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Descriptive Finding

Lowest low fertility in Spain: Insights from the 2018 Spanish Fertility Survey

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Contents

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Abstract

BACKGROUND
Spain has one of the most enduring low levels of fertility in the world, but desired fertility there is still close to two children.

OBJECTIVES
We document recent fertility trends and examine the reasons that women and men provide for not achieving their desired fertility.

METHOD
We use data from the 2018 Spanish Fertility Survey (14,556 women and 2,619 men). We provide a cohort and age perspective and compare women and men. We use retrospective information and classify the reasons people report for not having (more) children.

RESULTS
Estimates on observed fertility, employment, and partnerships show that having a stable partner between the ages of 25 and 35 seems key in the transition to childbearing. Work–family conflicts and insufficient economic resources are the main reasons women and

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men give for not having their desired number of children. These are followed by partnership reasons (not having a stable partner) and health (infertility).

CONCLUSIONS
Our findings, although descriptive, shed light on the multiple and age-varying obstacles that prevent women and men from achieving desired levels of fertility.

CONTRIBUTION
The Spanish population indicates that the most important preconditions for having (more) children are sufficient economic resources, stability, and having a partner.

1. Introduction

In 1991 Spain and Italy were the first countries in the world to register a total fertility rate below 1.3 children per woman (Kohler, Billari, and Ortega 2002). Three decades later, fertility is still below this threshold in Spain, and the country currently has one of the lowest fertility rates in the world (1.16 in 2022). However, most surveys estimate that Spaniards' desired fertility is around two children (Adserà 2006). Hence there is a large gap between the average number of children they want and the number that they end up having. Until 2018, there were only two prior surveys specifically geared toward studying fertility: the 1999 fertility survey from the Spanish Statistical Office (INE) and the 2006 Fertility and Values Survey conducted by the Centre for Sociological Research. For more than a decade, social researchers did not have access to any source that would allow them to improve their understanding of the causes behind low fertility rates in Spain. The release of the 2018 Spanish Fertility Survey (SFS) put an end to this dearth of data. Here we highlight the key findings of a long-awaited fertility survey.

First we provide an overview of recent fertility trends and study the relationship between fertility, partnership, and employment trajectories using retrospective data. Second we explore the gap between desired and achieved fertility by examining people's perceived reasons for having (more) children. Even though subjective accounts might not align perfectly with counterfactual behavior if obstacles were to be lifted, we believe there is value in documenting people's perceptions of obstacles because these perceptions are likely to indicate the preconditions they would like to see fulfilled before they consider having children.

2. Data and analysis

We use data from the 2018 Spanish Fertility Survey conducted by the Spanish Statistical Office, which had a response rate of 54.4%. The SFS is a cross-sectional survey consisting of two independent samples: one for women (N = 14,556) and one for men (N = 2,619). The SFS includes retrospective questions on partnership, fertility, and employment trajectories of the interviewees, which allows for a longitudinal analysis of the data. In addition, respondents are asked about their fertility desires and perceived reasons for not (yet) having children. We exclude the migrant population from the analysis because the share of migrants varies across cohorts, and many of them might not have had their children in Spain. Final samples are 13,128 women and 2,386 men. All results are weighted using survey weights.

2.1 Measures

Three variables are central to our analysis: observed fertility, fertility intentions, and reasons given for not having (more) children at the time of the survey. Observed fertility is measured by the total number of biological and adopted children at the time of the survey. Retrospective data on birth histories allow us to know the age of respondents when they became parents. Fertility intentions are measured by the intention to have a child in the next three years (short-term intentions). Previous research shows that questions on fertility intentions within a specific time frame are better predictors of future fertility behavior (e.g., Schoen et al. 1999). Fertility trends are further disaggregated by parity (zero, one, and two or more current children) and by age (18 to 48).

Finally, to document the reasons surveyed women and men give for having fewer children than they intended, we combined two variables. First the questionnaire asked respondents whether they were satisfied with the number of children they had (if any). Respondents whose desires did not match their situation were asked to select a maximum of three options among 20 predetermined reasons, with the possibility of adding other responses. In total this resulted in 35 reasons; 54.3% of women and men indicated only one, 27.4% marked two, and 18.2% pointed at three reasons. We focus on the main reasons given and group them into seven categories according to whether they reflect: (1) the desire not to have (more) children; (2) the desire to have them later; (3) not having the right partner; (4) not having enough financial resources; (5) experiencing work–life conflicts; (6) health problems related to getting pregnant; and (7) other reasons.

We classify respondents based on their education, partnership status, and employment status. Education is categorized into three levels: low (no schooling or only primary education; 38% of our sample), medium (compulsory secondary and post–compulsory secondary education; 26.3%), and high (post-secondary vocational training and university studies; 35.7%). Regarding partnership status, we distinguish between

people in a union (cohabitation or marriage) and those not in a union (not living with a partner). Employment status is classified into having a permanent job, having a temporary job, or having no job. For both partnership and employment status, we use retrospective information. This information was available for 10,917 women and 2,045 men and included the starting and ending months of up to four coresidential relationships and up to five employment spells.

2.2 Analysis

Our analysis is divided into two steps. First we document cohort fertility trends by age and education for women and men born between 1962 and 1989. Then we examine the association between fertility, employment, and partnership trajectories. To this end, we construct a person-year file where for each year we identify whether the person lived with a partner, had a permanent employment contract, and/or had a child. For each person-year that an individual was childless, we calculate the probability of individuals giving birth within the next three years depending on employment and partnership status.

Second we examine fertility intentions and perceived reasons why respondents did not achieve the desired number of children. To ease the interpretation of the figures, frequencies have been smoothed using a simple moving average and a P-spline function (Camarda 2012).

3. Results

3.1 Cohort fertility

Figure 1 shows the cumulative percentage of women and men who were parents at a given age by educational level and birth cohort. Sample sizes range from 2,164 females from the 1970–1974 cohort to 197 males from the 1962–1964 cohort. The mean cohort size is 945.6 for both men and women. We highlight three main results. First, around 75% of men and women become parents during their lifetimes. Second, highly educated women have children later than women with medium or low levels of education. Additional analyses (available upon request) showed that differences by education are representative at a 95% confidence level. Third, highly educated men have their first child slightly later than those in the other educational groups, but differences fall within a 95% confidence interval only among younger cohorts. Unfortunately, sample sizes for older cohorts (born before 1969) are too small for us to make firm claims about educational differences.

Figure 1:   Proportion of mothers and fathers by age and education of the cohorts of women and men born in Spain between 1962 and 1989
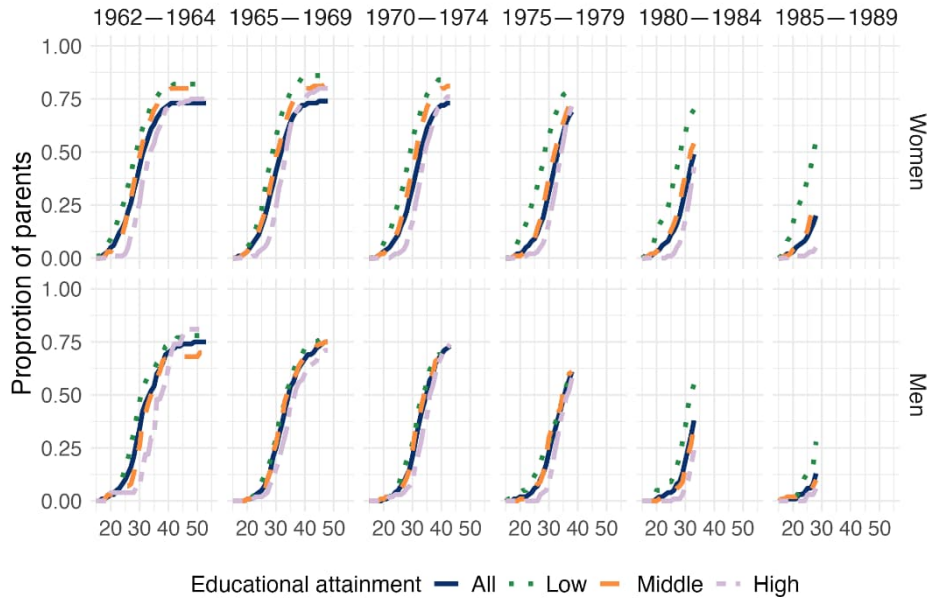
3.2 Partnerships, employment status, and observed fertility

We use the retrospective survey information to analyze, in each year covered by the data, whether the share of childless people having a child within the next three years is related to partnership and employment status (see Figure 2). This figure includes men and women born in 1965 and after because the male sample for the 1962–1964 cohort was too small once broken down by partnership and employment. Regarding partnership status, we distinguished between those who were living with a partner and those who were not in each year considered. Regarding employment, we classified respondents according to whether they had a permanent employment contract, a temporary contract, or no job.

Figure 2:   **Probability of having a first child in the next three years according to the partnership and employment status at each age of women and men born in Spain between 1965 and 1989**
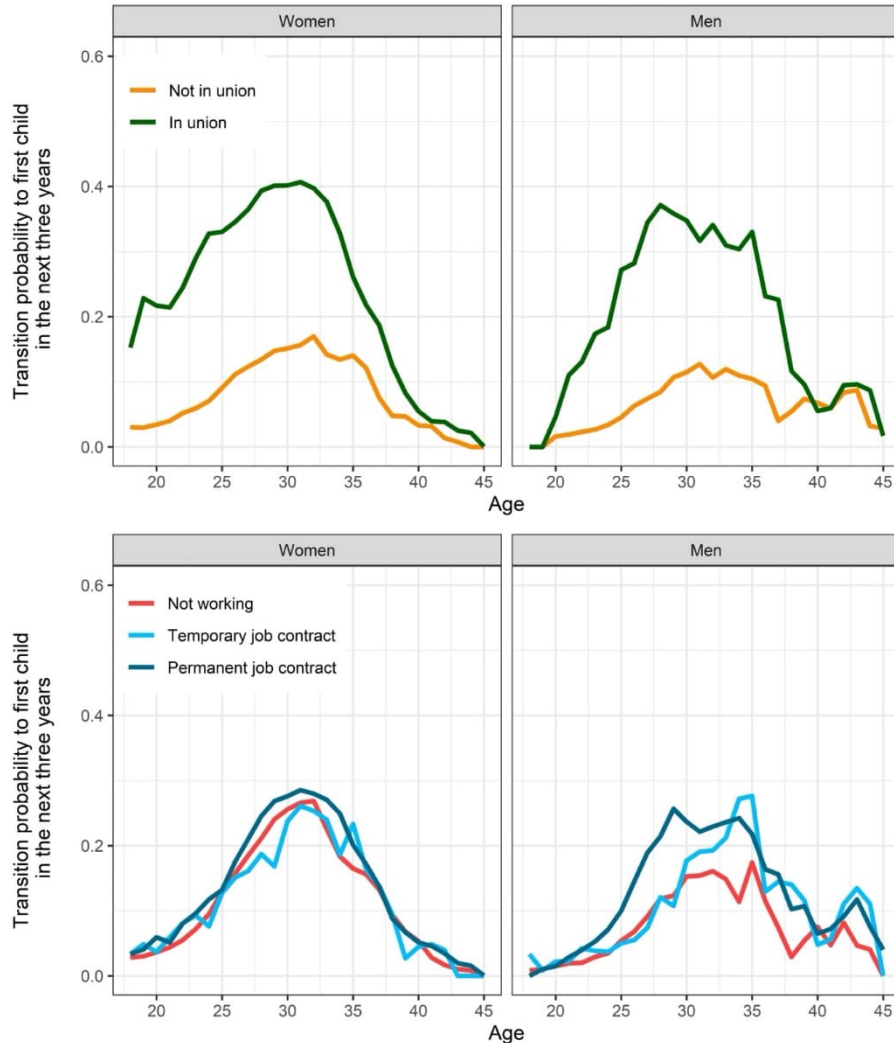
The share of individuals who had a first child within the next three years varies with age. The probability is relatively low before the age of 20, it peaks between 30 and 35 years old, and it decreases rapidly after that. Having and living with a partner increases the probability of having a first child among people between 20 and 40 years old. Within this age range, the importance of living with a partner on the probability of having a first child peaks between 25 and 35 years of age. Women's employment situation does not seem related to the transition to the first child, even when distinguished by partnership status (results not shown). In contrast, the probability of having a child in the next three years is higher among men who have a permanent contract than among those who do not have a job or who have a temporary contract. However, for both men and women, employment stability influences the timing of couple formation (results not shown). Those with a permanent job enter into a union earlier than unemployed or temporary workers.

3.3 Intended fertility

In general, around 30% of men and women had fewer children than intended at ages 45–55, whereas 1% to 2% had more children than they desired.

Figure 3 shows the percentage of women (left panel) and men (right panel) who reported the intention to have a child in the next three years by age and parity. (Parity 0, Parity 1, and Parity 2+ indicate the number of children at the time of the survey.) Dark colors indicate the intention to have a child in the next three years, and light colors are the opposite; 18.5% of women and 20.7% of men indicated that they intended to have a child in the next three years. Due to the cross-sectional nature of the survey, it is not possible to use retrospective information to reconstruct preferences for having children.

The intention to have children varies according to sex, age, and the number of children people already have. Men and women show similar patterns by age and parity, although the levels are slightly different. Before the age of 32, the proportion of women who intend to have children is higher than that of men. After this age, intentions are higher among men. The percentage increases rapidly with age until 40 years old. Most people who want to have children are childless or have at most one child and are between 28 and 40 years old.

Figure 3: **Intention to have children in the next three years by sex, age, and parity at the time of the survey, 2018**
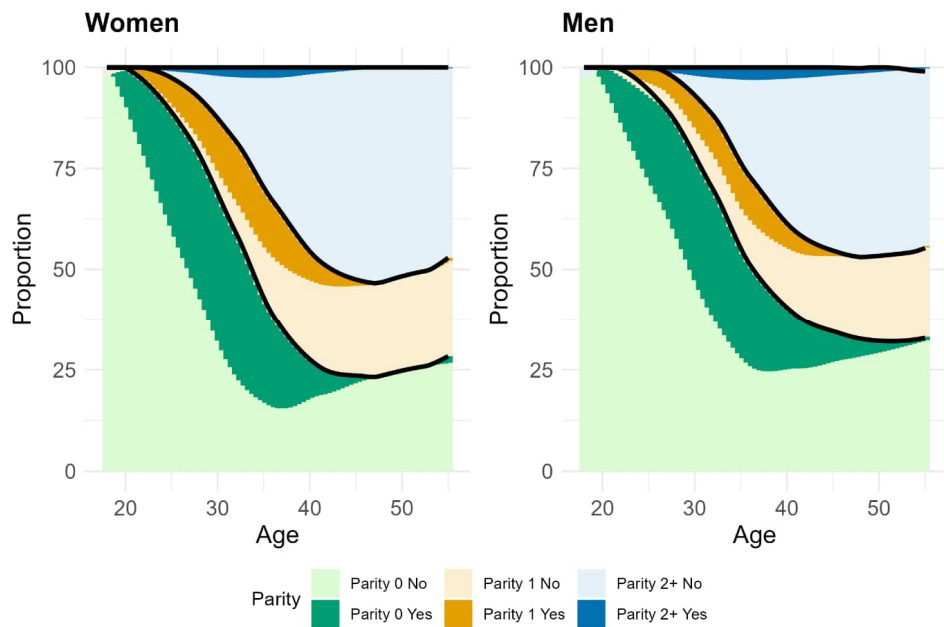
Note: Parity indicates number of children at a given age.

3.4 Reasons for not having had (more) children

Figure 4 shows the distribution of the reasons women and men gave for not (yet) having the desired number of children at the time of the survey by age and parity. The figure also includes people who did not want to have (more) children. The proportion of people who are childless and who do not want children is below 10% for all ages displayed here. Before the age of 25, the majority of childless people report being too young to have children. After this age, other reasons emerge. Reasons related to the lack of a partner are particularly important among the childless and more so among men than among women. Reasons related to insufficient economic resources and work–family conflict are even more important than those related to partnerships. However, economic reasons generally reduce in important with age for the transition toward having the first child but become more important with age for the transition toward the second child. From age 40 onward, health problems related to the difficulty of conceiving have a higher incidence.

Figure 4: **Reasons for not having desired number of children by sex, age, and parity at the time of the survey, 2018**
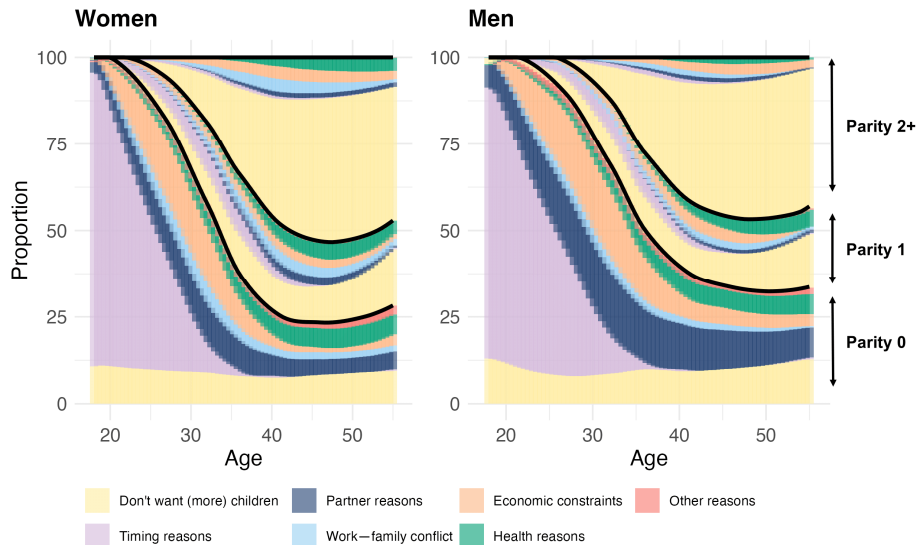
4. Conclusions and discussion

This paper provides a detailed description of fertility trends and perceived reasons for low fertility in Spain using data from the 2018 Spanish Fertility Survey. First we observe the structural nature of low fertility in Spain. The birth cohorts analyzed are very homogeneous in terms of low fertility, and there is no sign of recovery among the youngest cohorts. Men have slightly lower fertility than women, and the reasons for it could be related to a slight increase in single mothers by choice and imbalances in the marriage market due to migration (Miret 2023). Next we see that observed fertility is clearly below desired fertility. The retrospective analysis also shows the importance of residential unions between the ages of 25 and 35 for fertility transitions. Women's stable employment seems less relevant than partnership status. Similarly, for the case of Germany, Kreyenfeld (2010) also found little evidence that uncertainties in female employment and careers generally led to a postponement in parenthood, although highly educated women were found to be the exception. However, economic resources are probably having an important impact on union formation, especially for men and among them for those with lower levels of education. In addition, our analysis of reasons

individuals give for not having (more) children shows that people do indicate that economic resources are particularly relevant for the transition from one to two or more children. It is possible that people adjust the economic bar they like to pass before having children according to their socioeconomic status or situation.

Finally, when focusing on the desired number of children (Figure 4), insufficient economic resources and work–family conflict are the main reported reasons why women and men do not reach the number they wanted, followed by partner-related and health reasons. This was observed in earlier fertility surveys in Spain too (Adserà 2006).

There are several limitations to our analysis. Firstly, in the study of reported reasons, there could be a process of ex post rationalization. Answers may be affected by past events experienced by women (or couples) that shape their current preferences (Bushan and Hill 1996). Furthermore, intentions to have (or not to have) children are highly contingent and constrained (Morgan and Rackin 2010) because they are embedded in life course events and may vary across ages and experiences. Secondly, our analysis did not include stepchildren because we did not know if they (ever) resided in respondents' households. However, we think our exercise is informative in showing what women and men perceive to be important for achieving their fertility plans.

Given the complex causal chain between economic conditions, couple relationships, health, and fertility, reported reasons are a valuable complement to the observed relationships between work behavior, partnership status, and fertility that most previous research has relied on (Baizán, Aassve, and Billari 2003; Kravdal 2002; Kreyenfeld 2010). These reasons can also be informative about the conditions that individuals think should be in place before they have a child. In this regard, our results highlight that having a partner and having sufficient economic resources seem to be essential for the Spanish population to have (more) children. Future research can look further into novel ways of exploring the link between material conditions and fertility, study the intersection between partnership and employment trajectories to understand fertility outcomes, or analyze which combination of factors would lead to different fertility decisions. Spain is one of the lowest low-fertility contexts in the world, and this new dataset would help academics and policymakers better understand the reasons behind it.

5. Acknowledgments

References

Adserà, A. (2006). An economic analysis of the gap between desired and actual fertility: The case of Spain. *Review of Economics of the Household* 4(1): 75–95. doi:10.1007/s11150-005-6698-y.

Baizán, P., Aassve, A., and Billari, F.C. (2003). Cohabitation, marriage, and first birth: The interrelationship of family formation events in Spain. *European Journal of Population/Revue Européenne de Démographie* 19(2): 147–169.

Bushan, I. and Hill, K. (1996). The measurement and interpretation of desired fertility. (Papers on Population WP 95-1)*.* Baltimore, MD: Hopkins Population Center.

Camarda, C.G. (2012). Mortality smooth: An R package for smoothing Poisson counts with P-Spline. *Journal of Statistical Software* 50(1): 1–24. doi:10.18637/jss.v050.i01.

Kohler, H.P., Billari, F.C., and Ortega, J.A. (2002). The emergence of lowest-low fertility in Europe during the 1990s. *Population and Development Review* 28(4): 641–680. doi:10.1111/j.1728-4457.2002.00641.x.

Kravdal, Ø. (2002). The impact of individual and aggregate unemployment on fertility in Norway. *Demographic Research* 6(10): 263–294. doi:10.4054/DemRes.2002.6.10.

Kreyenfeld, M. (2010). Uncertainties in female employment careers and the postponement of parenthood in Germany. *European Sociological Review* 26(3): 351–366. doi:10.1093/esr/jcp026.

Miret, P. (2023). What about men? Male fertility in Spain. (Perspectives Demogràfiques 30). Barcelona: Center d'Estudis Demogràfics.

Morgan, S.P. and Rackin, H. (2010). The correspondence between fertility intentions and behavior in the United States. *Population and Development Review* 36(1): 91–118. doi:10.1111/j.1728-4457.2010.00319.x.

Schoen, R., Astone, N.M., Kim, Y.J., Nathanson, C.A., and Fields, J.M. (1999). Do fertility intentions affect fertility behavior? *Journal of Marriage and the Family* 61(3): 790–799. doi:10.2307/353578.