behavior worth studying in its own right. At the individual level, however, the motives for practicing new family behaviors do not seem to be consistently associated with the articulation of higher-order-needs. Finally, Lesthaeghe and associates (2010, 2006, 2012) typically use aggregate measures to define the SDT (for example period total fertility rate, mean age at first birth, and percent of nonmarital births). These measures are rarely decomposed by education and provide little evidence that the educational gradient of SDT behaviors is consistently positive or that the most highly educated are the forerunners or main practitioners of all SDT behaviors. Studies using micro-level indicators tend to show that the most highly educated are more likely to postpone childbearing (Raymo et al 2012, Rendall et al 2010), but a recent study shows that childbearing within cohabitation across Europe is more likely to occur among those with the least education (Perelli-Harris et al 2010). These studies suggest that the most educated may be more likely to practice certain behaviors, while the least educated may be more likely to practice others. Here we systematically test different specifications of family behavior, to determine when and where the educational gradient is positive or negative.

ANALYTIC STRATEGY

Data

In order to examine these family formation behaviors across countries, we employ retrospective union and fertility histories from 15 surveys that have been standardized in a dataset called the Harmonized Histories (Perelli-Harris, Kreyenfeld, and Kubisch 2009, and see *www.nonmarital.org*). The data for Austria, Belgium, Bulgaria, Estonia, France, Hungary, Italy, Norway, Romania, and Russia come from the Generations and Gender Surveys (GGS), which interviewed nationally representative samples of the resident population in each country. Because the GGS is not available for all countries (or the retrospective histories were not adequate for our purposes), we also relied on other data sources. The Dutch data come from the 2003 Fertility and Family Survey (FFS). The data for the UK are from the British Household Panel Survey (BHPS). The Spanish data come from the Survey of Fertility and Values conducted in 2006, and the Polish data are from the Employment, Family, and Education survey conducted in 2006[2]. The U.S. data are from the National Survey of Family Growth, conducted between 2006 and 2008.

Despite slightly different survey designs, information on births, union formation, and education is relatively comparable. Our data include month of children's birth, entrance into cohabiting union, marriage, and union dissolution. Questions about cohabitation generally refer to co-resident relationships with an intimate partner that lasted more than three months. In the Italian, German and Austrian surveys, however, there is no minimum duration. Registered unions, or PACS, are recorded in the French GGS, but we include them with marriages; fewer than one per cent of first marriages are registered unions. Because some surveys (U.S., Poland, Austria) only interviewed women up to age 44, the results for these countries span a more limited range of cohorts.

To create a measure of education that is comparable across countries, we use the International Standardized Classification of Education (ISCED 1997) to classify country-specific data into six educational categories. We then collapse these six categories into three basic categories: low (ISCED 1 & 2), medium (ISCED 3 & 4), and high (ISCED 5 & 6). The lowest education level refers to less than completed basic secondary, medium refers to completed secondary school and any education beyond secondary education but less than completed college (including vocational and technical schools), and higher education refers to a bachelor's or university degree and higher. Although these educational categories may be relatively crude and have context-specific meanings, we use the measure as an indication of general socioeconomic status, which should be relatively similar across countries.

Methods

In order to compare both the timing of a transition as well as whether a cohort ever experienced a transition, we use two approaches. Both have advantages and disadvantages and reveal different information about the educational gradient of family formation for each population. First, we examine the educational gradient of the percent of women in a given cohort who experienced a given behavior. These analyses show which educational groups are more likely to experience an event over the life-course, and how the educational gradient of experiencing an event changes over cohorts. However, these analyses are limited, because they do not account for changes in age structure or differences across cohorts due to truncation by the interview. Therefore, we also use event history analysis to examine the timing of union formation, transition to marriage, and childbearing within cohabiting unions. These analyses show how the rates of particular transitions differ across educational levels. Nonetheless, these techniques do not show the final level of family formation behavior as respondents near the end of their reproductive career, and so need to be examined in conjunction with the previous set of analyses. Taken as a whole, we expect that the

[2] The Centro de Investigaciones Sociológicas collected the data, but it is still undergoing processing. Therefore, the CIS holds no responsibility for any inaccuracies found in the data.

differences in the two types of measures will reveal important insights into how women from different educational backgrounds shape their behavior over the life-course.

Descriptive measures

In line with the trends considered characteristic of the Second Demographic Transition we examine the following indicators of union formation and fertility behavior to reconstruct the educational gradient of SDT-behaviors over subsequent birth cohorts in the countries considered:

- *Proportion ever cohabiting.* We examine the proportion of women who ever lived in unmarried cohabitation for women who have entered a co-residential union. We compare birth cohorts to see how the educational gradient changes over time. By making the indicator conditional on having entered a co-residential union, the comparison between birth cohorts is less sensitive to changes (postponement) in the timing of union formation[3].
- *Fertility postponement:* Single decrement life-tables were calculated by cohort and educational level to estimate the proportion of women still childless at age 27. The comparison of cumulative fertility schedules between subsequent birth cohorts or across educational levels within birth cohorts has shown that differences in cumulated fertility are generally largest around age 27 (Frejka & Calot), making it an appropriate indicator to reflect differences in the tempo of fertility over subsequent birth cohorts, or, differences in the tempo of fertility between educational groups within cohorts.
- *Ever nonmarital birth.* We examine the proportion of women ever having a nonmarital birth – whether in a cohabiting union or out of union – among women having children. The indicator is conditional on having children to avoid confounding the union/marital status of births with the proportion of women having entered motherhood. This is particularly relevant for the more recent cohorts where low proportions of nonmarital births would otherwise emerge due to postponement and censoring of maternity histories, particularly among the higher educated.
- *Ever nonmarital birth in union.* To further distinguish whether or not nonmarital births occur in the context of a cohabiting union, we distinguish women who have ever had a birth when they lived in a co-residential union, but were not married.
- *Ever Nonmarital childbearing not in union.* Among women having children, this indicator looks at the proportion of women who ever had a child when they were not in a co-residential union and were not married.

Hazard models

Discrete-time hazard models are estimated to provide more detailed information on the timing of events (Allison 1982; Singer and Willett 2003): these results provide a more dynamic view on how different SDT-behaviors are related in the early life-course and how the dynamics of family formation differ between educational groups. Hazard analyses also allow us to explicitly look at the postponement of fertility and marriage, which may be differentially associated with education. We look at the educational gradient in four sets of models (panels A-D in table 1):

- *Model A* looks at entry into the first co-residential union, regardless of whether this involves unmarried cohabitation or a marriage not preceded by cohabitation. Women enter the risk set for experiencing a co-residential union at age 15.

[3] The type of union at entry was determined by comparing the date when the cohabiting union started with the date of marriage, if any. Cohabiting unions that started in a year prior to the year of marriage (or in a month prior to the month of marriage when cohabition and marriage start in the same year) are considered as cohabiting unions. Conversely, cohabitating unions that started in the same month or after the date of marriage are considered as marriages that where not preceded by unmarried cohabitation.

- *Model B.* Using a multinomial competing risks analysis, we subsequently distinguish between union types to see whether the educational gradient of entering unmarried cohabitation differs from the educational gradient for marrying directly.
- *Model C* looks at the educational gradient of entry into parenthood. Similar to model A, women enter the risk set of having a first birth at age 15.
- *Model D.* For those women having entered unmarried cohabitation (i.e. excluding direct marriages), a competing risks analysis looks into the transition that is most likely to be made after entering unmarried cohabitation. The analysis distinguishes between four types of outcomes: i) no event/censoring (base outcome), ii) marriage with the current partner, iii) nonmarital birth, or iv) dissolution of the cohabiting union. This analysis provides insights into the meaning of cohabitation; for example, whether it is a precursor to marriage and is likely to transition into marriage; whether it is an alternative to marriage and therefore includes childbearing, or whether it is a short-term temporary union.

As the number of countries is too small to use multilevel modeling, the hazard models have been estimated separately for each of the countries considered. In all models, education is included as a time-varying covariate with women being included in a separate category while being in education.

RESULTS

Unmarried cohabitation

Figure 1 reconstructs the educational gradient of ever living in unmarried cohabitation among women having lived in a co-residential union. In line with the SDT-framework, we expect unmarried cohabitation to emerge and/or increase predominantly among higher educated women. In most Western European countries, unmarried cohabitation is characterized by a neutral to positive educational gradient in the oldest birth cohorts (e.g. France, Germany, Netherlands, Norway, Spain, UK and to a lesser extent Belgium), consistent with the ideational interpretation of newly emerging family behaviors given by the SDT[4]. In some countries this positive gradient persists into the more recent birth cohorts (cfr. Austria, Belgium, France, Germany, Netherlands, Spain), whereas in other countries the gradient has faded (e.g. Norway) or reversed (e.g. UK and US). Although this pattern supports the idea that the higher educated act as a vanguard population, with new family behaviors subsequently spreading to lower socio-economic strata, the results at the same cast doubt on the education-cohort mechanism of demographic change. Unmarried cohabitation has increased steadily over subsequent birth cohorts, regardless of educational level, suggesting that the rapid increase of educational attainment over subsequent birth cohorts has not been the main driver of increasing unmarried cohabitation. In Western European countries and the US, the normative context of union formation seems to have changed over the period considered, affecting nuptiality behavior in all social classes, but the results grant little support for increasing educational attainment being the driving force behind these changes.

FIGURE 1 ABOUT HERE

The pattern of unmarried cohabitation is altogether different in Central and Eastern European countries (CEE countries) and the Baltic states. In these countries, the proportion of women ever cohabiting among those having lived in a co-residential union generally does not exceed 60 percent, even in the more recent cohorts. Only in Estonia and Bulgaria, levels of unmarried cohabitation are similar to those witnessed in many western European countries. In contrast to Western and Southern

[4] Results from the cohort studies in the UK indicate, however, that unemployment was more articulated among the higher educated during the recession of the 1980s and 1990s. Hence the positive educational gradient of unmarried cohabitation may to some extent also reflect greater economic uncertainty among higher educated groups.

Europe, however, unmarried cohabitation in the CEE countries and Estonia is characterized by a negative educational gradient. Although the lower educated may have taken the lead in these countries, unmarried cohabitation has increased for all levels of education and data for the recent cohorts born in the 1970s suggest that the educational gradient is fading in Bulgaria, Estonia, Hungary, Poland, Romania and Russia. Although the SDT predominantly associates rising unmarried cohabitation with autonomy, alternative explanations associate unmarried cohabitation in the 1980s and 1990s with economic hardship, even among the higher educated. The negative educational gradient in CEE countries and the Baltic states suggests that the latter may be the more dominant motive in these countries. In sum, cultural change may have widened the range of living arrangements for all social classes, but a survey of the educational gradient of unmarried cohabitation in Europe and the US suggests that the motives to practice these behaviors are likely to be more diverse than suggested by the SDT (McLanahan 2004; Perelli-Harris, Sigle-Rushton et al. 2010).

Fertility Postponement

Figure 2 reconstructs the educational gradient of childlessness at age 27 over subsequent birth cohorts in order to capture the postponement of childbearing and/or overall childlessness. The educational gradient in first births by age 27 is pronounced, with the proportion of childless women being up to 50 percentage points higher among the higher educated. The pace of postponement over subsequent birth cohorts is not in line, however, with the pattern observed for unmarried cohabitation. Whereas the proportion ever cohabiting in most countries increases monotonically over subsequent birth cohorts, variation in terms of postponement is much more limited, suggesting that the expansion of educational enrollment has contributed significantly to the trend of fertility postponement. Analyses quantifying the impact of increasing educational enrollment on postponement by means of standardization estimate that between 40 and 50 per cent of the increase in the mean age at first birth in Belgium, France and the UK can be attributed to the lengthening of educational careers (Neels 2009, Neels & De Wachter 2010, Ní Brolchain & Beaujouan 2012).

FIGURE 2 ABOUT HERE

The association between rising education and fertility postponement does not allow us to discriminate between ideational factors (attitudes regarding autonomy,…) and structural factors (opportunity costs of family formation) associated with education. However, research on regional leads and lags in SDT-behaviors in Belgium and the US points out that fertility postponement is more closely associated with structural factors such as educational attainment and female labor force participation, whereas nuptiality indicators are more closely associated with regional variation in ideational factors. Also the cyclical pattern in the timing of fertility, points in the direction of structural factors: in many countries cohorts born in the 1940s and 1950s advance parenthood relative to women born in the 1930s, whereas cohorts born in the 1960s and 1970s again approach or surpass the pattern of 1930-39 cohorts in terms of timing of parenthood. The latter suggest that structural factors such as economic cycles and their effects on the labour market position of young adults are the more important factors causing the cyclical pattern in fertility tempo (Neels, Theunynck & Wood 2012, Adsera 2004, Kreyenfeld 2010). The finding that the timing of fertility among the higher educated is more responsive to economic conditions (Kreyenfeld 2010, Neels et al. 2012), could also account for the rapid postponement among higher educated women in the most recent cohort in Bulgaria, Estonia, Romania and particularly Hungary and Poland. In the latter countries fertility postponement does not occur among lower educated women whereas unmarried cohabitation is increasing in these groups. Finally, the retreat from long-term commitments such as parenthood by higher educated predicted by the SDT is at odds with the frequently reported finding that fertility intentions are not differentiated in terms of postmaterialist attitudes and fertility intentions are even higher among the higher educated. As a result, the patterning of behaviors by

level of education yields additional results that seem inconsistent with the ideational underpinnings of the SDT: lower educated women in both CEE countries and the UK show hardly any sign of fertility postponement, although unmarried cohabitation and particularly nonmarital fertility are high among these groups, suggesting a pattern of disadvantage rather than the articulation of higher-order needs.

Nonmarital childbearing

Despite the increase of unmarried cohabitation over recent cohorts, the proportion of women having a birth outside marriage (among those having children) has not increased to the same extent in most countries (figure 3). Apart from Belgium and Germany where the educational gradient is neutral, nonmarital childbearing is also characterized by a consistently negative educational gradient in all cohorts for the countries considered. Distinguishing between nonmarital births in union (figure 4) and nonmarital births to women not in a union or marriage (figure 5), does not fundamentally alter this conclusion. The educational gradient for childbearing in cohabitation is also negative in most countries, but nevertheless much less pronounced in Austria, Belgium, Germany and Spain. The educational gradient for nonmarital childbearing outside a union is negative throughout, but generally figures are low and not increasing substantially over subsequent birth cohorts.

FIGURE 3, 4 & 5 ABOUT HERE

The dynamics of SDT-behaviors

Whereas the descriptive analyses have explored the educational gradient of ever practicing new family behaviors, hazard models allow us to look into the educational gradient of the timing of new family behaviors.

COUNTRY RESULTS IN APPENDIX

The models for entry into a co-residential union (Figure 1, Panel A) indicate that the hazard of entering a union is significantly lower while women are enrolled in education. This is the case in all of the countries considered. Controlling for enrolment and differences in the length of educational careers, the educational gradient over entering a union is nevertheless negative at younger ages in most of the countries considered. The significant interaction of the educational gradient with time indicates, however, that the educational gradient reverses over the life-course, with little or no educational gradient remaining in the proportion of women ever having entered a co-residential union at older ages.

Distinguishing between unmarried cohabitation and direct marriage in the competing risks model (Figure 1, panel B) shows that the type of union has changed significantly over subsequent birth cohorts: the hazards of entering marriage without premarital cohabitation have decreased significantly, whereas the hazards of entering unmarried cohabitation have been on the rise among women born after 1940. Higher educated are slower to enter marriage or unmarried cohabitation than lower educated women, but the negative educational gradient at younger ages is generally less articulated for unmarried cohabitation than for marriage, whereas recuperation effects at older ages are more articulated for unmarried cohabitation, indicating that higher educated women are more likely to enter unmarried cohabitation early in the life-course rather than marrying their partners directly.

The educational gradient for entering parenthood is different from the pattern encountered for union formation (Figure 1, Panel C). Controlling for differential enrolment in education, the educational gradient of entering parenthood at younger ages is negative, but in contrast to the pattern encountered for union formation, the interaction between educational attainment and time suggests only limited recuperation at older ages, indicating that the negative educational gradient of entering parenthood persists until the end of the reproductive life-span.

Finally, for women having entered unmarried cohabitation, the competing risks analysis in panel D compares the educational gradient for i) entering marriage, ii) having a (nonmarital) birth, or iii) experiencing a dissolution of the cohabiting union. Although the educational gradient is generally significant for all three events, the direction of the gradient differs by type of event. Having entered a cohabiting union, higher educated women are more likely to enter marriage, remain childless in cohabitation or dissolve their union than lower educated women. The positive educational gradient for these types of events suggests that these groups consider unmarried cohabitation as a trial period that ends in marriage or dissolution of the union. Higher educated women are less likely to start family formation in unmarried cohabitation, however, resulting in a clear negative educational gradient for nonmarital childbearing. As a result, the educational gradient in ever practicing unmarried cohabitation provides an overly static view of educational differentials in new family behaviors, with higher educated being more likely to enter unmarried cohabitation early in the life-course, but at the same time being less likely to stay in this type of living arrangement when moving to the stage of family formation.

PATTERNS OF CHANGING FAMILY BEHAVIORS

The reconstruction of the educational gradient for different types of behaviors shows three distinct patterns emerging over subsequent cohorts in different European countries and the US. The first pattern is characterized by a positive educational gradient in tandem with a substantial increase in the incidence of the behavior over subsequent birth cohorts in all levels of education. This pattern applies to unmarried cohabitation. The educational differential may fade as new family behaviors become widely accepted and are increasingly adopted for other reasons. Cohabitation is an 'easy in – easy out'-type of living arrangement that may be advantageous to different social groups. For higher educated women at the early stages of their careers, cohabitation may be well suited as it provides sufficient flexibility to reconsider their options as career paths materialize. The cost-benefit calculation of unmarried cohabitation versus marriage may subsequently change along the life-course as wealth is being accumulated and living arrangements other than marriage provide the required amount of status and/or legal protection. For lower educated women, the flexibility of cohabitation may be preferable in case partners are considered socially or economically unfit for marriage and unstable careers may provide less of a stimulus to move into alternative living arrangements (Perelli-Harris, Sigle-Rushton et al. 2010).

The second pattern is characterized by a positive educational gradient and limited change over subsequent generations. This patterns applies to postponement of fertility. Fertility postponement was already characteristic of higher educated women in the older birth cohorts and this pattern has remained similar among in recent cohorts, suggesting that a compositional effect driven by increasing educational attainment contributed heavily to postponement of parenthood since the early 1970s. More detailed analyses into the compositional effect show that app. 40 per cent of the increase in the mean age at childbearing in Belgium can be attributed to the rise in educational attainment (Neels and De Wachter 2010). Similar conclusions have been drawn for the UK and France. The complete dissociation of cohabitation and fertility postponement in the Belgian spatial pattern of the SDT shows that fertility postponement – being less conditioned by moral objections - is linked to structural causes. Also the acceleration of fertility postponement in Europe is closely associated with deteriorating labor market conditions in the 1970s and 1980s, with adverse economic conditions predominantly affect the higher educated (Neels, Theunynck et al. 2012).

Finally, the third pattern is characterized by a negative educational gradient for nonmarital childbearing, regardless of whether nonmarital births are in a cohabiting union or outside of a union. The consistent negative educational gradient suggests that disadvantage, at least in lower socio-economic strata, is an important motive for practicing new family behaviors rather than the imitation of alternative life-styles initiated by the higher social strata.

Although the analyses support the SDT restructuring of living arrangements at the most general level, the results are at odds with the educational gradient implied by the SDT. Our results suggest that behaviors such as unmarried cohabitation are widely practiced by higher educated women, but that in many countries these groups are at the same time less likely to stay in these living arrangements, especially when having children.

CONCLUSION

The concept of the second demographic transition provides a succinct description of late 20th century demographic trends in developed countries, while at the same time giving a partial explanation for these trends by linking them to increased economic well-being and the emergence of higher-order needs. At the individual level, the cohort-education model associated with the SDT predicts heterogeneity of demographic behaviors in terms of educational level, with newly emerging living arrangements – although some of these behaviors may in the past have been characteristic of lower social strata - being increasingly associated with the higher social strata as the SDT unfolds.

Using data from the harmonized histories, this paper looked into the heterogeneity of new family behaviors in 14 European countries and the US by reconstructing the educational gradient of several behaviors included in the SDT framework. Moreover, as the onset of the SDT occurred at different times in different countries, we reconstruct the educational gradient of these behaviors over subsequent cohorts of women born between 1930 and 1979 to trace changes and/or reversals in these gradients over time. Finally, as empirical work on the SDT has frequently relied on cross-sectional data or simple retrospective questions (e.g. ever practicing a behavior), giving rise to an overly static interpretation of educational and socio-economic gradients alike, we complement our analyses with a more dynamic approach of how different social groups enter and leave certain types of living arrangements over the life-course.

The concept of the SDT points to an important change in behavior where demographic trends have reversed since the late 1950s compared to trends that were frequently initiated in the late 19th century. As repeatedly pointed out by Lesthaeghe, these reversals include both postponement of family formation, as well as the diversification of living arrangements (contrasting nuptiality regimes). The onset of demographic change occurred in a period characterized by economic growth and cultural change affecting all social strata. The menu of living arrangements and demographic behaviors at the disposal of individuals and couples diversified substantially in this period and it comes as no surprise that the heterogeneity of behaviors emerged (emerges) first - as was the case during the first demographic transition at the end of the 19th century - in more secularized regions or contexts characterized by weaker moral control. At a lower level of aggregation, however, the educational gradient of new family behaviors is not consistently in line with the education-cohort model proposed by Lesthaeghe and Surkyn, suggesting that ideational factors are not the only motive to choose between options in this increasingly diversified menu of living arrangements. Higher educated are more likely to move into unmarried cohabitation early in the life-course as it offers an affordable alternative to marriage with limited costs in case of separation, but these groups are at the same time less likely to stay and have children in unmarried cohabitation. The latter suggests that the cost-benefit calculation of living arrangements is made repeatedly over the life-course, with the most disadvantaged being more likely to stay in the most flexible living arrangements.

Although this paper aims to contribute to the integration of theories stressing ideational factors versus disadvantage in accounting for demographic change, the analyses have a number of limitations that should be further addressed in future work. First, additional descriptive analyses are needed to summarize trends and between-country variation in new family behaviors. Second, the

hazard analyses focus on the first cohabiting union which may not be representative for second and later unions later in the life-course. Hence, inclusion of subsequent unions or spells into the analysis is required to see whether similar educational gradients emerge for the behaviors studied in this paper as well as behaviors that have not been addressed in our study (e.g. cohabitation/marriage after separation/divorce). Nonetheless, the examination of ever cohabiting does account for some of these limitations. Third and finally, we have not explicitly incorporated a measurement of attitudes in the empirical analyses. This limitation is less easy to address, given that the analyses rely on retrospective maternity and union histories. The advent of prospective panel data, including detailed information on both the economic position of individuals and households as well as on ideational factors, may provide new opportunities to document the alternative motivations underlying the educational gradient in transitions to/between new family behaviors.

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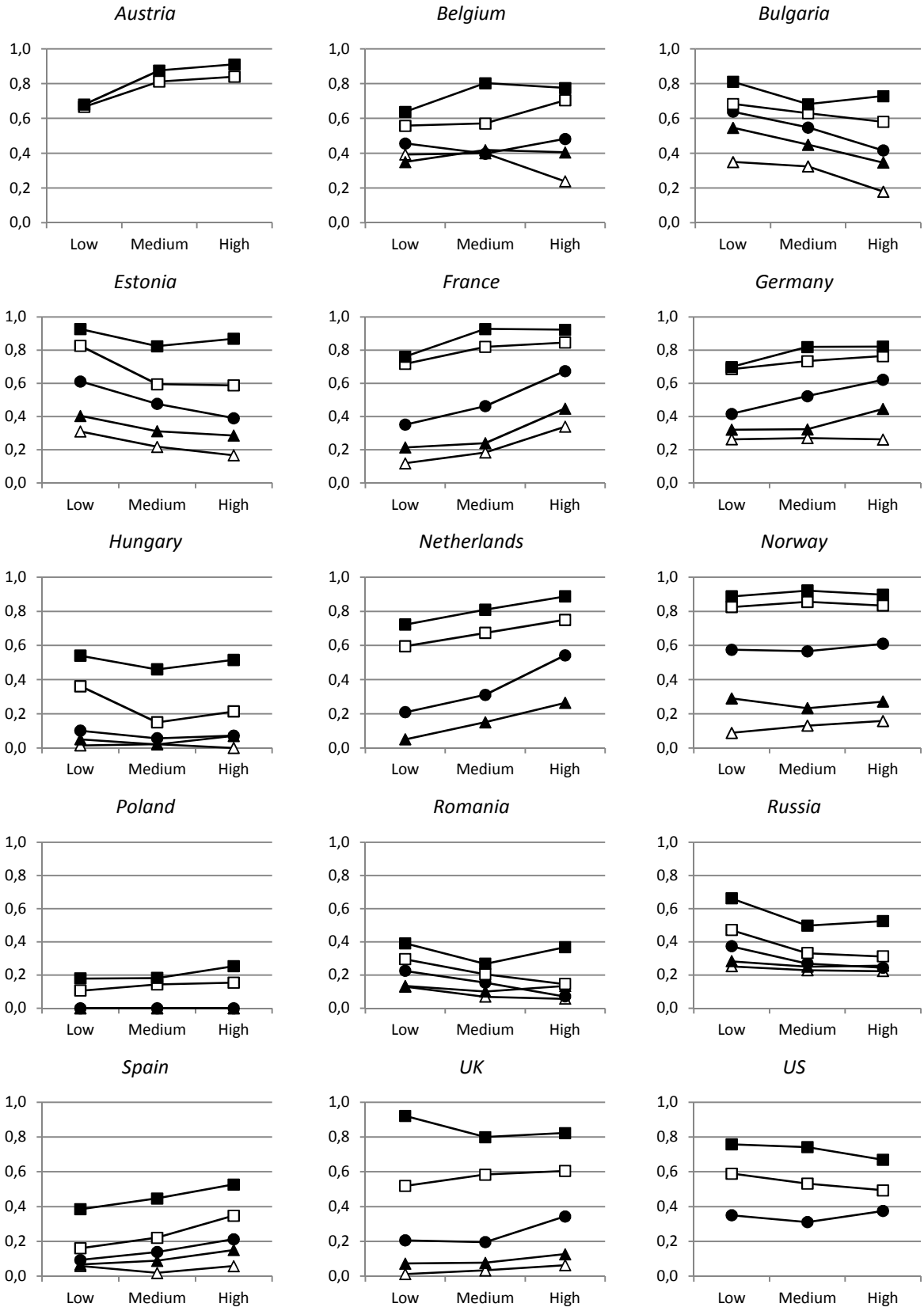
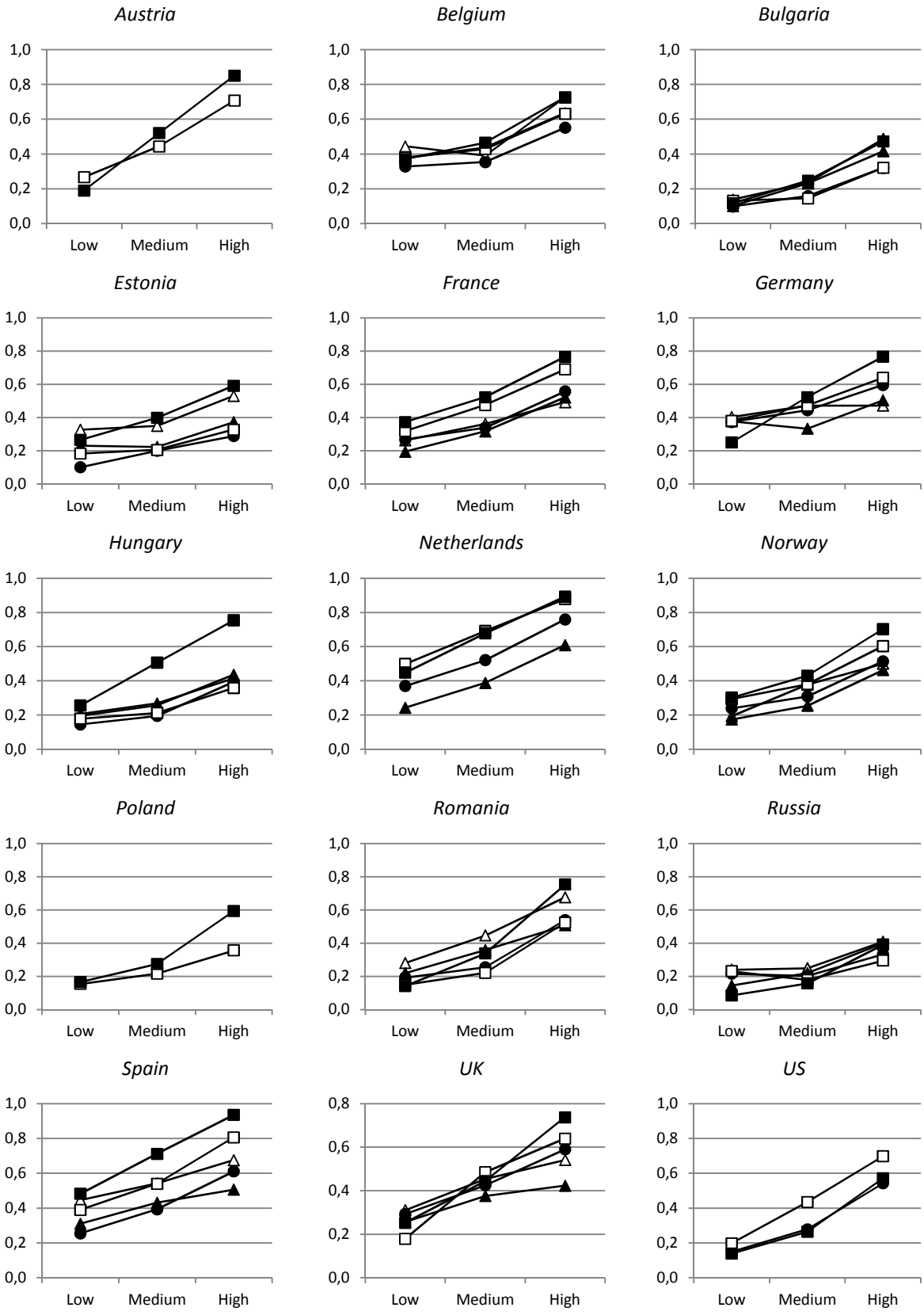
FIGURES

Figure 1. Proportion of women ever cohabiting among those having entered a union or marriage by level of education, 14 European countries and the US, cohorts 1930-1979.



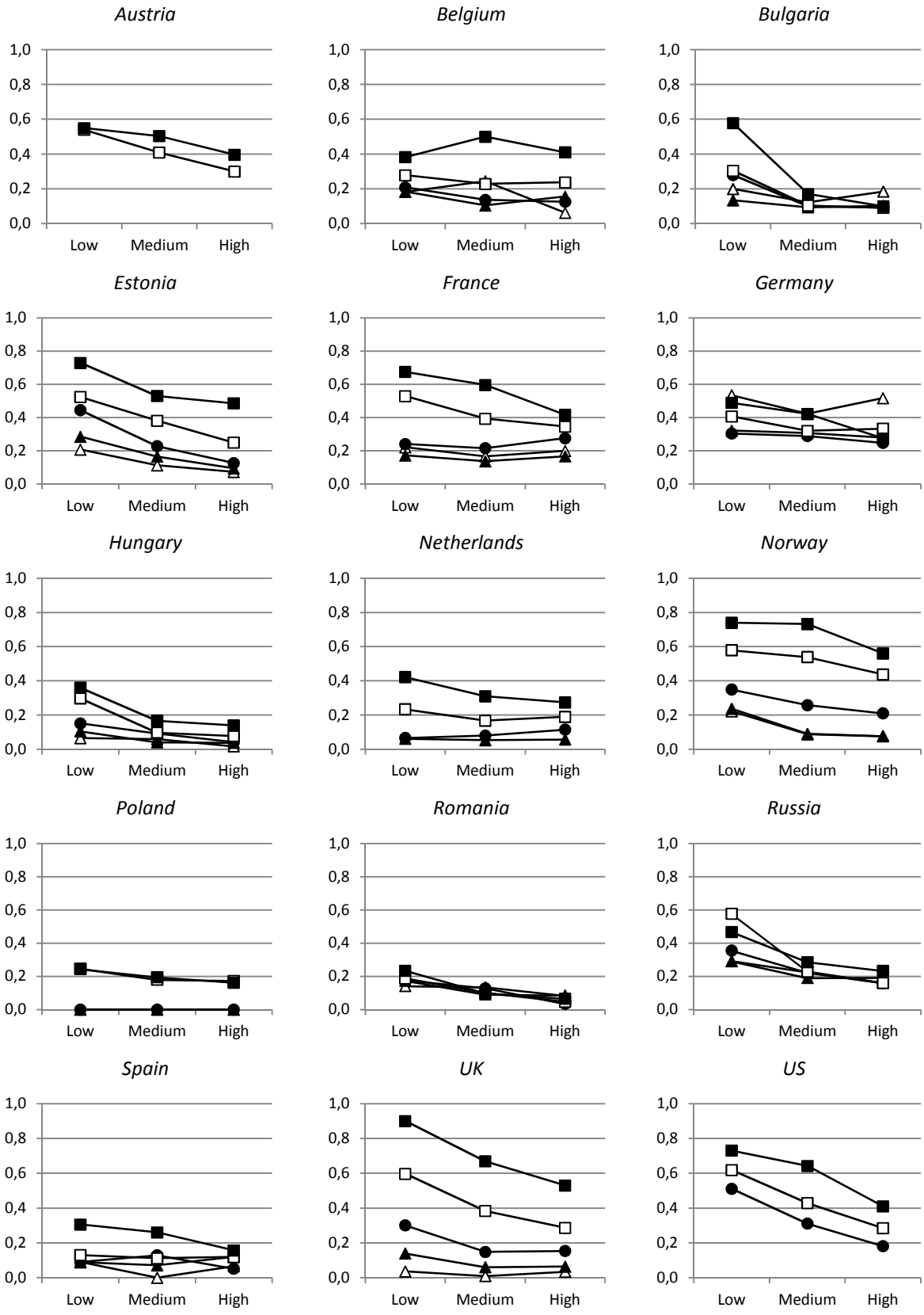
Cohorts: △ 1930-39, ▲ 1940-49, ● 1950-59, □ 1960-69, ■ 1970-79
Source: Harmonized Histories, Calculations by authors

Figure 2. Lifetable estimates of proportion of women childless at age 27 by level of education, 14 European countries and the US, cohorts 1930-1979[1].



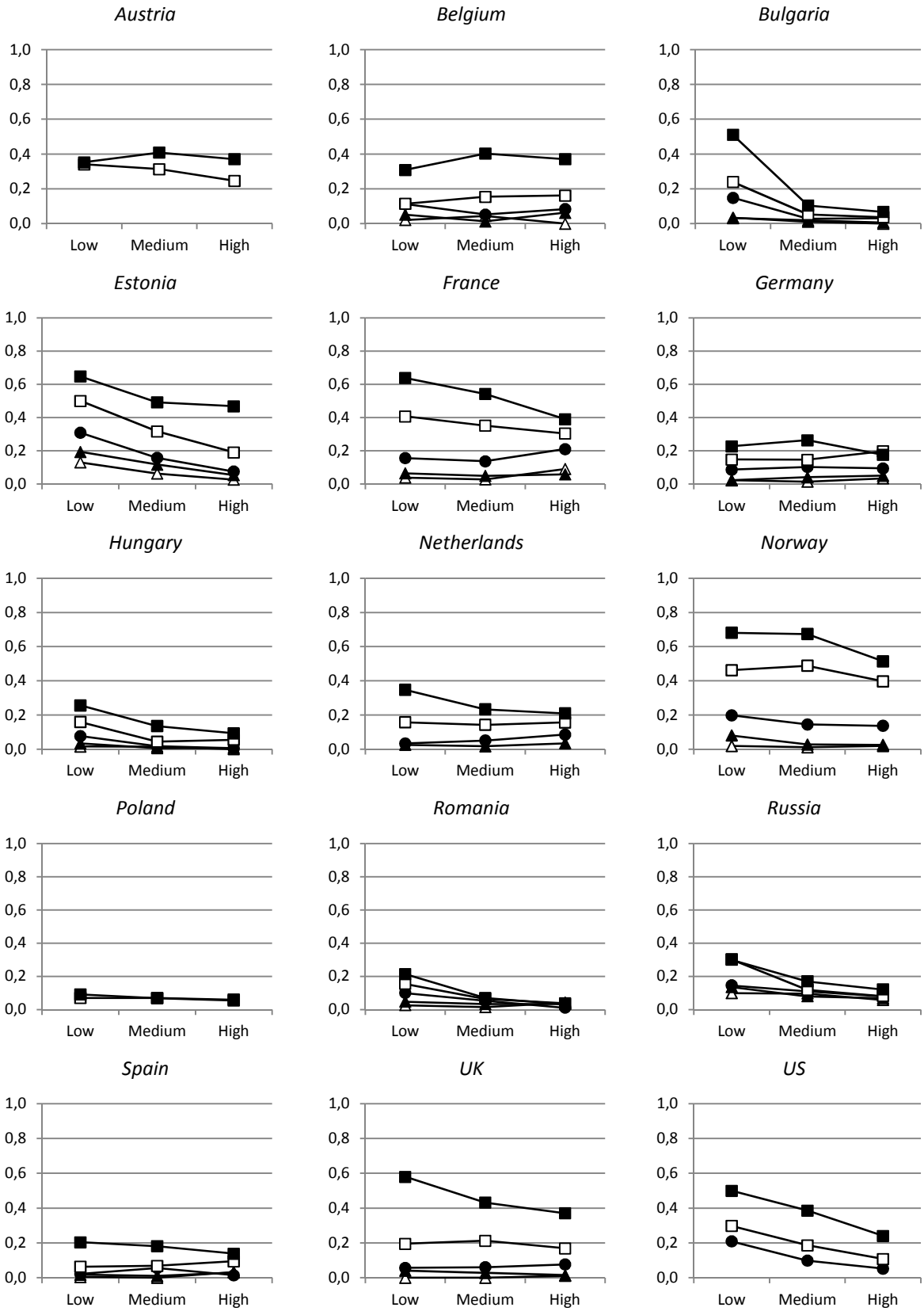
Cohorts: △ 1930-39, ▲ 1940-49, ● 1950-59, □ 1960-69, ■ 1970-79
Source: Harmonized Histories, Calculations by authors

Figure 3. Proportion of women with children ever having a nonmarital birth by level of education, 14 European countries and the US, cohorts 1930-1979[1].



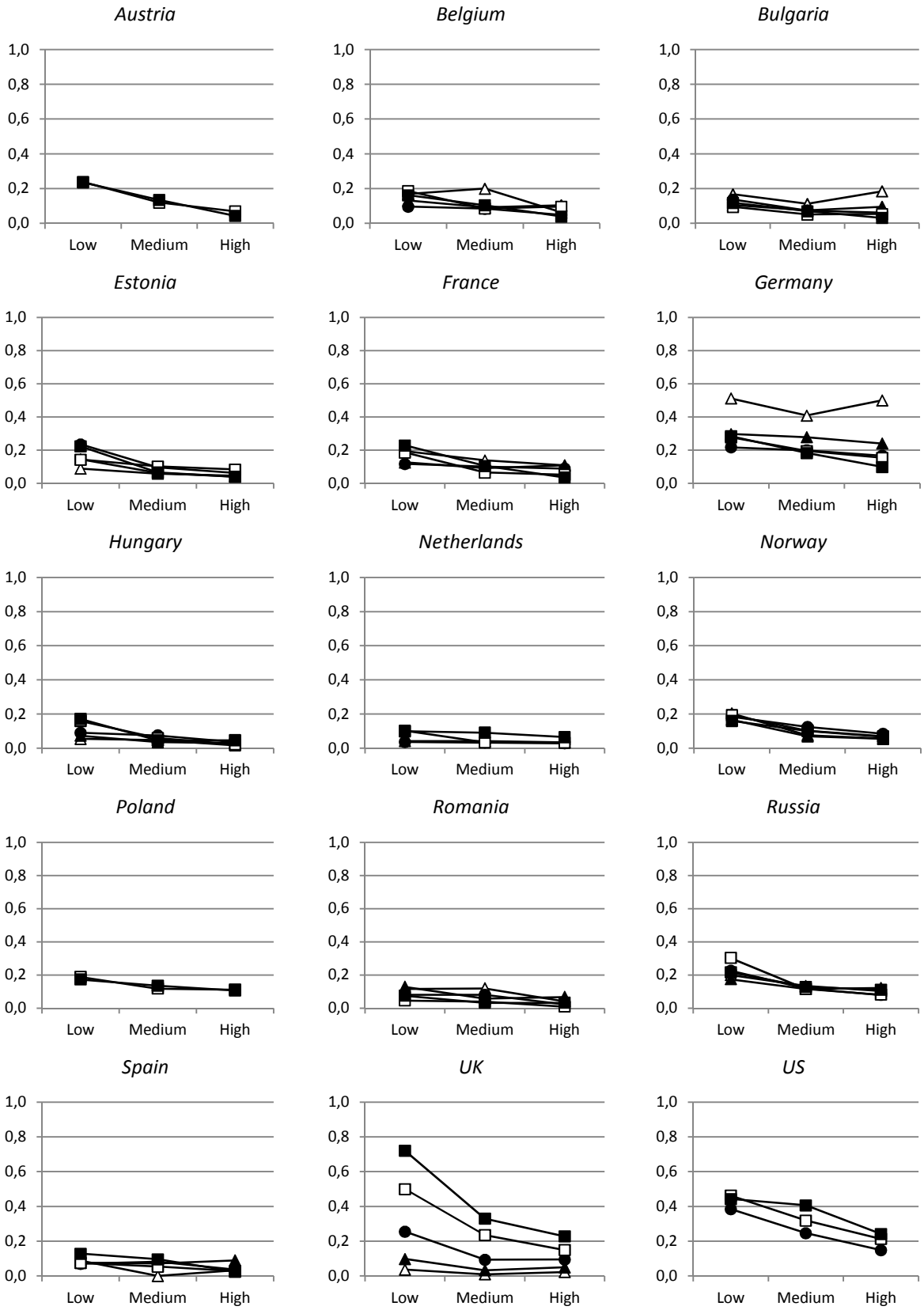
Cohorts: △ 1930-39, ▲ 1940-49, ● 1950-59, □ 1960-69, ■ 1970-79
Source: Harmonized Histories, Calculations by authors
Note: Nonmarital births refer to both births in a cohabiting union and births not in a anion.

Figure 4. Proportion of women ever having a nonmarital birth in union among those having children by level of education, 14 European countries and the US, cohorts 1930-1979[1].



Cohorts: △ 1930-39, ▲ 1940-49, ● 1950-59, □ 1960-69, ■ 1970-79
Source: Harmonized Histories, Calculations by authors
Note: Nonmarital births refer to both births in a cohabiting union and births not in a anion.

Figure 5. Proportion of women with children ever having a nonmarital birth outside a union by level of education, 14 European countries and the US, cohorts 1930-1979[1].



Cohorts: △ 1930-39, ▲ 1940-49, ● 1950-59, □ 1960-69, ■ 1970-79
Source: Harmonized Histories, Calculations by authors
Note: Nonmarital births refer to both births in a cohabiting union and births not in a anion.

APPENDIX

Table 1a. Results from discrete-time hazard models of the educational gradient in different family behaviours, Austria, women born 1960-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.362	***	1.503	***	1.446	***	1.003		1.003		1.026	***
. Quadratic	[a]		.985	***	.979	***	.986	***	.999	*	.999		.999	***
Age at union formation														
. Linear	-		-		-		-		1.119		.957		1.081	
. Quadratic	-		-		-		-		.998		1.002		.999	
Cohort														
. 1930-1939	-		-		-		-		-		-		-	
. 1940-1949	-		-		-		-		-		-		-	
. 1950-1959	-		-		-		-		-		-		-	
. 1960-1969	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1970-1979	1.004		.697	***	1.078		.874	**	.594	***	1.005		1.070	
Enrolment (time-varying)														
. In school	.697	***	.375	***	.739	***	.237	***	.588	***	.379	***	1.243	*
Educational Level (time-constant)														
. Low	1.899	***	2.944	***	1.554	**	3.414	***	.957		1.714	***	.899	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. High	1.017		3.953		.303	**	.243	***	1.262	*	.545	***	1.194	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.928	***	.950		.922	***	1.040	**	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.003	***	.887		1.100	**	.911	***	-		-		-	
AIC	10997.77		12734.01		12734.01		10947.07		15786.54		15786.54		15786.54	
BIC	11261.84		12873.89		12873.89		11029.47		16028.99		16028.99		16028.99	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1b. Results from discrete-time hazard models of the educational gradient in different family behaviors, Belgium, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.480	***	1.072	***	1.600	***	1.003		1.018	***	1.006	***
. Quadratic	[a]		.979	***	.996	***	.980	***	.999	***	.999	***	.999	**
Age at union formation														
. Linear	-		-		-		-		1.284	***	1.481	***	.891	***
. Quadratic	-		-		-		-		.994	***	.993	***	1.001	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1940-1949	1.408	***	1.503	***	1.387	**	1.132		1.122		1.205		.842	
. 1950-1959	1.891	***	1.774	***	2.263	****	1.516	***	1.003		1.217		1.647	
. 1960-1969	1.779	***	1.091		2.876	***	1.499	***	.834		1.789		1.681	
. 1970-1979	2.039	***	.767	**	3.964	***	1.342	***	.399	***	3.430	***	2.057	**
Enrolment (time-varying)														
. In school	.555	***	.254	***	.841	*	.071	***	.271	***	.351	***	1.865	***
Educational Level (time-constant)														
. Low	.928		1.074		1.024		1.585	***	.959		1.147		.835	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	1.162		1.464		1.657	**	.257	***	.769	***	.919		1.001	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.988		.968	*	.962	**	1.158	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.009		.967		.970	*	.957	***	-		-		-	
AIC	16828.71		20071.64		20071.64		16659.64		15228.18		15228.18		15228.18	
BIC	17243.66		20272.21		20272.21		16775.08		15550.86		15550.86		15550.86	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1c. Results from discrete-time models of the educational gradient in different family behaviors, Bulgaria, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.398	***	1.348	***	[a]		.957	***	1.034	***	1.060	***
. Quadratic	[a]		.980	***	.982	***	[a]		1.001	***	.999	***	.999	***
Age at union formation														
. Linear	-		-		-		-		1.426	***	1.059		1.062	
. Quadratic	-		-		-		-		.992	***	.999		.999	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1940-1949	1.275	***	.990		1.868	***	1.286	***	.941		.792		.236	*
. 1950-1959	1.518	***	.970		2.749	***	1.507	***	.878		.983		.244	*
. 1960-1969	1.569	***	.844	**	3.186	***	1.555	***	.763	***	1.177		.247	**
. 1970-1979	1.219	***	.479	***	2.913	***	1.226	***	.453	***	1.253		.437	
Enrolment (time-varying)														
. In school	.627	***	.568	***	.629	***	.143	***	.874	**	.448	***	.934	
Educational Level (time-constant)														
. Low	2.603	***	1.774	***	2.708	***	1.545	***	.628	***	2.205	***	.816	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	.875		.247	***	.574	*	.682	**	.890		.419	***	.850	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.870	***	.898	***	.875	***	1.155	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.004		1.104	***	1.010		.964	***	-		-		-	
AIC	29755.47		37072.28		37072.28		30554.46		19415.45		19415.45		19415.45	
BIC	30152.04		37285.11		37285.11		30959.81		19716.91		19716.91		19716.91	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1d. Results from discrete-time hazard models of the educational gradient in different family behaviours, Estonia, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.836	***	1.418	***	1.473	***	.982	***	1.010	**	1.017	***
. Quadratic	[a]		.967	***	.982	***	.978	***	1.000		.999	***	.999	**
Age at union formation														
. Linear	-		-		-		-		1.172	**	.996		.841	*
. Quadratic	-		-		-		-		.995	***	.999		1.003	*
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1940-1949	1.274	***	1.136	*	1.798	***	1.335	***	.999		1.154		1.019	
. 1950-1959	1.400	***	.995		2.885	***	1.510	***	.986		1.164		1.033	
. 1960-1969	1.494	***	.754	***	4.048	***	1.434	***	.738	**	1.622	**	1.464	
. 1970-1979	1.343	***	.242	***	4.964	***	.885	*	.280	***	1.200		2.033	**
Enrolment (time-varying)														
. In school	.670	***	.605	***	.720	***	.121	***	1.039		.419	***	.952	
Educational Level (time-constant)														
. Low	.947		.696	**	1.662	***	.586	***	.825	*	1.339	**	.980	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	1.113		.868		.489	**	.593	***	1.025		.706	**	1.189	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	1.002		1.013		.489	**	1.183	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	.992		1.003		1.044	*	1.061	***	-		-		-	
AIC	23080.39		28314.96		28314.96		22725.98		17940.81		17940.81		17940.81	
BIC	23422.5		28521.23		28521.23		22842.36		17804.07		17804.07		17804.07	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1e. Results from discrete-time hazard models of the educational gradient in different family behaviors, France, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.561	***	1.356	***	1.659	***	.998		1.021	***	1.022	***
. Quadratic	[a]		.974	***	.987	***	.977	***	.999	***	.999	***	.999	***
Age at union formation														
. Linear	-		-		-		-		1.197	***	1.081		1.140	**
. Quadratic	-		-		-		-		.996	***	.998	*	.998	*
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	
. 1940-1949	1.323	***	1.254	***	2.105	***	1.125	**	.723	*	.826		2.079	
. 1950-1959	1.472	***	1.054		4.197	***	1.009		.497	***	.885		2.589	*
. 1960-1969	1.518	***	.414	***	7.514	***	.833	***	.372	***	.981		3.083	**
. 1970-1979	1.483	***	.207	***	8.407	***	.664	***	.263	***	1.089		4.600	***
Enrolment (time-varying)														
. In school	.558	***	.343	***	.662	***	.142	***	.455	***	.524	***	1.176	
Educational Level (time-constant)														
. Low	1.437	***	1.158		.972		1.584	***	.824	**	1.541	***	.872	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. High	1.175		.818		1.707	**	.282	***	.958		.688	***	.902	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.959	***	.994		.971	**	1.102	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	.993		.991		.948	***	.969	***	-		-		-	
AIC	25395.31		30235.81		30235.81		24764.44		22936.09		22936.09		22936.09	
BIC	25817.37		30448.01		30448.01		24883.48		23274.73		23274.73		23274.73	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1f. Results for discrete-time hazard models of the educational gradient in different family behaviors, Germany, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.334	***	1.166	***	1.465	***	.994	***	.998		1.027	***
. Quadratic	[a]		.984	***	.993	***	.985	***	.999	**	.999		.999	***
Age at union formation														
. Linear	-		-		-		-		1.136	***	1.063		1.091	
. Quadratic	-		-		-		-		.997	***	.999		.997	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. 1940-1949	1.771	***	1.535	***	2.432	***	1.152	**	1.050		1.385		4.588	
. 1950-1959	2.066	***	1.247	***	4.354	***	1.136	**	.631	***	1.267		5.819	*
. 1960-1969	1.947	***	.684	***	5.591	***	1.180	***	.507	***	1.457		6.477	*
. 1970-1979	1.925	***	.501	***	6.595	***	1.017		.378	***	1.742		9.643	**
Enrolment (time-varying)														
. In school	.655	***	.437	***	.678	***	.265	***	.540	***	.647	***	1.840	***
Educational Level (time-constant)														
. Low	1.437	***	1.183		1.068		1.454	***	.956		1.296		1.138	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	
. High	.939		.787		1.012		.643	***	1.022		1.090		1.179	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.951	***	.963	**	.967	***	.951	**	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.019	**	1.010		1.005		1.038	***	-		-		-	
AIC	24492.7		29634.24		29634.24		25473.64		18984.62		18984.62		18984.62	
BIC	24976.94		29850.64		29850.64		25584.02		19309.31		19309.31		19309.31	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1g. Results from discrete-time hazard models of the educational gradient in different family behaviors, Hungary, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.673	***	1.230	***	1.774	***	.996		1.001		1.017	***
. Quadratic	[a]		.970	***	.993	***	.971	***	.999	**	.999		.999	***
Age at union formation														
. Linear	-		-		-		-		1.084		1.218	*	1.100	
. Quadratic	-		-		-		-		.997	*	.995	**	.999	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. 1940-1949	1.055		1.007		2.527	***	1.114	**	1.660		.871		3.019	
. 1950-1959	1.163	***	1.054		5.181	***	1.267	***	1.325		.900		3.497	*
. 1960-1969	1.171	***	.878	**	15.265	***	1.177	***	1.420		.638		4.110	*
. 1970-1979	.695	***	.311	***	23.170	***	.556	***	.668		.364	***	7.878	***
Enrolment (time-varying)														
. In school	.576	***	.522	***	.676	***	.464	***	.652	***	.474	***	1.299	
Educational Level (time-constant)														
. Low	1.500	***	1.175	**	2.765	***	1.859	***	1.003		1.963	***	.604	**
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. High	.988		.372	***	2.533	**	.355	***	1.050		.772		1.413	*
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.955	***	.975	**	.933	***	.937	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.001		1.083	***	.916	**	1.090	***	-		-		-	
AIC	31307.81		35788.93		35788.93		33743.28		8963.91		8963.91		8963.91	
BIC	31694.00		36000.11		36000.11		33855.17		9262.07		9262.07		9262.07	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1h. Results from discrete-time hazard models of the educational gradient in different family behaviours, Netherlands, women born 1940-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.869	***	1.769	***	[a]		1.014	***	1.021	***	1.005	
. Quadratic	[a]		.970	***	.975	***	[a]		.999	***	.999	***	.999	
Age at union formation														
. Linear	-		-		-		-		1.215	**	.999		1.001	
. Quadratic	-		-		-		-		.996	***	1.001		.999	
Cohort														
. 1930-1939	-		-		-		-		-		-		-	
. 1940-1949	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. 1950-1959	1.359	***	1.097		3.530	***	.824	***	.849		.813		1.575	
. 1960-1969	1.098	*	.424	***	5.912	***	.676	***	.610	**	1.128		1.588	
. 1970-1979	1.020		.233	***	6.784	***	.551	***	.414	***	1.679		2.249	**
Enrolment (time-varying)														
. In school	.576	***	.413	***	.660	***	.342	***	.467	***	.212	***	1.843	***
Educational Level (time-constant)														
. Low	1.966	***	1.959	***	1.798	***	4.305	***	1.117		2.224	***	.970	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000	-	1.000	-	1.000	-
. High	.564	*	.034	***	.093	***	.261	***	.816	**	.605	**	.790	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.935	***	.952	***	.906	***	.908	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.024		1.199	***	1.171	***	1.066	***	-		-		-	
AIC	19394.17		23452.4		23452.4		19670.58		16639.10		16639.10		16639.10	
BIC	19739.37		23637.88		23637.88		20035.87		16942.76		16942.76		16942.76	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1i. Results from discrete-time hazard models of the educational gradient in different family behaviours, Norway, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.440	***	1.446	***	1.658	***	1.003		1.013	***	1.012	
. Quadratic	[a]		.984	***	.984	***	.979	***	.999	***	.999	***	.999	
Age at union formation														
. Linear	-		-		-		-		1.197	***	1.038		1.048	
. Quadratic	-		-		-		-		.996	***	.999		.998	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000	-	1.000		1.000	
. 1940-1949	1.224	***	1.066		2.089	***	1.042		1.057		1.007		2.245	
. 1950-1959	1.229	***	.607	***	4.723	***	.706	***	.648	***	1.360		2.769	*
. 1960-1969	1.213	***	.228	***	6.851	***	.547	***	.295	***	1.967	**	3.823	**
. 1970-1979	1.120	**	.123	***	7.011	***	.405	***	.151	***	1.851	**	4.605	***
Enrolment (time-varying)														
. In school	.762	***	.765	***	.791	***	.544	***	na		na		na	
Educational Level (time-constant)														
. Low	2.204	***	2.093	***	3.348	***	2.707	***	.944		1.161		1.041	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000	-	1.000		1.000	
. High	.777		.231	***	.683		.292	***	1.069	***	.681	***	1.382	***
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.928	***	.933	**	.886	***	.919	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.013		1.100	***	.994		1.095	***	-		-		-	
AIC	33675.16		40435.87		40435.87		35677.22		34777.63		34777.63		34777.63	
BIC	34159.65		40651.58		40651.58		35790.00		35126.69		35126.69		35126.69	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1j. Results from discrete-time hazard models of the educational gradient in different family behaviors, Poland, women born 1960-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.949	***	1.616	***	1.702	***	1.002		.968	***	1.050	*
. Quadratic	[a]		.965	***	.976	***	.976	***	.999		1.001	***	.999	**
Age at union formation														
. Linear	-		-		-		-		2.151	***	.838		1.606	
. Quadratic	-		-		-		-		.981	***	1.003		.990	
Cohort														
. 1930-1939	-		-		-		-		-		-		-	
. 1940-1949	-		-		-		-		-		-		-	
. 1950-1959	-		-		-		-		-		-		-	
. 1960-1969	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1970-1979	.857	***	.778	***	1.251	*	.784	***	.965		.829		1.374	
Enrolment (time-varying)														
. In school	.604	***	.674	***	.679	**	.314	***	.633		.304	***	1.158	
Educational Level (time-constant)														
. Low	2.560	***	4.036	***	2.587	***	2.844	***	1.152		1.450		1.990	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	.563	**	.466	**	.633		.208	***	1.164		.499	***	1.229	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.901	***	.860	***	.890	***	.906	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.027		1.032		1.027		1.099	***	-		-		-	
AIC	12852.88		14996.81		14996.81		12879.64		3399.55		3399.554		3399.554	
BIC	13085.65		15141.34		15141.34		12953.49		3595.59		3595.594		3595.594	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1k. Results from discrete-time hazard models of the educational gradient in different family behaviors, Romania, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.536	***	1.215	***	1.610	***	.972	***	1.039	***	1.014	
. Quadratic	[a]		.976	***	.992	***	.978	***	1.001	***	.999	***	.999	
Age at union formation														
. Linear	-		-		-		-		1.032		.941		1.121	
. Quadratic	-		-		-		-		.999		.999		.997	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1940-1949	1.288	***	1.254	***	1.497	***	1.242	***	1.023		1.813	**	2.582	
. 1950-1959	1.443	***	1.303	***	2.713	***	1.514	***	.803		2.040	***	1.303	
. 1960-1969	1.571	***	1.321	***	4.027	***	1.745	***	.735	*	2.337	***	2.188	
. 1970-1979	1.354	***	.984		5.046	***	1.361	***	.734	**	1.930	**	1.298	
Enrolment (time-varying)														
. In school	.484	***	.437	***	.564	***	.334	***	.864		.468	**	.302	
Educational Level (time-constant)														
. Low	1.920	***	1.579	***	2.871	***	2.036	***	.598	***	1.090		.733	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	.979		.273	***	1.368		.201	***	1.201		.387	*	2.287	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.923	***	.934	***	.924	***	.945	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	.999		1.099	***	.946		1.106	***	-		-		-	
AIC	27744.97		32564.28		32564.28		28982.14		7935.39		7935.39		7935.39	
BIC	28126.86		32773.93		32773.93		29091.63		8218.00		8218.00		8218.00	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1l. Results from discrete-time hazard models of the educational gradient in different family behaviors, Russia, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.661	***	1.263	***	1.633	***	.965	***	1.010	**	1.033	***
. Quadratic	[a]		.970	***	.989	***	.977	***	1.001	***	.999	***	.999	***
Age at union formation														
. Linear	-		-		-		-		1.179	***	1.161	**	1.203	**
. Quadratic	-		-		-		-		.996	***	.996	***	.997	*
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1940-1949	1.163	***	1.110	*	1.309	***	1.121	**	1.019		1.095		2.597	***
. 1950-1959	1.312	***	1.221	***	1.553	***	1.233	***	.942		1.217		1.915	*
. 1960-1969	1.515	***	1.275	***	2.244	***	1.369	***	1.021		1.142		2.444	***
. 1970-1979	1.748	***	1.048		4.144	***	1.408	***	.791	*	.865		3.207	***
Enrolment (time-varying)														
. In school	.694	***	.658	***	.715	***	.438	***	.838	**	.580	***	.936	
Educational Level (time-constant)														
. Low	1.063		.852		1.463	**	.895		.702	***	1.429	**	1.090	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	.799		.244	***	.556	**	.295	***	.953		.602	***	1.251	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.974	**	.992		.952	***	1.007		-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.015		1.109	***	1.026		1.078	***	-		-		-	
AIC	31557.59		38867.85		38867.85		32598.55		14866.98		14866.98		14866.98	
BIC	31985.77		39083.07		39083.07		32708.09		15169.10		15169.10		15169.10	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1m. Results from discrete-time hazard models of the educational gradient in different family behaviors, Spain, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.647	***	1.403	***	1.620		.988		.999		1.009	
. Quadratic	[a]		.979	***	.988	***	.983		.999		1.001		.999	
Age at union formation														
. Linear	-		-		-		-		1.300	*	.686	***	1.048	
. Quadratic	-		-		-		-		.995	*	1.007	***	1.001	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		-		-		-	
. 1940-1949	1.099		1.071		2.976	*	1.226	*	-		-		-	
. 1950-1959	1.482	***	1.423	***	5.183	***	1.372	***	1.000		1.000		1.000	
. 1960-1969	1.153		.972		7.758	***	1.001		.907		1.899		1.326	
. 1970-1979	.876		.489	***	13.575	***	.643	***	.491	***	2.068		1.304	
Enrolment (time-varying)														
. In school	.405	***	.314	***	.663	**	.341	***	.848		.305	**	2.545	*
Educational Level (time-constant)														
. Low	1.155		1.103		.961		1.517	***	1.190		.949		.715	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	.767		.904		.943		.318	***	1.010		.484	***	.975	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.993		1.001		.991		.974	**	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.010		.982		1.016		1.048	***	-		-		-	
AIC	11680.25		13424.38		13424.38		11432.03		3378.40		3378.40		3378.40	
BIC	11986.26		13618.14		13618.14		11532.38		3609.88		3609.88		3609.88	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1n. Results from discrete-time hazard models of the educational gradient in different family behaviors, UK, women born 1930-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.251	***	1.213	***	1.534	***	1.005		.994		1.001	
. Quadratic	[a]		.990	***	.994	***	.983	***	.999	***	.999		.999	
Age at union formation														
. Linear	-		-		-		-		1.032		.866		.929	
. Quadratic	-		-		-		-		.999		1.002		.999	
Cohort														
. 1930-1939	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1940-1949	1.207	***	1.145	**	2.897	***	1.267	***	1.197		1.550		1.219	
. 1950-1959	1.187	***	.891	*	7.690	***	1.216	***	.820		.661		.655	
. 1960-1969	1.067		.450	***	15.598	***	1.155	***	.731		1.110		.734	
. 1970-1979	.952		.188	***	22.275	***	1.009		.389	**	1.642		.585	
Enrolment (time-varying)														
. In school	.728	***	.560	***	.774	***	.455	***	.655	**	.616	**	1.162	
Educational Level (time-constant)														
. Low	1.610	***	1.664	***	1.106		2.161	***	1.212		1.251		.653	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	1.002		.965		1.359	*	.293	***	1.103		.513	***	1.096	
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.952	***	.938	***	.964	**	.950	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.003		.976	*	.971	**	1.078	***	-		-		-	
AIC	24226.89		28710.48		28710.48		32374.41		13603.99		13603.99		13603.99	
BIC	24714.43		28919.69		28919.69		32486.66		13916.95		13916.95		13916.95	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*

Table 1o. Results from discrete-time hazard models of the educational gradient in different family behaviors, US, women born 1960-79.

	Panel A		Panel B (Competing Risks)				Panel C		Panel D (Competing Risks)					
	Age 15 to first union		Age 15 to marriage		Age 15 to first cohabitation		Age 15 to first birth		Cohabitation to marriage		Cohabitation to birth		Cohabitation to dissolution	
Covariates	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*	*e(b)*	*Sig.*
Age														
. Linear	[a]		1.368	***	1.256	***	1.194	***	.998		1.001		1.006	
. Quadratic	[a]		.982	***	.988	***	.991	***	.999		.999	*	.999	
Age at union formation														
. Linear	-		-		-		-		1.218	**	.907		1.033	
. Quadratic	-		-		-		-		.996	*	1.002		.999	
Cohort														
. 1930-1939	-		-		-		-		-		-		-	
. 1940-1949	-		-		-		-		-		-		-	
. 1950-1959	-		-		-		-		-		-		-	
. 1960-1969	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. 1970-1979	1.148	***	.737	***	1.450	***	1.353	***	.659	***	1.371	**	1.272	
Enrolment (time-varying)														
. In school	.912		.846		.950		.558	***	.824		.850		.917	
Educational Level (time-constant)														
. Low	1.550	***	2.178	***	1.560	**	2.082	***	.643	***	1.792	***	.813	
. Medium (ref.)	1.000		1.000		1.000		1.000		1.000		1.000		1.000	
. High	.509	***	.4893	***	.538	***	.229	***	1.157		.590	**	1.451	**
Time*Educational Level (non-proportional hazards)														
*. Month*Low*	.950	***	.911	***	.949	***	.952	***	-		-		-	
*. Month*Medium (ref.)*	1.000		1.000		1.000		1.000		-		-		-	
*. Month*High*	1.046	***	1.069	**	1.026		1.081	***	-		-		-	
AIC	11324.51		13732.96		13732.96		11554.69		9504.18		9504.18		9504.18	
BIC	11580.46		13872.62		13872.62		11626.86		9719.31		9719.31		9719.31	

*Source: Harmonized Histories, Calculations by authors; * p < .10, ** p < .05, *** p < .01*

[a] *A categorical specification of time (exposure) was used in this model. Parameter estimates have been omitted.*