Revisiting the SDT across Europe and the United States:
Examining patterns of new family behaviours by education

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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 2010, Lesthaeghe and Neidert 2009). 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 behaviours 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 2010, Lesthaeghe and Neidert 2009). 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, Neels 2006, Neels and De Wachter, 2010, Goldstein and Kenney 2001), while 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). Thus, the highly educated may be more likely to practice certain behaviours, while the least educated may be more likely to practice others.

The different educational gradient for different behaviors also raises questions about whether people are postponing events versus ever experiencing an event, for example whether the highly educated are more likely to postpone marriage, but more likely to end up marrying (Goldstein and Kenney 2001). Or, the most educated may be most likely to enter into cohabitation, for example in experimenting with premarital cohabitation, but least likely to stay in cohabitation for long periods of time. 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 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 having experienced 1) a union; 2) marriage, among those in a cohabiting union; 3) cohabitation, among those ever in a union; and 4) a birth in a cohabiting union, 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 will show when and whether different educational groups have adopted new behaviors, and whether the educational gradient for different behaviors is similar across countries.

Data and Methods

In order to examine these family formation behaviors across countries, we will 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[1], and the Polish data are from the Employment, Family, and Education survey conducted in 2006. 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 last 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, we restrict our sample to women the 1960-69 cohort.

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 socio-economic status, which should be relatively similar across countries.

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 (1960-69) who experienced a given behavior. These analyses show which educational groups are more likely to experience an event over the lifecourse, but can not provide specific examples of the sequencing of events. 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

[1] 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.

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

Preliminary results

Table 1 presents information on different aspects of union formation and (non)marital childbearing for cohorts born between 1960 and 1969 in Austria , France and Norway. The first indicator refers to the percentage of men and women in these birth cohorts who have ever entered a co-residential union, regardless of the type of union. The results reveal limited variation across countries (percentages ranging from 91.6 to 94.1 per cent), but also limited educational differentials within countries. For respondents who ever entered a co-residential union, however, marked educational differentials emerge in terms of union type (see figure 1)[2]. In Austria, the percentage ever living in unmarried cohabitation among those entering a co-residential union is limited to 69.6 per cent among the lower educated, whereas this percentage increases to approximately 83 per cent among the higher educated. Similarly in France, unmarried cohabitation is more frequent among the highly educated (88.9 per cent) than among lower and medium educated groups (78.2 and 85.9 per cent). Only in Norway, is an educational gradient absent with all educational groups having levels of unmarried cohabitation similar to those of the higher educated in Austria and France. At least for the 1960-69 cohort, unmarried cohabitation has become nearly universal in Norway, whereas is still being characterized by a positive educational gradient in Austria and France.

In contrast to unmarried cohabitation, however, educational differentials are less articulated for the proportion ever having married among those who entered a co-residential union. In France the proportion ever married in a co-residential union is around 73.0 per cent, regardless of educational level, whereas a small positive educational gradient is found in Norway and a somewhat more articulated negative gradient in Austria. None of these educational differentials, however, are statistically significant. In contrast to France and Norway, Austria is characterized by a more traditional pattern and higher proportions ever being married in a co-residential union.

The remaining indicators in table 1 address the relationship between union type and childbearing. Among respondents having children, the proportion of births outside of marriage varies between countries, ranging from 42.6 per cent in Austria to 45.5 per cent in France and 55.8 per cent in Norway. Despite the positive educational gradient in unmarried cohabitation in Austria and France and the neutral gradient in Norway, a clear negative educational gradient emerges in the proportion of respondents who ever had a nonmarital birth among those having children. In all countries considered, the proportion having a nonmarital birth is 15 to 20 percentage points lower among the higher educated compared to the lowest educational group (see figure 2).

This apparent inconsistency between the neutral or positive educational gradient for unmarried cohabitation and the negative educational gradient for nonmarital childbearing may be accounted for by the fact that the relationship between education and union type is significantly different depending on whether or

[2] For respondents who ever entered a co-residential union, separate indicators are constructed indicating whether they ever lived in unmarried cohabitation and/or ever lived in a marital union.

not children were born in a co-residential union (figure 3). Among respondents ever living in a co-residential union, there is positive educational gradient to convert unmarried cohabitation into marriage for those who have children. In Austria, the proportion of cohabitants ever marrying is limited to 55.9 among lower educated respondents with children, whereas this increases to 70.8 and 67.7 among the medium and highly educated respondents with children. Similarly, the percentage of cohabitants ever marrying is 50.7 per cent of the lower educated with children in France, compared to 59.5 and 68.2 per cent among the medium and highly educated with children. In Norway, a small positive educational gradient is found for both marriage as well as conversion of cohabitation into marriage among respondents with children. Among respondents who never had children, the proportion of cohabitants ever marrying is generally much lower and educational differentials are limited in all three countries considered.

In summary, the breakdown by education of indicators referring to union formation and fertility indicates that the educational gradient differs depending on the transition considered. Our preliminary results suggest that although the more highly educated frequently enter unmarried cohabitation, they are at the same time less likely than the lower educated to stay in unmarried cohabitation when having children.

Next steps

These preliminary results suggest that all educational groups do not experience new family formation behaviors in the same way, nor is one group predominantly practicing all new family behaviors. The next step is to provide greater detail about when and how each educational group practises each new behavior. The application of hazard models will enrich the analyses and provide further information on the timing of behaviors, which is important for understanding the role of postponement. In addition, we will expand the number of countries analyzed to explore how these patterns may or may not be similar across countries

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Tables and Figures

Table 1. Educational gradient in different events related to union formation and nonmarital childbearing in Austria, France and Norway, birth cohort 1960-69.

	Low	Medium	High	Total	Sig.	N
Austria						
Ever in co-residential union	95.0	93.4	92.3	93.4	ns	1520
Type of union						
- *ever unmarried cohabitation*	69.6	83.9	83.4	81.7	***	1420
- *ever married*	86.5	84.8	79.4	84.0	ns	1420
Ever married by parity:						
- *no children*	40.0	43.5	38.3	41.6	ns	214
- *ever children*	55.9	70.8	67.7	68.1	**	1206
Ever nonmarital birth	52.0	42.3	36.4	42.6	**	1225
France						
Ever in co-residential union	89.6	91.8	92.7	91.6	ns	1978
Type of union						
- *ever unmarried cohabitation*	78.2	85.9	88.9	85.2	***	1812
- *ever married*	73.7	72.9	72.7	73.0	ns	1812
Ever married by parity:						
- *no children*	23.1	34.6	18.7	26.6	*	237
- *ever children*	50.7	59.5	68.2	60.2	***	1575
Ever nonmarital birth	55.4	45.5	37.7	45.5	***	1609
Norway						
Ever in co-residential union	93.8	95.4	92.7	94.1	*	3017
Type of union						
- *ever unmarried cohabitation*	85.0	87.4	84.6	85.9	ns	2838
- *ever married*	74.6	74.6	77.7	75.8	ns	2838
Ever married by parity:						
- *no children*	27.6	28.8	31.2	29.4	ns	306
- *ever children*	62.2	64.5	64.6	64.1	ns	2532
Ever nonmarital birth	64.8	60.4	46.5	55.8	***	2570

Source: GGS Harmonized DataFiles, Wave 1, calculations by authors. Significance level of the educational gradient: ns not significant, * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$.

Figure 1 Percentage of respondents ever living in co-residential union who lived in unmarried cohabitation, birth cohorts 1960-69 in Austria, France and Norway.

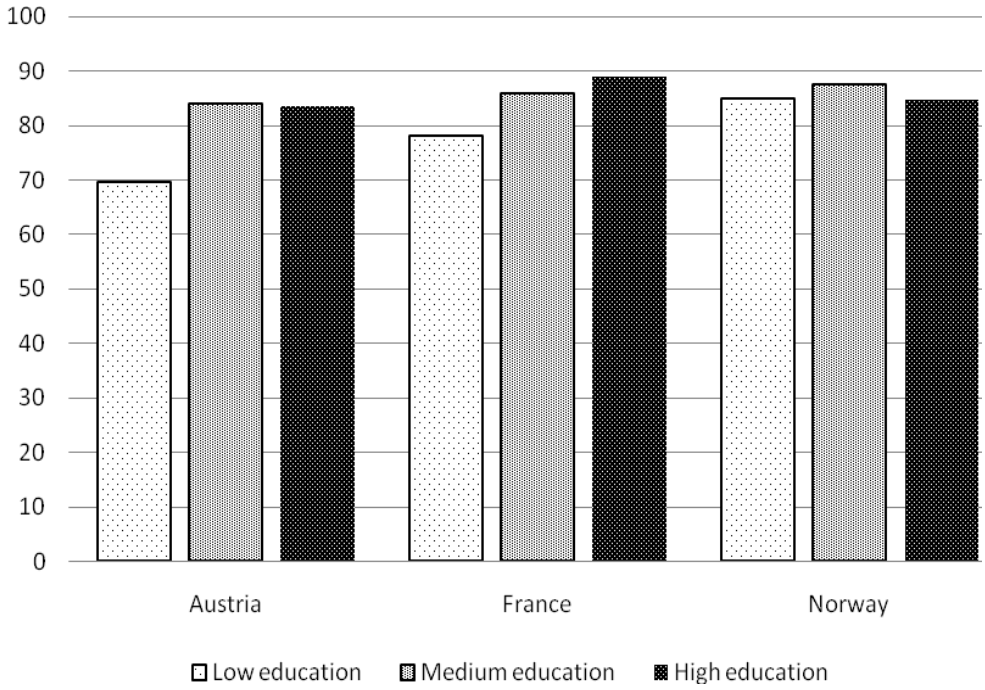

Figure 2 Relationship between ever having children and the educational gradient in the percent converting unmarried cohabitation into marriage among respondents ever living in a co-residential union, birth cohorts 1960-69 in Austria, France and Norway.

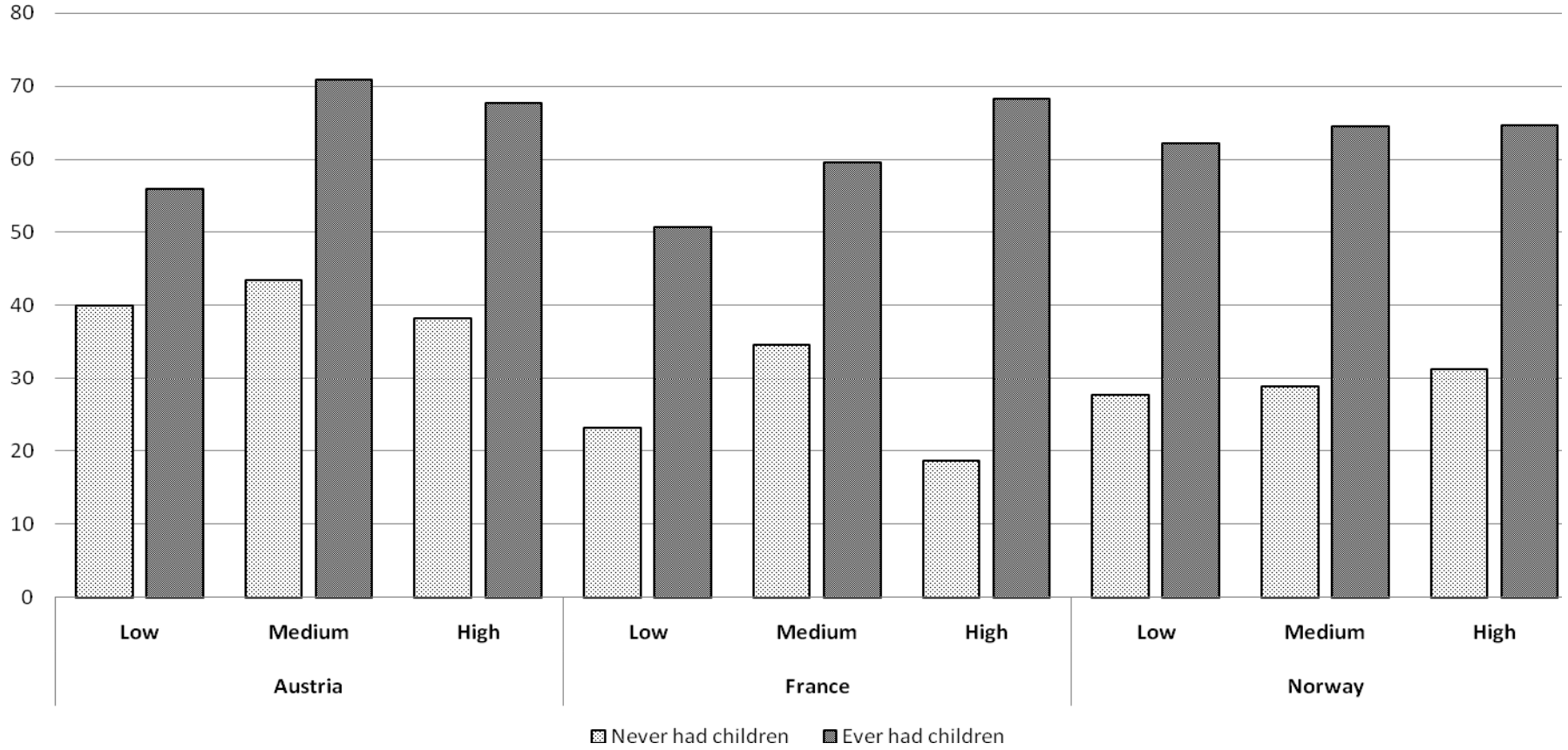

Figure 3 Proportion of respondents with children who ever had a nonmarital birth, birth cohorts 1960-69 in Austria, France and Norway.