

An Investigation into the Complex Effects of Women's Education on First Birth Risks in Sweden

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Extended abstract

Topic

In the past most researchers who studied the relation between women's education and fertility used the attained level of education and found out that female educational level and fertility are negatively associated. However, recently published papers indicate that also among women with the same level of education fertility differs substantially, depending on the field women took their education in. With this they confirm, that in studies analyzing the impact of education on fertility it is of particular importance to include not only the mere level, but also the field of education.

Aim of the study

In this study we investigate the role of women's educational enrolment, educational level and educational field in the transition to the first child in Sweden. Does educational enrolment have a delaying impact on the transition to motherhood? How do differences in educational level that are associated with differences in the length of school enrolment affect age at first birth? What is the effect of educational level on first birth risks in contemporary Sweden and is the effect consistent for all educational fields? And finally, are there considerable differences in the transition to motherhood depending on the field women took their education in?

Data and methods

The analyses are based on longitudinal Swedish register data, which allows us to operate with a high number of educational field- and level combinations. Our sample includes 1,196,749 respondents born between 1950 and 1985. For the analyses we exclude men (612,572), women with foreign origin (123,234) and women who were not in Sweden at the age of 16 (10,457). Moreover we omit women who were pregnant with their first child before age 16 (2,054). Since our data provides educational information only for the years 1990 to 2004, we have to restrict the analyses to the period June of 1990 to June of 2004. Women who got their first child before June of 1990 (154,704) as well as women who emigrated (5,075) or died (1,158) before June of 1990 are excluded from the period analyses. This leaves a valid sample of 284,495 female respondents.

We apply event-history methods to model the transition to the first birth as a function of an underlying risk modified by a vector of covariates. The equation to be estimated has the following general mathematical form:

$$\ln h_i(t) = y_h(t) + \sum_k \alpha_{kh} x_{ikh}(t)$$

where the hazard of first birth ($h_i(t)$) at time t of individual i results from the baseline hazard (y_h - time since the 16th birthday) and a set of time-varying covariates ($\alpha_{kh}x_{ikh}$). The baseline log-hazard is a piecewise-linear spline (also known as a generalized Gompertz function). For the estimation of the event-history models we use the software aML (Version 2).

Results

Our analyses show a u-shaped relation between educational level and the transition to the first child that is caused by a negative effect of educational level on the risk to get a first child for women in the teens and low twenties and a positive effect for women aged 30 or older. We argue that this interrelation between women's age, educational level and first birth risk - that is consistent for all educational fields - results from educational level specific differences in age at graduation and a delaying effect of school enrolment on entering marriage and motherhood. Pertaining to educational field we show that, at each educational level, women educated for jobs in teaching,

health care and social care have the highest risks to get a first child while the risk is lowest for women educated in the field of humanities, arts or social sciences.