The education and economic situation of cohabiting and married fathers before and after the Great Recession in Europe

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Abstract

Over the past decades, cohabitation increased dramatically across Europe, especially throughout the Great Recession. Prior studies, which focused on mothers and used data collected before 2008, found a negative educational gradient of childbearing in cohabitation in most countries. However, it is unclear whether education is a proxy for socio-economic status or directly reflects labor market position, especially for fathers. Here we use EU-SILC data from 2004, 2008, 2012, and 2016 to examine whether the association between education, labor market uncertainty, and unmarried fatherhood changed over time in 20 European countries. We study the association between partnership type and different dimensions of employment, e.g. full or part-time employment, and temporary or permanent contracts. Preliminary results from 2016 indicate that cohabiting fathers have lower education than married fathers and are less likely to have full-time, permanent employment. However, regional patterns suggest that partnership decisions are influenced by policy and economic conditions.

The growing prevalence of cohabiting couples with children is one of the most important and widely discussed family changes that European societies have experienced in the last half century (Perelli-Harris 2015, Lappegard 2014). Evidence is accruing that these families are more likely to have low education and be from disadvantaged backgrounds (Perelli-Harris et al 2010, Koops et al 2017, Mikolai et al 2017). Most studies use education as a proxy for socio-economic status, yet education could capture a number of concepts, for example opportunities and resources, or attitudes and beliefs. Low education may also reflect the economic uncertainty brought about by job instability and precarity (e.g. Perelli-Harris et al 2010). The increase in globalization, rise in unemployment, and shift to temporary contracts may lead couples to remain in cohabitation as a way of coping with uncertainty (Perelli-Harris et al 2010). Thus, the increases in cohabiting partnerships may be a response to rising labor market uncertainty rather than the impact of low education per se.

Prior research has found that economic uncertainty and inequality have been strong predictors of cohabiting families; however the majority of this research has occurred in the United States (REF). Cherlin (2016) argues that in the United States the increasing divergence in class patterns in family behaviours can be explained by the rise in economic inequality. The core of Cherlin's argument is that cultural changes (e.g., attitudes about family life) have been broadly based, affecting all social classes, but large-scale economic changes have mostly affected those from the middle and low socioeconomic strata. In other words, the job and economic insecurity experienced by the less educated influence their partnership choice. According to this explanation, several studies show that cohabiting parents have worse job quality and economic insecurity than their married counterparts in United States (Lichter et al., 1992; Landale and Forste, 1991; Bumpass and Lu, 2000; Manning and Smock, 1995; Manning and Lichter, 1996; Liu et al. 2011).

Commented [PB1]: Daniel Schneider's work

Far less research has assessed the extent to which economic uncertainty is associated with partnership behavior in Europe, especially given the labor market instability following the Great Recession of 2008. Examining data from the 1990s, Kalmijn (2011) found mixed evidence for Oppenheimer's career uncertainty hypothesis in some European countries, but given the increase in cohabitation and nonmarital childbearing since the 2000s, these conclusions may no longer be relevant. Vignoli et al (2016) did find a significant association between job insecurity and union formation in Italy (e.g., Vignoli et al., 2016); however, further research is needed to see whether these findings are relevant across Europe.

In addition, the association between economic uncertainty may vary across space and/or time. Prior research has indicated that the meaning and consequences of cohabitation differ across European countries (Perelli-Harris et al 2015) leading to considerable cross-national variation (Perelli-Harris and Lyons-Amos 2016, van Winkle 2018). The impact of the Great Recession impacted European regions differently, and may also alter the association between economic uncertainty and partnership status. The peripheral regions of the European Union, such as Southern and Eastern Europe experienced severe declines in economic performance after 2008, while the Nordic countries, Western Europe, and the UK were less affected (Ferreiro et al 2016). As a result, precarious employment may be a stronger predictor of cohabitation in the peripheral areas of the European than in countries which fared better during the crisis. Thus, while we expect the "Pattern of Disadvantage" will emerge in all countries, we expect that in some countries education will be the most significant factor associated with partnership type, while in others employment stability

will be more important. Overall, as cohabitation and labor market instability become more widespread, we expect that the association between cohabitation and some form of educational or economic uncertainty will strengthen in all European countries.

Finally, an important methodological issue of the previous studies is that they used samples that included all partners and did not distinguish between those who have children and those do not have children. There is evidence that differences by socio-economic backgrounds are greater for couples with children than for all couples (McLanahan and Jacobsen, 2016). In Europe, educational differentials between cohabitation and marriage only emerge after entrance into partnership and before the birth of the first child (Mikolai et al 2018). Thus, socio-economic differentials by partnership type are most pronounced among parents. Previous cross-national studies also usually focus on women, often due to data limitations (e.g. Mikolai et al 2018). In this paper, we focus on the labor market status for fathers, who are still the main household earners in all countries in Europe (Vitali and Arpino 2016). Besides employment status, our data also allow us to examine other important dimensions of economic insecurity such as full or part-time work, temporary and permanent contracts, and income, which have rarely been analyzed with respect to partnership status. especially in cross-national comparison.

Research questions:
1-Do cohabiting fathers have lower educational levels than married fathers in European countries?
2-Do cohabiting fathers have a worse employment situation (Unemployment, temporary and permanent jobs, quality of the employment, occupational level, managerial positions) than married fathers in European countries?
3-Do cohabiting fathers have a worse economic situation (Poverty, income levels, and material deprivation) than married parents in European countries?
4-Is the association between fathers' education and union status (cohabiting versus married) explained by their economic and employment situation?
5-Does the association between education/employment/economic situation change over time, e.g. before and after the Great Recession of 2008?

Data
We use the EU-Survey on Income and Living Conditions data between 2004 and 2016 for 20 European countries, which provides the most recent information on partnership status available in Europe. The surveys in each country are nationally representative, and all members of the household are interviewed. The EU-SILC provides very recent detailed information on individual's socio-economic status, such as education, labor market status, income, and a variety of indicators with respect to economic and employment conditions. This detail on labor market situation is not common in many cross-national surveys especially those that include information on partnership status.

In the analyses below, we restrict our sample to partnered fathers living with children under 18 years old (we will test other age cut-offs in the next version). We employ a simple logistic regression, with a dependent variable of being in a cohabiting or marital union at the time of the survey. Unfortunately, the ESS does not distinguish between biological and step- or adopted children. Nor does it include indicators for union duration or experiencing prior separation. Therefore, our results may reflect experiences of those who were previously married, who are

more likely to cohabit in subsequent partnerships, and possibly have lower education or precarious employment. While we control for age of father and his nativity status (born within or outside Europe), other controls are also limited. Thus, our analysis is purely descriptive in nature and intended to highlight differences across countries and time.

Preliminary Results

Table 1a and b (also Figure 1) provide consistent evidence for the "Pattern of Disadvantage". In nearly every country, fathers with higher education are significantly less likely to live in a cohabiting partnership relative to those with low education. This pattern occurs throughout Northern and Southern Europe, the UK, and Eastern Europe, with the exception of Poland. In Western Europe, fathers with higher education are less likely to live in cohabiting partnerships relative to fathers with lower education in Germany and Belgium. Those with medium education are also less likely to live in a cohabiting relationship, except in Slovenia, and all of Western and Southern Europe. Thus, in these countries, the primary distinction is between higher and lower education, with the highly educated more likely to marry. The regional patterns are very interesting, with a much more pronounced educational gradient in Eastern Europe, the UK and the Nordic countries. Western Europe, on the other hand, has a more nuanced pattern, in line with other studies that have suggested that cohabitation developed differently in France and the "low-lying" countries of Belgium and the Netherlands (Perelli-Harris et al 2017). Southern Europe, which has only recently begun to experience the increase in cohabitation, may have yet another pattern, with the emergence of cohabitation among low educated fathers occurring only very recently (see Dominguez-Folgueras and Castro-Martin 2013).

Tables 2a and b present the same models but include an indicator for employment status. This indicator simply compares those in full-time and permanent employment with those not in full-time and permanent employment (what we call "precarious employment"), and those who are self-employed. We pay less attention to the self-employed category, because the meaning of self-employment is unclear, especially across countries. The results indicate that fathers with precarious employment are more likely to be in cohabiting partnerships throughout Eastern Europe, with the exception of Slovenia and Estonia. Note that Polish fathers with precarious employment are also more likely to be in a cohabiting partnership, even though the educational differences in Poland were not significant. Precarious employment is also strongly associated with partnership type in Portugal and Spain and throughout Western Europe, except for Belgium. These relatively large effects suggest that marriage is indeed strongly associated with economic stability throughout most of Europe. In the UK and Nordic countries, however, precarious employment is not associated with cohabitation, even though the negative educational gradient was strong in these countries. This may be because the structure of the labor market made precarious employment, as we have defined it, relatively rare. In these countries, relatively few men may work part-time, and temporary contracts may be uncommon. Other measures of precarity, such as low wages or poor occupational status may be more important for raising children in cohabitation. In any case, the regional differences suggest that labor market structure, effects of the crisis, the welfare state, and cultural factors shape the association between economic uncertainty and partnership choices in Europe.

Next steps

In the next steps of the project, we will begin to explore additional dimensions of employment such as income, occupation (with an emphasis on managerial positions), and long-term, insecure employment histories. We will then pool the different cross-sectional waves of the EU-SILC (2004, 2008, 2012, 2016) to evaluate whether the association between low education/precarious employment and cohabitation is as strong in prior periods. This analysis will shed light on whether the strength of the association between the pattern of disadvantage and cohabiting fatherhood has increased after the Great Recession.

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Table 1a. Beta coefficients from logit regression models of being a cohabiting father, education, 2016

	Spain	Portugal	Austria	Belgium	Germany	France	Netherl	Denmark	Finland	Sweden
Education Low										
Mid	-0.256	-0.283	0.00805	-0.330	-0.428	0.279	-0.238	-0.648*	-0.488*	-0.0214
High	-0.453**	-0.439*	0.0592	-0.521*	-0.765**	0.0849	-0.0999	-0.811**	-1.218***	-0.471*
Missing	.	.		1.151**	.	0.579+	0.121	-0.921	-1.650**	0.0476
Age father: less than 30										
30-40	-1.195***	-1.011**	-0.865**	-1.003**	-0.948***	-0.709**	-0.289	-0.736*	-0.809***	-0.612*
40-50	-1.872***	-1.931***	-1.451***	-1.547***	-1.425***	-1.593***	-0.944**	-1.696***	-1.385***	-1.066***
50 or more	-2.506***	-1.922***	-1.412***	-1.970***	-1.590***	-1.956***	-1.520***	-1.766***	-1.416***	-1.378***
Country of birth:										
Europe	0.904*	-0.952*	-0.175	-0.375		-0.310	0.371	0.977+	0.539	-0.176
Outside Europe	0.254	0.385	-1.987***	-0.855***	-0.282	-1.106***	-0.210	-0.708	-1.187*	-0.962***
Missing	.	.		2.622*	.					.
2016.year	-0.0547	0.0930	-0.114	1.000**	-0.162	0.674*	-0.559+	0.670+	0.717**	0.586+
Constant	3356	2400	1209	1272	1880	2655	2930	1237	2777	1496
Observations	0.068	0.061	0.072	0.070	0.040	0.076	0.034	0.067	0.071	0.048
Pseudo R-squared	* p<0.05	*** p<0.001"								
="+ p<0.10										

Table 1b. Beta coefficients from logit regression models of being a cohabiting father, education, 2016

	Norway	UK	Serbia	Estonia	Latvia	Hungary	Bulgaria	Czech Repub	Poland	Slovenia
Education Low										
Mid	-0.417*	-0.437**	-0.900**	-0.855***	-0.467*	-0.566**	-1.563***	-1.171***	-0.553+	-0.0829
High	-0.815***	-1.259***	-1.872***	-0.940***	-1.042***	-1.314***	-1.836***	-1.699***	-0.524+	-0.490*
Missing		0.641+		0.202	0.315	.	.		.	
Age father: less than 30										
30-40	-0.847***	-1.282***	-0.822*	-0.616**	-1.199***	-1.139***	-0.543*	-0.700*	-0.407	-0.359
40-50	-1.570***	-1.965***	-1.245***	-0.953***	-1.559***	-1.537***	-1.358***	-1.335***	-0.825**	-1.236***
50 or more	-2.018***	-2.262***	-1.262**	-0.993***	-1.056***	-1.786***	-1.685***	-1.415***	-0.564+	-1.527***
Country of birth:										
Europe	-0.364	-0.631+	-0.0106			-1.414+	.	1.366***	2.151+	
Outside Europe	-2.171***	-1.583***	0.306	-0.860**	-0.0296	0.415	.	-0.112	-0.866	-0.670***
Missing		.				.	.		.	.
2016.year	1.088***	0.933***	-0.615+	1.068***	0.710**	0.623*	0.885***	0.823*	-1.223***	0.585*
Constant	1862	2039	1560	1462	1043	1397	1285	1566	2711	2312
Observations	0.086	0.154	0.064	0.048	0.065	0.077	0.151	0.065	0.016	0.051
Pseudo R-squared										
="+ p<0.10										

Table 2a. Beta coefficients of being a cohabiting father, including indicator of employment status, 2016

2016	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Spain	Greece	Portugal	Austria	Belgium	Germany	France	Netherlands	Denmark	Finland	Sweden	Norway	UK	Serbia	Estonia
coh_**marr2**															
Education **Low**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mid	**-0.161**	0.222	-0.181	0.0776	-0.322	-0.266	0.315+	-0.210	-0.644*	-0.495*	-0.0319	-0.390*	-0.435**	-0.755**	-0.815***
High	-0.327+	0.858	-0.303	0.138	-0.511*	-0.602*	0.142	-0.0488	-0.820**	-1.243***	-0.481*	-0.796***	-1.248***	-1.574***	-0.875***
Missing	0		0		1.234***		0.485	0.239	-0.899	-1.641**	0.0741		0.643+		0
Full time fix	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non fix-term contract	0.468**	1.025+	0.731***	0.722**	0.0397	0.695***	0.370**	0.501**	-0.00223	-0.0624	-0.114	0.0187	0.0226	0.900**	0.452+
Self-employment	-0.0549	0.839	-0.299	-0.0155	0.0342	0.713**	-0.104	0.705***	-0.124	-0.248	-0.163	0.0911	0.0775	1.058**	0.0665
Age father: less than 30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-40	**-1.154*****	-0.574	-0.907**	-0.842**	-0.999**	-0.746*	-0.609*	-0.299	-0.727*	-0.807***	-0.605*	-0.850***	-1.281***	-0.764*	-0.646**
40-50	-1.810***	-0.356	-1.818***	-1.422***	-1.538***	-1.219***	-1.492***	-1.018***	-1.683***	-1.366***	-1.063***	-1.587***	-1.969***	-1.220***	-0.983***
50 or more	-2.471***	-0.450	-1.849***	-1.442***	-1.963***	-1.448***	-1.902***	-1.683***	-1.767***	-1.388***	-1.358***	-2.033***	-2.271***	-1.285**	-1.074***
Country of birth:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Europe	0.791*	0	-0.978*	-0.270	-0.379		-0.335	0.361	0.996+	0.521	-0.225	-0.341	-0.643+	0.0797	
Outside Europe	0.165	0.558	0.302	-2.178***	-0.852***	-0.294	-1.245***	-0.151	-0.717	-1.191*	-0.938***	-2.139***	-1.592***	0.398	-0.832**
Missing	0		0		2.528*						0		0		
2016.year		0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2b. Beta coefficients of being a cohabiting father, including indicator of employment status, 2016

	Norway	UK	Serbia	Estonia	Latvia	Hungary	Bulgaria	Czech Republic	Romania	Poland	Slovenia
Education Low											
Mid	-0.390*	-0.435**	-0.755**	-0.815***	-0.369+	-0.397+	-1.319***	-0.898**	-0.567	-0.516+	-0.0770
High	-0.796***	-1.248***	-1.574***	-0.875***	-0.904***	-1.122***	-1.535***	-1.386***	-2.339**	-0.411	-0.468*
Missing		0.643+		0							
Full time Permanent contract											
Not full-time permanent contract	0.0187	0.0226	0.900**	0.452+	0.737***	0.438*	0.642**	0.657**	1.424**	0.442*	0.113
Self-employment	0.0911	0.0775	1.058**	0.0665	0.362	0.0292	0.384	0.139	0.580	-0.0572	0.154
Age father: less than 30											
30-40	-0.850***	-1.281***	-0.764*	-0.646**	-1.267***	-1.098***	-0.516+	-0.751**	-1.040*	-0.343	-0.358
40-50	-1.587***	-1.969***	-1.220***	-0.983***	-1.703***	-1.506***	-1.296***	-1.369***	-1.947***	-0.737**	-1.240***
50 or more	-2.033***	-2.271***	-1.285**	-1.074***	-1.316***	-1.837***	-1.753***	-1.531***	-1.085+	-0.527	-1.551***
Country of birth:											
Europe	-0.341	-0.643+	0.0797			-1.481+	0	1.332***		2.261+	
Outside Europe	-2.139***	-1.592***	0.398	-0.832**	0.0655	0.465	0	-0.238	0	-0.909	-0.677***
Missing		0									0
Constant	1.051***	0.916***	-1.406**	1.001***	0.532+	0.356	0.443	0.481	-1.537**	-1.451***	0.543+
Observations	1845	2038	1560	1450	1009	1397	1285	1566	1094	2711	2312
Pseudo R-squared	0.087	0.154	0.086	0.050	0.076	0.081	0.160	0.073	0.147	0.021	0.052

Figure 1.

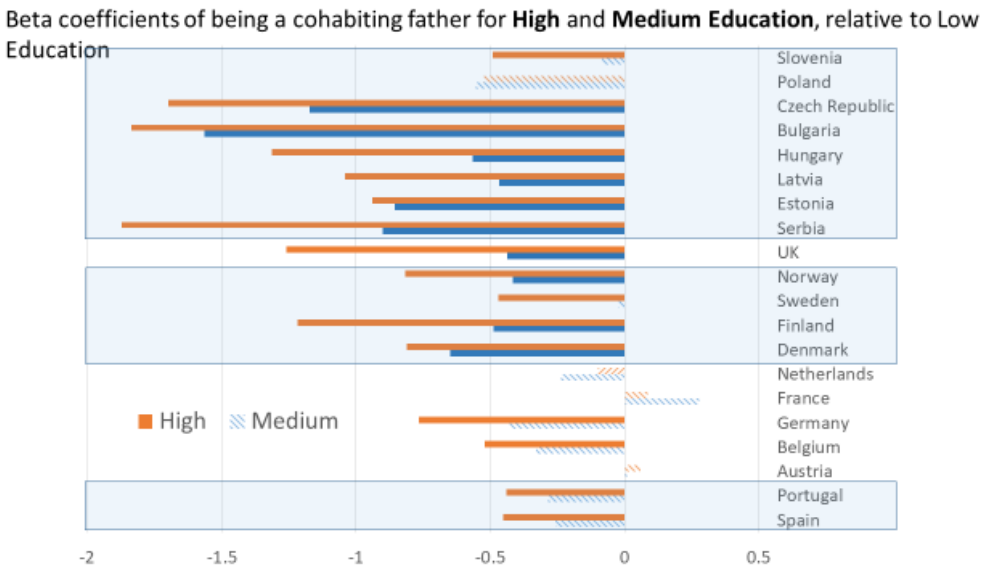

Beta coefficients of being a cohabiting father for **High** and **Medium Education**, relative to Low Education
Slovenia
Poland
Czech Republic
Bulgaria
Hungary
Latvia
Estonia
Serbia
UK
Norway
Sweden
Finland
Denmark
Netherlands
France
Germany
Belgium
Austria
Portugal
Spain
High
Medium
-2
-1.5
-1
-0.5
0
0.5

Figure 2.

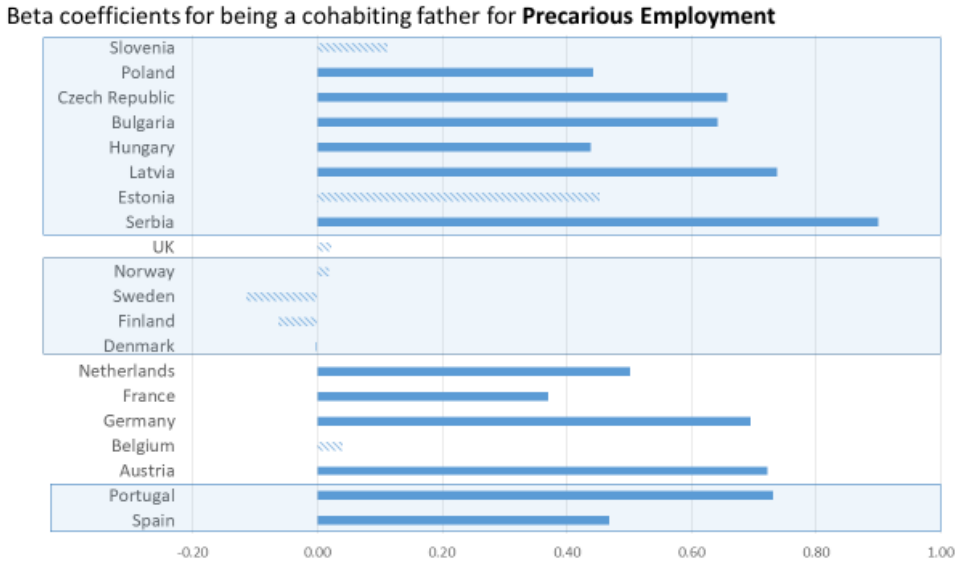
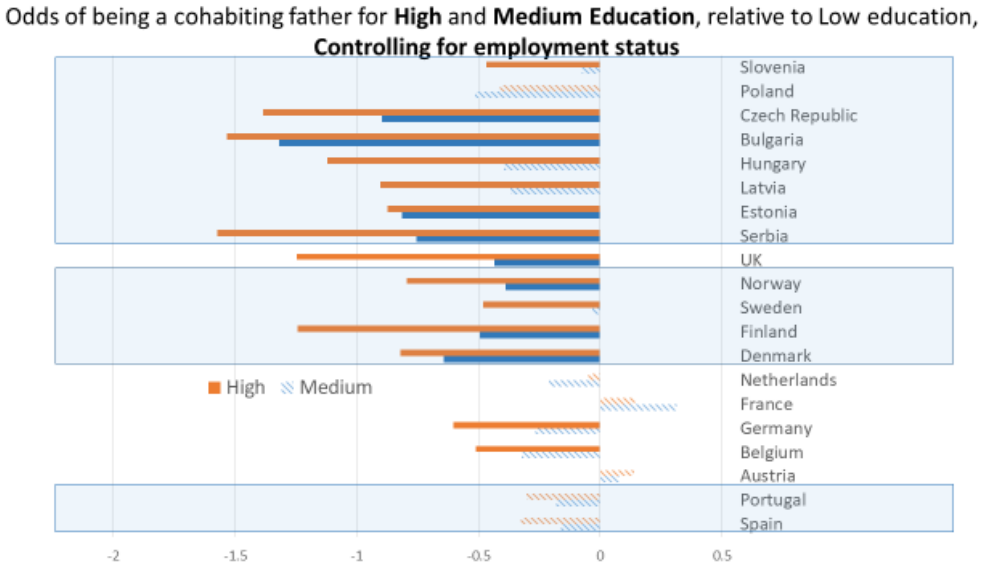

Beta coefficients for being a cohabiting father for **Precarious Employment**
Slovenia
Poland
Czech Republic
Bulgaria
Hungary
Latvia
Estonia
Serbia
UK
Norway
Sweden
Finland
Denmark
Netherlands
France
Germany
Belgium
Austria
Portugal
Spain
-0.20
0.00
0.20
0.40
0.60
0.80
1.00

Figure 3.


Odds of being a cohabiting father for **High** and **Medium Education**, relative to Low education,
Controlling for employment status
Slovenia
Poland
Czech Republic
Bulgaria
Hungary
Latvia
Estonia
Serbia
UK
Norway
Sweden
Finland
Denmark
Netherlands
France
Germany
Belgium
Austria
Portugal
Spain
High
Medium
-2
-1.5
-1
-0.5
0
0.5