

CONTEXT

- Men are rarely taken into consideration when talking about fertility. However, **men's lives and fertility patterns are changing as drastically as women's** (Bledsoe et al., 2000).
- In recent decades in Spain, both the process of departing from the education system and entering parenthood have increasingly been postponed (Baizán, 2001). The average level of educational attainment has risen across female and male cohorts and women's education at certain ages has even surpassed men's. Nevertheless, **greater educational attainment for both women and men in Spain has not eradicated class and gender differences** (Eurostat, 2008: 36ff.)

AIMS

- Based on a previous research on women in Spain for first births (Martín-García and Baizán, 2006)**, five hypotheses are presented here to be tested in the male sample:
 - To see whether **men who do not want (or do not intend) to become fathers early on might attend school for a longer period of time**; and conversely, men with stronger fertility intentions might speed up both processes;
 - To elucidate whether **men who opt for "feminine" subjects are more positive about parenthood and, therefore, display a higher propensity towards first births.**

DATA

- I use data from the **Spanish Family and Fertility Survey** (1995).
- This survey provides individual-level data on family dynamics for men born between 1945–977, and some social background characteristics and their educational and employment histories.
- The sample used covers a total of **1,954 men**.
- The processes of first birth and leaving the educational system and the variables used are defined as in Martín-García and Baizán (2006)** to replicate the analysis for men as close as possible to that of women.

METHODS

- I initially use a **proportional hazard model separately** for the processes of first-birth conception and for the end of educational enrolment.

$$\ln h(t) = y(t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t)$$
- However, the effect of education on first births may be biased in the above specification. I therefore run a **joint multi-process model of educational enrolment and first birth** (Lillard, 1993). The measurement of the correlation between the random variables ϵ and δ , the heterogeneity components of each process, is a crucial test of endogeneity between them.

$$\ln h^e(t) = y^e(t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t) + \epsilon$$

$$\ln h^e(t) = y^e(t) + \sum_j b_j x_j + \sum_i \beta_i w_i(t) + \delta$$

Role expectation hypothesis (H1): *it is predicted a strong negative effect of education enrolment on first childbirth because young men are not expected to form their own household and to become parents before earning the necessary means to do so.* ✓

Educational completion and parenthood may be simultaneously driven by (unmeasured) common factors that lead men to choose a specific life-course out of a set of alternative possibilities [common determinants hypothesis (H2)]. X

Becker's theory on comparative advantage predicts that the husband's human capital may have a positive effect on fertility. *Men with more education and better job opportunities would have an earlier and higher fertility because they can better afford them [human capital hypothesis (H3)].* X?

Women and men may choose fields that lead to education and caring occupations by their values and/or "nurturing role".

- Recently, some scholars have noted that male doctors have more children than male bank managers (Crompton and Lyonette, 2007: 14).
- Fields of study that lead to female-dominated occupations may capture a man's life course orientation that includes both a professional career and having children, which will translate into higher first birth rates, as it happens for women [**type of education hypothesis (H4)**]. X

In addition, it could be the power imbalance between partners and not the man's education *per se* which has a positive effect on fertility. *We can expect that the greater the education imbalance between partners, the greater the positive effect of the man's education on the timing of first birth [Education imbalance hypothesis (H5)].* ✓

Relative risks of piecewise linear hazard models of entry into PARENTHOOD*						
EDUCATIONAL ENROLMENT	Without heterog.			With heterog.		
	MOD1	MOD2	MOD3	MOD4	MOD5	MOD6
In education	0.35***	0.37***	0.50***	0.27***	0.29***	0.51**
Out educ. (0-2years)	0.45***	0.44***	0.59**	0.40***	0.39***	0.60*
Out educ. (2-5years)	0.77***	0.76**	0.87	0.70**	0.70**	0.86
Out educ. (+5years)	.	.	.	.	.	.

Significance levels: *** p<0.01; ** p<0.05; * p<0.10
Time periods from age 15 to 20, from 21 to 24, from 25 to 27, from 28 to 32, and then at open intervals.
Controlled for: age, birth cohorts, number of siblings, education level / type of education for each education level, partner.

Models 1-3 are models estimated separately for first births. Models 4-6 present the results when the two processes are modelled together. Models 1&4 includes the man's educational attainment and Models 2&5 specifies the man's type of education for each education level. Models 3&6 display the corresponding results with the field of study when the man's partnership status is controlled.

Correlation between first birth and the end of education enrolment for MEN*						
	MODEL 4		MODEL 5		MODEL 6	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
Standard deviation of ϵ	1	0	1	0	1	0
Standard deviation of δ	1	0	1	0	1	0
Correlation $\epsilon\delta$	-0.13	0.12	-0.12	0.12	0.01	0.12

Fixed variance at 1.
Significance levels: *** p<0.01; ** p<0.05; * p<0.10
Correlation $\epsilon\delta$ for women: Model 4, Estim. 0.31, S.E. 0.04***; Model 5, Estim. 0.32, S.E. 0.04***; Model 6, Estim. 0.31, S.E. 0.05*** (Martín-García and Baizán, 2006).

Relative risks of piecewise linear hazard models of entry into PARENTHOOD*		
EDUCATION LEVEL	Without heterog.	With heterog.
	MOD1	MOD4
Primary/Lower secondary [Ref.]	.	.
Upper secondary	0.88	0.73**
University	0.78*	0.53***

Significance levels: *** p<0.01; ** p<0.05; * p<0.10
Controlled for: age, birth cohorts, number of siblings, education enrolment, partner.

Relative risks of piecewise linear hazard models of entry into PARENTHOOD*				
TYPE OF EDUCATION FOR EACH EDUCATION LEVEL	Without heterog.		With heterog.	
	MOD2	MOD3	MOD5	MOD6
Primary/Lower sec: general [Ref.]	.	.	.	.
Upper sec: general	0.78**	0.68***	0.61***	0.59***
Upper sec: care & relational skills	0.17*	0.13**	0.10**	0.14**
Upper sec: others	0.99	0.85*	0.87	0.79*
University: care & relational skills	0.61***	0.53***	0.40***	0.45***
University: others	0.96	0.72**	0.68*	0.60**

Significance levels: *** p<0.01; ** p<0.05; * p<0.10
Controlled for: age, birth cohorts, number of siblings, education enrolment, partner.

Studies included in the following categories: (1) Primary and low. sec.: general: general primary & lower education; (2) Upper sec: general: general upper secondary education; (3) Upper sec: care and relational skills: teacher training and education sciences; medicine and health; fine and applied arts; humanities; religion and theology; social and behavioural science; law and jurisprudence; home economics (domestic science) programs. (4) Upper sec.: others: natural sciences; commerce and business administration; mathematics and computer science; trade, craft and industrial; engineering; architecture and town-planning; agriculture, forestry and fishery; service trade; transport and communication; mass communication and other programs. (5) University: care and relational skills: teacher training and education sciences; medicine and health; fine and applied arts; humanities; religion and theology; social and behavioural sciences; law and jurisprudence. (6) University: others: natural sciences; commerce and business administration; mathematics and computer sciences; engineering; architecture; mass communication; service trade; transport and communication; agriculture; forestry, fishery and other programs.

There is not a monotonic negative relationship between education and male fertility in Spain when the man's type of education is included: the most highly educated men are not those with the lowest propensity towards first child.

Men in engineering, science, etc., show an earlier timing of fertility while men choosing studies in humanities, arts, social sciences, health, etc., postpone their first births irrespective of their education level. This result does not support the "type of education hypothesis" and implies a sharp contrast between men and women (Martín-García and Baizán, 2006).

Men educated in traditionally "feminine" fields often face a long job searching process, leading to a longer transition to the labour market, higher risk of unemployment, more temporary jobs, or lower occupational status and income prospects during the early stages of their careers.

Having attained a certain level of education, men with better chances for more resources and job security (those categorized as "others" in the analysis) enter earlier at first birth.

Relative risks of piecewise linear hazard models of entry into PARENTHOOD*		
EDUCATION (MIS)MATCH BETWEEN PARTNERS	Man's educ. = woman's educ. [Ref.]	MOD7 with heterog.
	Man's educ. > women's educ.	.	1.23*
Man's educ. < women's educ.	.	0.60***

MAN'S EDUCATION >	Upper secondary: general [Ref.]	.
	Upper secondary: care & relat. skills	1.42
Upper secondary: others	1.66***	
University: care & relational skills	0.53*	
University: others	1.14	

MAN'S EDUCATION <	Primary/Lower secondary: general	0.45
	Upper secondary: general [Ref.]	.
Upper secondary: care & relat. skills	0.61	
Upper secondary: others	0.33***	

Significance levels: *** p<0.01; ** p<0.05; * p<0.10
Controlled for: age, birth cohorts, number of siblings, education enrolment, partner.

Results corroborate the "education imbalance hypothesis" and demonstrate that the propensity of becoming a father is greater when the man has a higher level of education than his wife/partner.

However, once we account for the distinction of type of education, results refute again the "type of education hypothesis". Despite the fact that they are better educated than their wives, the first birth rate is lower for upper secondary-educated men whose studies belong to the care and relational skills category than for men in "other" studies, and it is lower than the reference category for men with these feminine lines of education on the tertiary level.

Better educated men have higher expectations in the labour market and they will not enter parenthood due to the greater difficulties that these sorts of studies offer on attaining secure jobs and higher incomes. As a result, it is not only a question of a man being better educated, but also having a certain type of education.

CONCLUSIONS

- In Spain, there exists a strong negative effect of education enrolment on first birth for men. However, the endogeneity between the timing of ending education enrolment and first birth is not positive or significant. In a context with a strong differentiation of roles between sexes, men's education choices are not seen as being affected by childbearing and childcare. Consequently, **men's investments in education seem to conflict less intensively with family roles than was pointed out earlier for women.**
- Secondly, results indicate that **explanation of the type of education must be multi-dimensional and that the interpretation for men and women may be different.** In fact, rather than a proxy for pre-education attitudes or the means to confirm/change these attitudes over the course of one's life, men's type of education seems to be merely a human-capital indicator which is associated with the different work opportunities and conditions during the post-education period. Despite this fact, the field of study argument also adds an important dimension in men's fertility analysis.
- It remains to be seen to what extent results of this nature can be extended to second and third births. Men instructed in "care and relational skills categories" postpone parenthood but these types of studies may allow them to retain a closer attachment to the labour market and protect them from the drop in earnings associated with talking time out of the labour force, implying a higher final fertility as reported in other contexts (e.g. Crompton and Lyonette for the UK). Further research is also needed to clarify the interesting issue of educational homogamy in couples (including type of education) and its impact on fertility.