

**Is precarious union formation making it more difficult for women and men with low educational attainment to enter parenthood?**

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**Background**

In most European countries, highly educated women have been more likely to remain childless (Wood, Neels, & Kil, 2014) or to postpone the birth of their 1<sup>st</sup> child (Ní Bhrolcháin & Beaujouan, 2012; Nitsche, Matysiak, Van Bavel, & Vignoli, 2015) compared to women with lower degrees. Nevertheless, there are signs that the negative educational gradient – higher education connected to lower fertility – might have shifted and that fertility declined especially among the lower educated (Compans 2021; Ermisch 2021; Jalovaara et al. 2019; Kreyenfeld and Konietzka 2017; Reher and Requena 2019). One reason to expect a shift in the educational gradient of fertility might be that steady partnerships, which continue to be considered a normative prerequisite for having children, are becoming less frequent or stable among lower-educated women – especially in contexts of high labour market participation and earnings of women. There, similar or higher-educated women might be the more desired partners, in turn, leading to marginalization of women with lower educational attainment on the partnering market. Similar trends have already been observed for men. Across Europe, a higher likelihood of remaining single has been found for low-educated men (De Hauw, Grow, & Van Bavel, 2017) and this lower likelihood of entering a partnership translates into lower transition rates to parenthood across several European countries (Trimarchi and Van Bavel 2017).

While a positive educational gradient of union formation and fertility has thus been longer standing for men, we might see similar developments for women in more recent cohorts for several reasons. Shifts from a male breadwinner to a dual-earner model (Esping-Andersen 2012), increases in women's earnings relative to men's (Goldin 2014), higher participation in tertiary education (Van Bavel, Schwartz, and Esteve 2018) and declines in the stability of typically male, blue-collar occupations (Adserà 2018; Autor 2014) could lead to men's preference for equally or higher-educated partners. Furthermore, as obtaining higher education has increasingly become the norm in European labour markets, the group of lower educated might become more marginalized from a labour market perspective both in countries with lower and higher shares of lower-educated individuals. Finally, given increases in cost of living and housing, the income of women might be increasingly important to enable couples to enter a cohabiting union and start a family.

Results from single-country studies have indeed shown increasing childlessness and postponement of births among the lower educated, especially in the Nordic countries. Nevertheless, general trends across countries in Europe remain unclear and potential underlying mechanisms of this change, such as the selection into partnerships, are not yet analysed in detail. The aim of this article, therefore, is to analyze how women's likelihood of having a first child is influenced by their educational level and to what extent this relationship can be explained by changing selection into partnerships. Specifically, we will answer the following research questions:

*Has the likelihood to transition to parenthood decreased for lower educated women across cohorts?  
In how far can this relation be explained by a lower likelihood of selecting into (stable) partnerships?*

## Data & Methodology

To analyze the relation between educational attainment, entering a union and transitioning to parenthood, we make use of data from the ‘Timing of Life’ Module in Round 3 and 9 of the European Social Survey (ESS). Data has been collected in 2006 and 2018 respectively. The module contains retrospective information on first cohabitation, first births and other life course transitions such as age at moving out of the parental home and entering the labour market.

In a first step, we apply logistic regression analysis to analyze how the likelihood to experience a first cohabitation by age 35 (=1) or after/never (=0) is influenced by educational level. We do the same for first births by 35. To do so we select women and men that are at least 35 at time of interview (cohorts 1955 to 1985). First, we run the analysis for a pooled sample of all countries and control for country fixed-effects. We include an interaction between educational level and cohort to see whether the likelihood to enter a cohabiting union and parenthood by age 35 varies significantly by cohort. Second, we run the same analysis but now include a three-way interaction between education, cohort and country to see in how far this relation varies across European countries. Models are controlled for parental education, religiosity and migration background.

In a next step, we plan to jointly model union formation and entry into parenthood and their interrelationships using Structural Equation Modelling. Given that we are dealing with non-repeatable events, i.e., first birth and first co-residential union, to identify the model, we apply exclusion restriction criteria, benefiting from ESS richness. In the model of union formation, we plan to include information about the ideal time of first living with a partner not married to, which is directly linked to the transition to first union, while not necessarily to the transition to parenthood. While we focus here on the results for women, we plan to compare our results to those for men.

## Summary of preliminary results

First, we run our analysis on a pooled sample of countries, controlling for country fixed-effects. On average across countries, the likelihood of ever cohabiting declined significantly for lower educated women - relative to medium and high educated but also in absolute terms (Table 1). The effects sizes are nevertheless small. For births (Table 2) we do not find significant differences between higher and lower educated on average across countries and cohorts.

Table 1: Likelihood of cohabiting by 35 for women

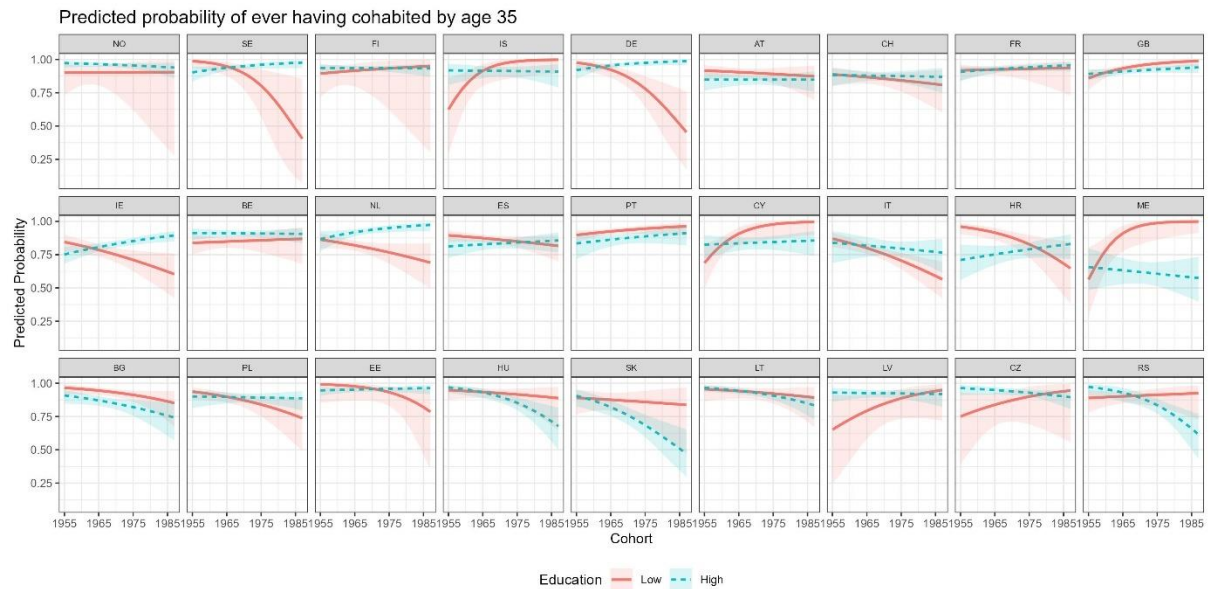
	Estimate	Std. Error	
(Intercept)	2.371	0.147	***
Education (Reference: Low)			
Medium	-0.065	0.127	
High	-0.213	0.132	
Cohort	<b>-0.016</b>	<b>0.007</b>	*
Interaction Education (Reference: Low) x Cohort			
Medium x Cohort	<b>0.016</b>	<b>0.009</b>	.
High x Cohort	<b>0.015</b>	<b>0.009</b>	.

Source: ESS Round 3 & 9 (own calculations); all models controlled for country dummies, parental education, religiosity and migration background.

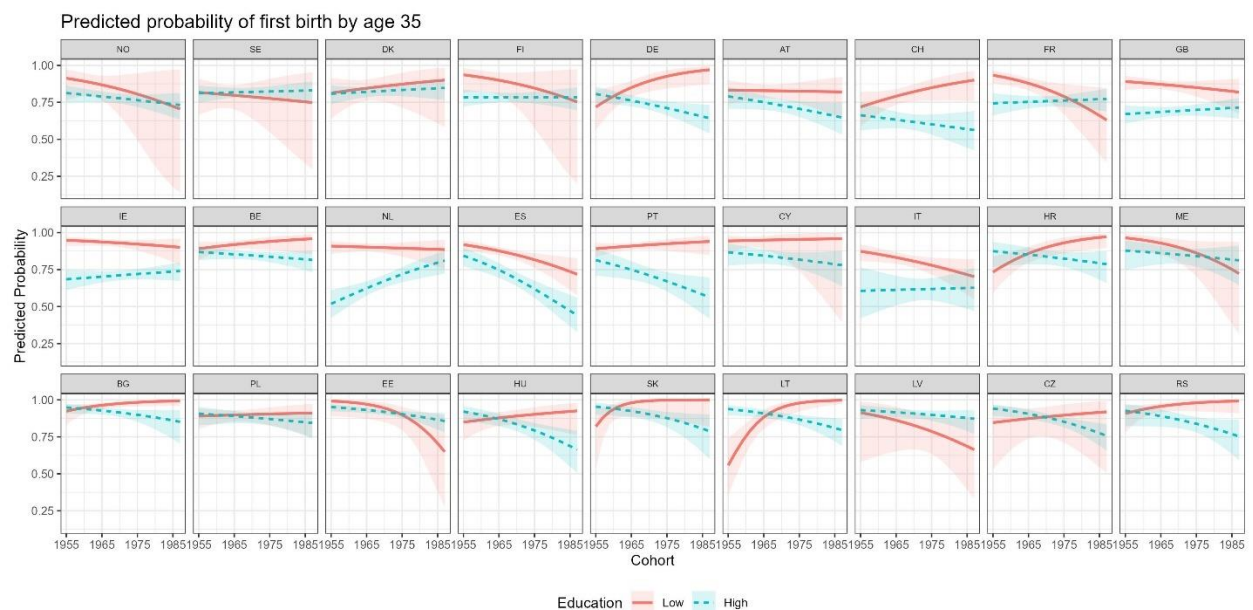
Table 2: Likelihood of first birth by 35 for women

	Estimate	Std. Error	
(Intercept)	-0.240	0.137	.
Education (Reference: Low)			
Medium	-0.152	0.120	
<b>High</b>	<b>-0.704</b>	<b>0.119</b>	***
Cohort	0.000	0.007	
<b>Cohabited by 35</b>	<b>2.529</b>	<b>0.059</b>	***
Education (Reference: Low)			
<b>Medium x Cohort</b>	<b>-0.017</b>	<b>0.009</b>	.
High x Cohort	-0.014	0.008	

Second, we run our analysis including a three-way interaction between education, cohort and countries. We plot the predicted probabilities of cohabiting/first birth by 35. We find that the likelihood to have cohabited significantly decreased for lower compared to higher educated women in Sweden, Germany, Ireland, the Netherlands and Croatia. For the remaining countries we do not find significant differences in the educational gradient of entering a union by age 35 across cohorts (with the exception of Montenegro where lower educated women have a higher likelihood to cohabit in recent cohorts than higher educated).



In terms of first births, we find that the likelihood to enter parenthood by 35 declined significantly for lower compared to higher educated women in France, Great Britain, Ireland, the Netherlands and Italy. For the remaining countries, we find that the likelihood either declined for the lower educated but does not reach significance (especially in the Nordic countries where the sample of lower educated is very low and uncertainty therefore larger), that the likelihood is similar across educational groups, or that the lower educated have a higher likelihood of experiencing a first birth by 35.



## Conclusion

While women with lower educational attainment were usually considered to have higher union formation and fertility rates than higher educated women - especially at younger ages - recent studies show that fertility has declined more for the lower educated, especially in the Nordic countries (Jalovaara et al. 2019) but also in France (Compans 2021), the UK (Ermisch 2021), Germany (Kreyenfeld and Konietzka 2017) and Spain (Reher and Requena 2019). While studies focus on single countries, cross-country comparisons in terms of entry to cohabitation and parenthood are limited. In this paper, we therefore analyse the likelihood to cohabit and to experience a first birth by age 35 across 28 European countries for cohorts 1955 to 1985.

For several Western European countries – France, the Netherlands, the UK and Ireland – we indeed find that the likelihood to experience a first birth by 35 declined stronger for the lower rather than higher educated women in recent cohorts. This is also the case for Italy among the Southern European countries. While lower educated women had the highest chances of entering motherhood by 35 in older cohorts, the likelihood to have a first birth by that age has converged across lower and higher educated women in recent cohorts for these countries.

## Outlook

In the actual paper, we will more thoroughly address the interrelatedness of education, cohabitation and first birth by applying Structure Equation Modelling. Furthermore we will investigate in how far later entry into the labour market might explain the lower likelihood of entering cohabitation and parenthood for the lower educated in recent cohorts.

## References

- Adserà, A. (2018). Education and fertility in the context of rising inequality. *Vienna Yearbook of Population Research* 1:63–94. doi:10.1553/populationyearbook2017s063.
- Autor, D.H. (2014). Skills, education, and the rise of earnings inequality among the ‘other 99 per cent’. *Science* 344(6186):843–51. doi:10.1126/science.1251868.
- Compans, M.-C. (2021). Late motherhood, late fatherhood, and permanent childlessness: Trends by educational level and cohorts (1950–1970) in France. *Demographic Research* 45:329–344. doi:10.4054/DemRes.2021.45.10.
- Ermisch, J. (2021). English fertility heads south: Understanding the recent decline. *Demographic Research* 45:903–916. doi:10.4054/DemRes.2021.45.29.
- Esping-Andersen, G. (2012). *The Incomplete Revolution: Adapting to Women’s New Roles*. Cambridge, UK: Policy Press.
- Goldin, C. (2014). A Grand Gender Convergence: Its Last Chapter. *American Economic Review* 104(4):1091–1119. doi:10.1257/aer.104.4.1091.
- Jalovaara, M., Neyer, G., Andersson, G., Dahlberg, J., Dommermuth, L., Fallesen, P., and Lappegård, T. (2019). Education, Gender, and Cohort Fertility in the Nordic Countries. *European journal of population = Revue européenne de démographie* 35(3):563–586. doi:10.1007/s10680-018-9492-2.
- Kreyenfeld, M. and Konietzka, D. (2017). Childlessness in East and West Germany: Long-Term Trends and Social Disparities. In: Kreyenfeld, M. and Konietzka, D. (eds.). *Childlessness in Europe: Contexts, Causes, and Consequences*. Cham: Springer International Publishing: 97–114. doi:10.1007/978-3-319-44667-7\_5.

- Reher, D. and Requena, M. (2019). Childlessness in Twentieth-Century Spain: A Cohort Analysis for Women Born 1920-1969. *European journal of population = Revue europeenne de demographie* 35(1):133–160. doi:10.1007/s10680-018-9471-7.
- Trimarchi, A. and Van Bavel, J. (2017). Education and the Transition to Fatherhood: The Role of Selection Into Union. *Demography* 54(1):119–144. doi:10.1007/s13524-016-0533-3.
- Van Bavel, J., Schwartz, C.R., and Esteve, A. (2018). The Reversal of the Gender Gap in Education and Its Consequences for Family Life. *Annual Review of Sociology* 44(1):341–360. doi:10.1146/annurev-soc-073117-041215.