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Educational Pairings and Fertility Across Europe: How Do the Low Educated Fare?

ABSTRACT

Recent literature suggests that the relationship between fertility and education may partly be mediated by couple-dynamics and the educational attainment of the partner. Higher opportunity costs for spending time away from the labor market among highly educated women have been one of the chief motivators for investigating how the male partner's resources or involvement with chores and childrearing may ease work-family conflict for women in this more highly educated segment of the population. However, very little is known so far on how couple dynamics may affect the education-fertility relationship among the low educated. We address this question and investigate how educational pairings among married and cohabiting partners relate to first, second, and third births transitions across Europe, using current panel data from the EU-SILC on 18 European countries and discrete time event history models. Preliminary findings indicate that low educated homogamous couples have lower second birth but higher third birth rates compared to couples with two medium educated partners, but only in some of the countries. Also, couples with a low educated woman and a medium educated male partner display higher third birth rates, perhaps indicating that the classical male breadwinner model may still be applicable to understanding family formation among couples with lower levels of education today.

INTRODUCTION AND BACKGROUND

Education is one of the most well studied predictors of childbearing in the developed world today. While the causal directionality of the relationship between family formation- and educational trajectories has proven challenging to tease apart (Brand and Davis 2011; Stange 2011; Nisen et al, 2013), it is well known that the obtainment of high levels of education has come hand in hand with the postponement of the transition to parenthood and of the formation of co-residential unions, and increases in childlessness in many nations (Martin 2000; Gustafsson 2001; Shang and Weinberg 2013; Miettinen et al 2015). Given educational expansion, highly educated women, and increasingly men, rather than individuals with low educational attainment, have taken center stage in the research on the fertility/education nexus. This applies specifically to the growing body of literature which investigates how dynamics among married or cohabiting partners, such as their relative resources, division of housework, or educational pairings, are related to the couples' childbearing decision-making and behavior (Cooke 2004; Brodmann et al. 2007, Dribe and Stanfors 2010; Nitsche et al. 2015). Higher opportunity costs for spending time away from the labor market and careers among highly educated women have been one of the chief motivators for investigating how the male partner's resources and help with chores and childrearing may ease work-family conflict for women in this more highly

educated segment of the population. In consequence, not much is known so far on how couple dynamics operate among those couples with lower cumulative education in relating to their childbearing behavior. Yet, recent studies suggest that lower educated individuals may increasingly display distinct patterns in the family formation process. For instance, low educated men are now remaining childless more often than their more highly educated counterparts in Finland and Norway (Nisen et al 2014, Kravdal and Rindfuss 2008), while the incidence of early childbearing appears to even have significantly increased among recent cohorts of low educated women across most of Europe (Raymo et al. 2015). In addition, given educational expansion, the group of those with low educational attainment is becoming ever smaller and more select (OECD 2011). It is thus timely and relevant to investigate whether the coupling of two low educated partners may be associated with distinct patterns of childbearing behavior, and whether these seemingly disadvantaged unions in terms of socio-economic resources may display differences in first, second or higher parity birth transition rates than couples in which one of the two partners or even both partners have higher educational attainment. Our study sets out to address this question.

RESERARCH QUESTION, METHODOLOGICAL STRATEGY & HYPOTHESES

Using the EU-SILC, a current panel study conducted in 20+ European countries, we investigate how educational pairings among couples are related to their first, second and third birth transition rates, focusing on couples with at least one partner with low educational attainment. We use discrete time event history models to understand whether birth hazards differ among homogamous low educated versus homogamous medium educated couples, and whether there are differences in the birth hazards among couples with two low educated partners versus couples in which only she or he is low educated while the other partner has more education.

Following Oppenheimer's argument that the pooling of resources has become essential for families' welfare, having at least one low educated partner may be expected to make a family more vulnerable; even more so when both partners are low educated (Oppenheimer 1988, Oppenheimer 1994, Oppenheimer 1997). Given this argument, it would make a difference for the fertility of low educated women whether or not she has partnered with a man with more education/more earning potential. In extension, it could be expected that couples with two low educated partners display the lowest birth transition rates to either parity as they have the fewest resources at their disposal.

Contrasting predictions can be made based on the theoretical approach of uncertainty reduction. According to the narrative inspired by the socio-psychological uncertainty reduction framework from Friedman et al. (1994), having children may serve as a strategy to reduce biographical uncertainty. This theory contends that uncertainty reduction is a universal immanent value driving the choices of

all rational actors, and "*having a child changes life from uncertain to relatively certain*" (Friedman et al. 1994, p. 383). From this perspective, women with limited options in the labour market may respond to unfavorable employment prospects by choosing the "alternative career" of mothers. These women are likely to perceive motherhood as a strategic choice to structure an otherwise uncertain life course. McDonald (2000) draws a similar conclusion by arguing that globalization fuels a process that systematically excludes certain subgroups of the population from participating in the labour market. "*By having children, they are able to participate in family life which at least provides some meaning in life*" (McDonald 2000, p. 10). This is why less educated women are likely to increase their fertility in times of crisis while further reducing their labour market attachment (Sobotka et al. 2011). The empirical evidence to back up this approach is limited. Edin and Kefalas (2005) show that the poorest women in non-permanent employment may decide to have a child before marriage because entry into motherhood may increase their social status and make the future safer. A recent finding by Kreyenfeld (2010) indicates that economic uncertainty accelerated childbearing among poorly educated women living in Germany. It is not yet known whether there may be differences in this accelerated childbearing behavior of low educated women based on the education or socio-economic background of her partner. If we extend the uncertainty approach to couples, we may hypothesize that couples with two low educated partners may be the most likely to seek uncertainty reduction and to display accelerated birth transitions as both partners may strife to reduce their joint rather high level of uncertainty, much to the contrast of the prediction based on Oppenheimer's argument.

PRELIMINARY FINDINGS

We have conducted first analyses for the transitions to second and third births. Tables one and two display hazard rates for second (third and higher) birth transitions by the educational pairings of the couple. The unit of analysis are couples. The main predictor, combinations between his and her education, is measured as a series of dummy variables expressing all possible pairings between his and her low, medium and high education (both low, she low/he more, he low/she more, both medium, both high, she high/he lower, he high/she lower). Some groups were summarized (e.g. he low/she more instead of he low/she medium & he low/she high) because some of the subgroups were very small. We control for enrollment in education, age difference of the partners, the age of the first child, and the mother's age at first birth, and type of union (cohabiting versus married).

The model results indicate that couples with two low educated partners have significantly lower second birth hazards compared to couples with two partners with medium education in Spain and the Netherlands, the same applies to couples with a low educated man and a female partner with medium education in Austria and the Netherlands. Hazards rates for low educated couples in the other countries are also mainly lower than those for the medium educated couples, but not significantly so.

With regards to third and higher parity births, low educated homogamous couples display, in contrast, higher birth rates than the reference category of homogamous medium educated couples in Austria and the UK. This also applies to couples with a low educated woman and a medium educated man in all Eastern European countries examined (CZ & SK, the Baltic countries, SI), and to France. We have yet to test whether the differences in the hazards rates between couples with only one versus two low educated partners are significant, and if there are any emerging patterns across countries.

So far, we can say that it appears that low educated homogamous couples have lower second birth hazards in some countries than couples with at least one partner being higher educated, whereas in contrast third birth hazards seem rather elevated among couples with one or two low educated partners.

NEXT STEPS

Our next steps will include the addition of models for first birth transition, as well as more refined testing and graphing of birth hazards in all groups involving at least one low educated partner, so that we can speak to the issue of whether birth hazards differ significantly within the group of the low educated depending on the partner's education. We will also investigate whether some groups of couples experience educational upgrading of one partner more often than others, in order to better understand who these low educated people are and whether there is a possible selection into unions with partners that are more highly educated versus partners who are not.

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TABLES

Table 1. Second birth transitions: Model Results by Country

Variables	AT	BE & LU	CZ & SK	EE&LV & LT	ES	DK&FI	FR	IT	NL	NO	SE	SI	UK
Her enrolment	NA	0.020	1.564	-0.044	NA	-0.926	-0.808	-0.058	-0.305	0.061	-0.686	-0.121	-0.876
		(0.697)	(1.087)	(0.789)		(0.511)*	(0.657)	(0.663)	(0.563)	(0.816)	(0.485)	(0.659)	(0.964)
Relative age	-0.020	-0.033	-0.000	0.022	-0.029	-0.054	-0.002	0.002	-0.031	0.037	-0.073	-0.009	-0.043
	(0.029)	(0.016)**	(0.028)	(0.035)	(0.022)	(0.035)	(0.015)	(0.014)	(0.019)	(0.037)	(0.031)**	(0.027)	(0.024)*
Age of the first child	2.437	2.452	2.665	2.069	2.379	3.185	2.617	1.861	3.568	2.335	4.137	1.856	3.169
	(0.620)***	(0.335)***	(0.542)***	(0.655)***	(0.414)***	(0.579)***	(0.334)***	(0.275)***	(0.390)***	(0.570)***	(0.723)***	(0.515)***	(0.717)***
Age of the first child sq.	-0.405	-0.379	-0.377	-0.273	-0.301	-0.481	-0.367	-0.257	-0.599	-0.263	-0.602	-0.249	-0.455
	(0.101)***	(0.053)***	(0.079)***	(0.095)***	(0.059)***	(0.090)***	(0.049)***	(0.041)***	(0.065)***	(0.082)***	(0.106)***	(0.076)***	(0.104)***
Age at first birth	-0.054	-0.060	-0.078	-0.040	-0.095	-0.185	-0.067	-0.075	-0.122	-0.078	-0.148	-0.086	-0.042
	(0.029)*	(0.019)***	(0.032)**	(0.038)	(0.024)***	(0.040)***	(0.017)***	(0.015)***	(0.021)***	(0.038)**	(0.036)***	(0.033)***	(0.022)*
Cohabitation	-0.472	-0.548	-1.119	-0.113	-0.025	-0.846	-0.197	-0.646	-0.104	-1.770	-0.435	-0.569	-0.784
(ref = marriage)	(0.295)	(0.198)***	(0.421)***	(0.328)	(0.265)	(0.283)***	(0.140)	(0.209)***	(0.135)	(0.865)**	(0.260)*	(0.257)**	(0.300)***
Educational pairings (ref = bothm)													
bothh	0.859	0.575	0.978	1.412	0.302	0.108	0.232	0.630	0.628	0.204	0.550	0.912	0.564
	(0.402)**	(0.226)**	(0.347)***	(0.516)***	(0.307)	(0.367)	(0.186)	(0.225)***	(0.192)***	(0.382)	(0.319)*	(0.341)***	(0.303)*
shhlower	0.953	-0.132	0.425	0.226	0.313	-0.073	-0.029	0.416	0.270	-0.267	0.745	0.605	0.164
	(0.436)**	(0.253)	(0.324)	(0.438)	(0.311)	(0.373)	(0.204)	(0.194)**	(0.205)	(0.414)	(0.345)**	(0.315)*	(0.328)
slowerhh	-0.145	0.027	0.361	-0.043	-0.365	-0.380	0.038	0.523	0.097	0.383	-0.221	-0.331	0.137
	(0.456)	(0.303)	(0.415)	(0.668)	(0.384)	(0.538)	(0.255)	(0.238)**	(0.233)	(0.631)	(0.454)	(0.552)	(0.369)

bothl	0.165	-0.116	-20.374	-0.600	-0.771	-2.077	-0.232	-0.271	-0.958	0.620	-0.339	0.420	0.455
	(0.580)	(0.262)	(14,134.650)	(0.749)	(0.355)**	(1.303)	(0.416)	(0.176)	(0.433)**	(1.189)	(1.185)	(0.651)	(0.811)
smhl	-2.172	-0.348	-0.481	0.237	-0.104	-0.506	-0.139	-0.164	-0.649	1.282	-0.462	-0.673	0.127
	(1.093)**	(0.302)	(0.957)	(0.553)	(0.364)	(0.631)	(0.338)	(0.180)	(0.279)**	(0.650)**	(0.652)	(0.511)	(0.646)
slhm	-0.031	-0.829	0.244	0.625	-1.079	-0.121	-0.261	-0.139	-0.415	-0.415	0.566	-0.462	0.430
	(0.428)	(0.439)*	(0.656)	(0.629)	(0.510)**	(0.690)	(0.377)	(0.230)	(0.362)	(0.929)	(0.724)	(0.750)	(1.257)
Constant	-3.818	-2.797	-4.644	-6.526	-3.849	-0.482	-3.469	-3.119	-1.710	-6.505	-2.734	-2.562	-4.989
	(1.225)***	(0.695)***	(1.245)***	(1.757)***	(0.992)***	(1.140)	(0.680)***	(0.634)***	(0.670)**	(1.437)***	(1.148)**	(1.203)**	(1.384)***
Number of couple-years	881	1,861	1,888	1,922	2,681	1,959	2,225	4,045	1,584	2,376	1,099	1,181	961

Notes: The findings control for calendar year (dummies. NA means that the estimates are not shown due to low number of births to couples in a given cell.

Table 2: Third birth transitions: Model Results by Country

Variables	AT	BE & LU	CZ & SK	EE&LV & LT	ES	DK&FI	FR	IT	NL	NO	SE	SI	UK
Her enrolment	NA	NA	3.969	NA	NA	-0.724	0.097	2.239	-0.002	-0.141	0.532	1.849	-0.211
			(1.403)***			(0.595)	(1.048)	(0.940)**	(0.755)	(0.608)	(0.375)	(0.812)**	(1.115)
Relative age	0.026	-0.023	-0.005	0.015	0.075	-0.015	-0.001	-0.004	-0.029	0.019	0.053	0.019	-0.014
	(0.031)	(0.021)	(0.033)	(0.020)	(0.022)***	(0.021)	(0.017)	(0.026)	(0.024)	(0.024)	(0.025)**	(0.032)	(0.025)
Age of the first child	2.659	1.826	1.183	0.939	0.520	1.795	1.225	2.185	2.184	0.828	1.512	1.842	1.394
	(0.619)***	(0.374)***	(0.685)*	(0.407)**	(0.495)	(0.380)***	(0.311)***	(0.526)***	(0.371)***	(0.378)**	(0.517)***	(0.576)***	(0.485)***
Age of the first child sq.	-0.419	-0.292	-0.132	-0.132	-0.080	-0.296	-0.170	-0.314	-0.381	-0.136	-0.223	-0.284	-0.223
	(0.098)***	(0.062)***	(0.102)	(0.065)**	(0.080)	(0.061)***	(0.049)***	(0.078)***	(0.063)***	(0.062)**	(0.081)***	(0.093)***	(0.080)***
Age at first birth	-0.053	-0.045	-0.022	0.010	-0.046	-0.067	-0.074	-0.081	-0.113	-0.076	-0.056	-0.039	-0.107
	(0.032)	(0.024)*	(0.040)	(0.028)	(0.031)	(0.022)***	(0.021)***	(0.027)***	(0.023)***	(0.026)***	(0.030)*	(0.041)	(0.027)***
Cohabitation	0.623	0.037	0.443	-0.004	0.712	-0.029	-0.504	-1.033	-0.259	-0.019	-0.272	-0.475	0.128
(ref = marriage)	(0.368)*	(0.270)	(0.438)	(0.237)	(0.446)	(0.199)	(0.194)***	(0.611)*	(0.224)	(0.218)	(0.296)	(0.361)	(0.292)
bothh	0.819	0.307	0.878	0.526	0.628	0.315	0.710	0.145	0.440	0.353	0.306	0.799	0.583
	(0.392)**	(0.301)	(0.471)*	(0.320)	(0.570)	(0.233)	(0.229)***	(0.463)	(0.233)*	(0.277)	(0.332)	(0.422)*	(0.348)*
shhlower	0.450	0.079	0.623	0.022	-0.059	-0.018	0.144	-0.249	-0.299	-0.319	0.196	0.692	-0.059
	(0.476)	(0.361)	(0.569)	(0.362)	(0.635)	(0.258)	(0.280)	(0.481)	(0.319)	(0.326)	(0.327)	(0.402)*	(0.423)
slowerhh	-0.252	-1.298	0.745	0.008	0.055	0.156	0.631	-0.168	-0.076	0.340	0.126	0.294	0.188
	(0.503)	(0.751)*	(0.510)	(0.499)	(0.657)	(0.316)	(0.285)*	(0.498)	(0.280)	(0.324)	(0.410)	(0.580)	(0.425)

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bothl	0.921	0.255	0.689	0.583	-0.030	-1.206	0.452	0.186	-0.783	NA	NA	0.076	1.137
	(0.438)**	(0.300)	(0.763)	(0.427)	(0.572)	(1.029)	(0.310)	(0.290)	(0.615)			(1.051)	(0.450)**
smhl	1.423	0.274	0.230	0.889	-0.245	0.657	0.476	0.003	-0.191	0.308	-1.064	0.592	-0.135
	(0.445)***	(0.393)	(1.043)	(0.367)**	(0.715)	(0.298)**	(0.305)	(0.335)	(0.356)	(0.438)	(0.786)	(0.532)	(0.634)
slhm	-0.688	0.136	1.613	1.199	-0.105	-0.054	0.498	0.122	0.339	-0.289	0.087	1.298	-0.123
	(0.626)	(0.403)	(0.498)**	(0.323)***	(0.723)	(0.458)	(0.287)*	(0.376)	(0.343)	(0.438)	(0.581)	(0.501)**	(0.643)
Constant	-5.635	-4.136	-6.521	-5.697	-4.030	-3.663	-3.302	-4.992	-2.555	-2.256	-4.470	-5.165	-2.392
	(1.291)***	(0.864)***	(1.500)**	(0.935)***	(1.249)***	(0.868)** *	(0.748)**	(1.253)***	(0.845)**	(0.885)* *	(1.207)**	(1.365)**	(1.015)* *
Number of couple-years	1,809	3,608	3,365	3,301	3,879	4,723	4,488	5,135	3,797	2,761	2,036	2,461	1,661

Notes: The findings control for calendar year (dummies. NA means that the estimates are not shown due to low number of births to couples in a given cell.