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Unpartnered motherhood on the rise in Spain: Demographic and social implications

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Abstract

Research on fertility trends is increasingly centred on the role that family change, new union formation patterns and partnership instability might play on fertility rates. In the case of Spain, lowest-low fertility levels (1.3 since 2011) have been reached in a context of increasing childbearing within consensual unions (31% of total births in 2014) but also outside co-residential partnerships (12% of total births in 2014). In this paper we examine unpartnered motherhood in Spain in order to ascertain whether this is indeed a new and escalating phenomenon and we reflect on its demographic and social implications. We use Spanish vital statistics (all birth records between 2007 and 2014), Population Register data for 2007 and the Continuous Household Survey for 2014. By combining these data, we compute age-specific fertility rates by women's partnership status (married, cohabiting, unpartnered) and estimate the contribution of unpartnered fertility to total fertility. We also apply the own-children method to 2001 and 2011 census data to have an alternative measure of unpartnered childbearing. In addition, we examine the socio-demographic profile of unpartnered mothers in order to explore whether there is a polarized pattern of young low-educated unpartnered mothers and older high-educated unpartnered mothers. Finally, we examine the impact of mothers' partnership status on the health status of their newborns, using low birthweight as an indicator.

Keywords: nonmarital fertility, single motherhood, unpartnered childbearing, conjugal status, union status

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Introduction

Over the last two decades, Spain has registered very low fertility rates, with a TFR always below 1.5 children per woman, and hovering around 1.3 since 2011 (Castro-Martín and Martín-García 2013, Devolder 2015). This lowest-low fertility regime has been arrived at in a context of substantial changes in family dynamics. A clear sign of these changes is the remarkable increase in nonmarital childbearing. The proportion of births to unmarried mothers rose from 17.7% in 2000 to 42.5% in 2014. Most of this increase is linked to the expansion of cohabitation (Domínguez-Folgueras and Castro-Martín 2013) and the growing proportion of births within cohabiting unions. Previous studies have documented that the contraceptive behavior of cohabiting women in Spain resembled that of married women (Sweeney, Castro-Martín and Mills 2015), an indication of the broad acceptability of cohabitation as a setting for childbearing. A much less explored component of nonmarital fertility is the increase of births to unpartnered mothers. The changing distribution of births by mothers' conjugal status is not specific to the Spanish case; empirical evidence pointing in the same direction exists for countries with a longer tradition of cohabitation (Manlove et al. 2010). Neither is the diminishing significance of marital births exclusive to the developed world. In the census round at the turn of this century, the joint proportion of births to cohabiting women (39%) and to unpartnered women (15%) exceeded that of births to married women (46%) in the Latin American region (Laplante et al. 2015).

Research on fertility trends and patterns is increasingly centred on the role that family change, new union formation patterns and partnership instability might play on childbearing behavior. In the European context, most countries have experienced a normative and social transformation regarding the family context of childbearing (Perelli Harris et al. 2012). Not only has childbearing within cohabitation become socially accepted and increasingly prominent, but adverse social and health disadvantages of nonmarital children have declined considerably (Castro-Martín 2010, Štípková, 2013). Furthermore, in several Western countries there is a positive correlation at the macro level between the proportion of non-marital births and total fertility rates (Sobotka and Toulemon 2008). In this rapidly changing context, it is interesting to assess whether the increase of births to unpartnered women could play a non-trivial role in future fertility trends and to explore the links between unpartnered childbearing and the gender revolution (Goldscheider, Bernhardt and Lappegård 2015)

as well as its role in the reproduction of social inequalities (McLanahan and Percheski 2008).

In order to understand this phenomenon, it is important to take into account the potential heterogeneity of the group of unpartnered mothers (Young and Declerq 2010). If comprehensive data were accessible, it should be possible to identify at least four sets of circumstances leading to unpartnered motherhood (women who make the transition to motherhood while not co-residing with a partner: i) women who do not know the father of the child (largely mothers through adoption and assisted reproduction techniques – ART-); ii) women who know the father but do not have a stable relationship with him; iii) women who broke up their partnership before childbirth; iv) women who are in a stable intimate relationship but do not co-reside with the father due to migration or work reasons, by choice, or other motives. However, these data are rarely available, and some assumptions will need to be made.

In this paper we address the following research questions in order to contribute to the understanding of recent patterns and trends in unpartnered fertility, its underlying causes, and its demographic and social implications:

   i.   How has the proportion of unpartnered women of reproductive age and the share of births to unpartnered women changed in the past decade?

  ii.   What is the fertility pattern of unpartenered women and what is its contribution to the total fertility rate?

 iii.   How is the current socio-demographic profile of unpartnered mothers? Has the traditional negative association between educational level and unpartnered fertility weakened?

  iv.   Given the increasing prevalence and social acceptance of nonmarital childbearing, has the perinatal health disadvantage gap between marital and nonmarital births lessened or disappeared? Does the fact of not coresiding with a partner have a negative impact on birth outcomes?

Data and methods

We use Spanish birth records from 2007 to 2014 (3,773,835 births) in order to examine recent changes in women's union status at the time of childbirth. Official statistics tend to adjust to social change with a considerable time lag, and it is not until 2007 that the statistical birth bulletin,[1] in addition to legal marital status, includes a new question on whether unmarried mothers are in a cohabiting relationship. Nearly 30% of unmarried

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[1] The statistical birth bulletin is filled out by the parents at the time of registering the birth in the Civil Register.

mothers do not reply to this new question;[2] however, the birth register microdata allow comparing the reported home address of the mother and the father. We classify unmarried mothers who declared to be in a cohabiting union and those who did not answer to the question of cohabitation but whose reported home address was the same than the father as "cohabiting". Unmarried mothers who did not answer to the question of cohabitation but reported a different home address for the father or did not report father's residence were classified as "unpartnered". Additionally, we distinguish among unpartnered mothers who provided information on some socio-demographic characteristics of the father (such as age, nationality or education) and those who did not.[3] It should be noted that our classification of union status is largely built on the basis of partners' co-residence, and hence it is not able to capture intimate partners living apart. The data available in birth records do not allow either to distinguish between intended and unintended unpartnered motherhood (Hayforth and Guzzo 2015, Tapales and Finer 2015).

In order to validate our classification of union status from the birth records, we use the own-child method of fertility estimation with census data. This method is typically used to reconstruct recent fertility patterns from census household information in countries with deficient vital statistics (Cho, Rutherford y Choe 1986). This is not the case for Spain, but we will use it to compare the distribution of children under age 1 in the 2011 census and the distribution of births from 2011 vital statistics by mother's union status. According to Table 1, the number of recent births identified through the own-child method is 8% lower than the number of births registered during 2011. The observed discrepancy might be partly related to the reference date of the census (November 1st). Nevertheless, Table 1 shows that the distribution of mothers by union status is very similar in the two data sources. Taken together, married and cohabiting mothers represent roughly 90% of the total and unpartnered mothers the remaining 10%, according to both census and register data. Therefore, we can consider that the classification of union status from the birth records, built both on self-declaration and partners co-residence, is validated by census data.

In order to assess the role of unpartnered childbearing on fertility patterns, we calculate age-specific fertility rates by women's conjugal status at the beginning and at the end of our observation period: in 2007, using Population Register data[4], and in 2014, using the Continuous Household Survey. We will also decompose the observed increase in unpartnered fertility during the last decade in order to differentiate the contribution of higher fertility rates among unpartnered women from the growing share of unpartnered

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[2] One possible reason for this high rate of non-response is that, since cohabiting relationships can be registered in most Spanish regions, respondents might have interpreted that the question alluded only to registered cohabitations.

[3] The birth microdata available for research purposes do not contain information on whether the name of the father was registered, but we assume that if socio-demographic characteristics of the father are reported, it means that the mother identified the child's father at the registry.

[4] To obtain the distribution by conjugal status in 2007, we applied the proportions in the Labour Force Survey to Population Register figures.

women of reproductive age in the Spanish population (as shown in Figure 2). The analysis of the contribution by conjugal status follows the method and guidelines by Laplante and Fostik (2015).

We also use birth register microdata to compare the socio-demographic profile of married, cohabiting and unpartnered mothers. Descriptive and multivariate analyses are conducted to examine the socio-demographic characteristics that are associated with unpartnered status at childbirth. We are particularly interested in assessing whether the traditional educational divide in unpartnered childbearing has waned or remains in place.

Finally, we examine the health disadvantage of births to unpartnered women by comparing the likelihood of having a low weight birth (<2500 g) among married, cohabiting and unpartnered mothers with logit models. A large number of demographic and epidemiological studies have shown that unmarried mothers have higher odds of adverse birth outcomes than their married peers (Sha et al. 2011), although differentials vary across societies (Zeitlin et al. 2002). Among unpartnered mothers, we distinguish between those with paternal information on the birth record and those without, because previous research indicates that this distinction is relevant for birth outcomes (Sullivan et al. 2011). We also explore whether the association between mother's union status and low birth weight varies over time and by educational attainment. The analysis is restricted to singleton deliveries because multiple births, which are at high risk of low birthweight, are more common among married than unmarried women. Observations with missing information on birth weight (4.9%) were excluded from the analysis.

TABLE 1 ABOUT HERE

Preliminary results

Increase in unpartnered women and unpartnered mothers

During the past three decades, partnership dynamics in Spain have been marked by the decline in marriage rates and the delay of first marriage (Muñoz Pérez and Recaño-Valverde 2011). After the turn of the 21th century, the mean age at first marriage has continued its steady increase: from 28.1 in 2000 to 32.3 in 2014 among women, and from 31.7 to 34.4 among men (Spanish Statistical Institute 2016). The retreat from marriage did not automatically go hand in hand with an increase in cohabitation, but from the mid-1990s on, the diffusion of cohabitation has gained momentum and unmarried partnerships have become a major pathway of family formation. Nevertheless, age of entry into cohabitation remains relatively late compared to other European countries (Domínguez-Folgueras and Castro-Martín 2013). As a result, the proportion of women in the prime childbearing ages who are out of union is relatively large.

Figure 1 illustrates that, although we are focusing on a relatively short period –from 2007 to 2014–, there has been a considerable change in the conjugal composition of the

female population of reproductive age. The proportion of women who do not coreside with a partner has increased from 51% to 61% in the age group 25-29 and from 27% to 36% in the age group 30-34, the peak childbearing ages in Spain. Below age 35, most unpartnered women have never been married (above 90%), but after that age an increasing proportion of unpartnered women have experienced marital disruption. For instance, in the age group 35-39, nearly one-fourth of currently unpartnered women are separated or divorced.

A relatively high proportion of unpartnered women in the prime childbearing ages may have a lowering effect on fertility when childbearing outside union remains exceptional. Figure 4 represents the distribution of births according to mother's union status for the recent period 2007-2014. The figure shows a steady rise in the share of births outside marriage: births to cohabiting women increased from 22.9% to 30.8% and births to unpartnered women increased as well from 7.3% to 11.7%. Although the share of births from women who are not in a conjugal union is still relatively modest, its upward trend in a context of broad use of efficient contraception and access to abortion deserves more attention than it has so far received. The large majority of unpartnered mothers report some socio-demographic characteristics of the father (84%), but nearly one out of five births to unpartnered women do not contain paternal information on the birth record. Some of the reasons not to provide father's information could be that the mother does not know the father or that she does not want to establish any relationship between the father and the child. Both teenage mothers and mothers over 40 that do not coreside with a partner are more likely not to include father's information on the birth record. One could speculate that some older unpartnered mothers might have used anonymous donor insemination.

Fertility patterns of unpartnered women

Together with changes in women's conjugal composition, changes in age- and union status-specific fertility rates[5] affect the relative contribution of each category of conjugal status to overall fertility. From the age and union specific fertility rates, we have estimated the contribution of each conjugal status to the total fertility rate of 2007 and 2014. Table 2 presents these contributions reported as number of children per woman and as proportions of the TFR. In the period 2007-2014, the proportion of the TFR attributable to childbearing within cohabitation has increased from 24% to 32%, and that attributable to childbearing outside union has increased from 8% to 13%.

This is also illustrated in Figures 2 and 3, which display the estimates of the contribution by age of each conjugal status (marriage, cohabitation and no co-residential partner) to fertility and cumulative fertility, respectively. These figures illustrate the divergences in the age profile of partnered and unpartenered fertility. We observe that

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[5] For age groups 35-49, fertility rates of cohabiting mothers are even higher than those of married mothers.

the contribution of unpartnered women is relatively important at young ages: in 2014 their contribution at ages 15-19 is similar that of cohabiting women and at ages 20-24 it is similar to that of married women. At these young ages, most women are not yet in a partnership. However, it is interesting to point out that the relative contribution of unpartnered fertility increases again for the oldest groups, when overall fertility rates drop and the proportion of unpartnered women is much lower.

FIGURES 1, 2, 3, 4 & TABLE 2

Profile of unpartnered mothers

Table 3 presents the socio-demographic profile of married, cohabiting and unpartnered mothers in the entire period 2007-2014. We can observe that unpartnered motherhood is no longer confined to adolescence or the early 20s, as it was the case in the past, when lone motherhood was largely the outcome of unintended pregnancies. Although unpartnered mothers are, on average, younger than both cohabiting and married mothers, nearly half of them were over age 30 at childbirth. Their educational attainment is, on average, lower than that of partnered mothers, suggesting that the traditional negative association between educational level and unpartnered childbearing remains in place. However, a closer look at the data reveals that there is a polarized pattern of young lower-educated unpartnered mothers and older higher-educated unpartnered mothers. About one-third of unpartnered women who have given birth after age 35 hold a college degree. Although this group matches the "single mothers by choice" archetype, we cannot ascertain whether they deliberately planned to become a single mother, because we lack information on pregnancy intendedness.

Parity composition also varies considerably according to mother's union status: the proportion of first births is 71% among unpartnered mothers, 63% among cohabiting mothers and 49% among married mothers. Unpartnered mothers are also more likely to have foreign nationality, to be out of the labour force, and to live in large cities than partnered mothers.

Since vital statistics do not contain information on the household living arrangements of unpartnered mothers, we examine the household composition of mothers with children under age 1, according to their partnerhip status, in the 2001 and 2011 census. Figure 5 shows that, whereas the large majority of partnered mothers live in a nuclear household, about half of unpartnered mothers reside with relatives, suggesting that kin support might be relevant in the choice to have a child while unpartnered. Also, co-residence with relatives may reduce the strains associated with balancing work and child care without a partner.

In order to examine trends and the socio-demographic characteristics that are associated with mother's union status at childbirth in a multivariate framework, Table 4 presents the results from a binomial logit model (out in union vs. in union) and a multinomial

logit model (contrasting out of union vs. married and out of union vs. cohabiting). The results confirm that, after controlling for socio-demographic composition, the likelihood of not having a co-residential partner at the time of childbirth has increased steadily over the period under study (2007-2014). This trend might reflect the declining propensity to enter a marital or cohabiting union in response to pregnancy and/or a rising tendency to choose not to give up motherhood in the absence of a committed partnership. The results from the multinomial logit model reveal that the increase in unpartnered motherhood over time has been steeper when compared to marriage than when compared to cohabitation.

The adjusted odds ratios also confirm that the age effect is not linear: young mothers and relatively old mothers are both more likely to be unpartnered at childbirth than mothers in their early thirties. Congruent with the descriptive results, educational attainment and number of prior births are negatively associated with the likelihood of being unpartnered at childbirth, while the size of place of residence shows a positive association.

Foreign mothers as a whole are less likely to be unpartnered, but given the heterogeneity of the immigrant population in Spain, we differentiate Latin American, Northern African and Eastern European women, which are known to have different partnership and reproductive dynamics (González-Ferrer et al. 2014). We find that whereas Latin American and Sub-Saharan African mothers are more likely to be unpartnered at the time of childbirth than Spaniards, this is the opposite for foreign mothers of other origins.

<div align="center">TABLE 3, 4 & FIGURE 6, 7 ABOUT HERE</div>

Birth outcomes by mother's union status

Finally, in order to tackle the social implications of unpartnered fertility, we examine to what extent mothers' unpartnered status is associated with newborns' health disadvantage, measured through low birth weight. Previous research on birth outcomes by mother's union status in Spain showed that the health disadvantage gap between marital and nonmarital births has narrowed significantly over time, presumably due to the increasing prevalence and social acceptance of nonmarital childbearing and the increasing resemblance of married and cohabiting mothers in terms of their socio-demographic profile (Castro Martín 2010). Since out-of-union births have become a non-trivial share of unmarried childbearing, we extend previous research by focusing on unpartnered women's birth outcomes and by distinguishing whether or not father's information is provided in the birth registration. The declaration of paternal information can be used as a proxy for father's legal recognition of the child and as an indication that the newborn's parents maintain some kind of relationship, even if they do not live together. As prior studies have shown, unmarried fathers' involvement and support

during pregnancy reduces newborns' health disadvantages (Padilla and Reichman 2001).

Unadjusted odds ratios in Table 5 show that unpartnered women's odds of delivering a low weight birth are 43% higher than those of married women, and also well above that of cohabiting women. Some of the observed differentials are probably explained by the dissimilar socio-demographic composition of unpartnered, cohabiting and married women. As discussed before, unpartnered mothers are more likely to be first-time mothers, to be at the lower and upper ends of the reproductive age span, and to have lower educational attainment than their married and cohabiting counterparts, and all these factors increase the risk of low birthweight. Once the socio-demographic characteristics of the mother and the newborn are controlled, differentials in low birth weight by mother's union status lessen, but they remain statistically significant. As in former studies (Young and Declercq 2010), we find that the risk of delivering a low-weight birth increases progressively from married mothers to cohabiting mothers, and from cohabiting mothers to unpartnered mothers.[6]

Unpartnered mothers are a rather heterogeneous group, not only in terms of sociodemographic characteristics, but possibly also regarding pregnancy intendedness and affective bonds with the newborn's father. When we distinguish between unpartnered mothers that provide father's information and those who do not, the odds of delivering a low-weight birth are highest for the latter. Compared to married motherhood, the excess risk associated with unpartnered motherhood is 17% when the birth records contain paternal information and 45% when they do not contain it.
In order to assess whether the risks of low birth weight have lessened over time for unpartnered mothers, and interaction between two time periods (2007-2010, 2011-2014) and union status was tested, but it was not statistically significant, suggesting that the gap in birth outcomes between married and unpartnered mothers has not narrowed despite the recent increase in out-of-union childbearing. It is possible that, despite increasing social tolerance towards non-normative family trajectories, the time span under study (8 years) is too short to detect a meaningful change.

The interaction of maternal education and union status was also tested, and it was found statistically significant. Educational attainment is linked not only to socioeconomic status and financial resources, but also to health-related behaviors. As shown in Figure 7, among lower educated women, unpartnered motherhood is associated with elevated risks of low birthweight compared to partnered motherhood. However, among University-educated women, the odds of delivering a low-weight birth are very similar for married, cohabiting and unpartnered mothers with father information. This finding suggests that unpartnered motherhood is not necessarily disadvantageous for birth

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[6] We have also performed an analysis of the risk of pre-term birth (less than 37 completed weeks of gestation) and the impact of union status is similar, suggesting that results are robust to different specifications of birth outcomes.

outcomes when mothers are highly educated and maintain some sort of relationship with the non-coresident father. In contrast, the risk remains elevated for unpartnered mothers with no father information, even when they are highly educated. This result seems to suggest that father's involvement or psychosocial support during pregnancy has beneficial effects for birth outcomes, regardless of union status.

TABLE 5 & FIGURE 7 ABOUT HERE

Conclusion

With the expansion of cohabitation, which has become an increasingly common path to family formation in Spain, and the sharp rise in nonmarital childbearing, the differentiation by women's union status has become much more relevant than that based on marital status to describe fertility patterns, to depict children's living arrangements and to monitor newborns' health. However, official statistics tend to adjust to social change with a considerable time lag, and it is not until 2007 that Spanish birth registers include information on mother's cohabiting status and on whether the mother and the father share the same residential address. In this paper we take advantage of this new information to examine recent patterns and trends of unpartnered childbearing, a component of nonmarital fertility which has received little attention.

The analysis shows that, although births to cohabiting couples represent approximately three-fourths of all nonmarital births, there is a non-negligible proportion of births to women who do not coreside with a partner. Moreover, an upward trend can be observed in the past decade: the share of out-of-union births increased from 7.3% in 2007 to 11.7% in 2014. Also, during this recent period, the proportion of the TFR attributable to childbearing outside union rose from 8% to 13%. On one hand, this is an unexpected trend, given the Spanish context of widespread use of contraception and access to abortion. On the other hand, the rapidly growing proportion of women in the peak childbearing ages who do not coreside with a partner makes this upward trend less surprising.

The socio-demographic profile of unpartnered mothers reveals that they are, on average, younger, less educated, more likely to be first-time mothers, to have a foreign nationality, to live in a large city, and to reside with relatives than both cohabiting and married mothers. However, unpartnered mothers are a rather heterogeneous group, which possibly encompasses both women who became mothers after an accidental pregnancy and women that deliberately planned their pregnancy. The multivariate analysis revealed that young mothers and relatively old mothers are both more likely to be unpartnered at the time of childbirth than mothers in their early 30s. Older unpartnered mothers also tend to be more educated. This polarized pattern of young low-educated unpartnered mothers and older higher-educated unpartnered mothers might reflect a unintended/intended fertility divide. However, since we lack data on pregnancy intendedness, we cannot confirm this presumption.

In order to tackle the social implications of unpartnered childbearing, we also compared the birth outcomes of married, cohabiting and unpartnered women. The results show that unpartnered women have higher odds to deliver a low weight birth than both married and cohabiting women. The risks of low-weight birth are particularly high among those unpartnered mothers who do not provide father's information in the birth register. The results also show that, among University-educated women, the odds of delivering a low-weight birth are very similar among married, cohabiting and unpartnered mothers that provide father's information. This finding suggests that high maternal education and certain involvement of the non co-residential father are protecting factors against adverse birth outcomes, regardless of union status.

Several limitations of this study should be noted, in particular, those related to the restricted information available in birth records and the cross-sectional nature of the data. Ideally, longitudinal data would be best fitted to understand the multiple pathways to unpartnered motherhood, such as unintended pregnancy outside a committed relationship, union break-up during pregnancy or single motherhood by choice, as well as to assess whether this is largely a transitory or long-lasting state. However, recent longitudinal data are not available in Spain. Nevertheless, this study provides a relevant overview of the role of unpartnered childbearing in recent trends of nonmarital fertility, its contribution to overall fertility, its socio-demographic profile, and its impact on birth outcomes.

References

Castro-Martín, T. (2010). Single motherhood and low birthweight in Spain: narrowing social inequalities in health?, *Demographic Research*, 22, 863-890.

Castro-Martín, T. and Martín-García, T. (2013). The fertility gap in Spain: Late parenthood, few children and unfulfilled reproductive desires. In Gøsta Esping-Andersen (Coord.), *The Fertility Gap in Europe: Singularities of the Spanish Case.* Social Studies Collection no. 36. Barcelona: la Caixa Foundation. https://obrasocial.lacaixa.es/deployedfiles/obrasocial/Estaticos/pdf/Estudios_sociales/vol36_en.pdf

Cho, L.-J., Rutherford, R. D. y Choe, M. K. (1986). *The own-children method of fertility estimation*. Honolulu: University of Hawaii Press.

Devolder, D. (2015). Factores de la baja fecundidad en España. In Torres Alberto, A. (Ed.) *España 2015. Situación Social*. Madrid: CIS.

Domínguez-Folgueras, M.; Castro-Martín, T. (2013). Cohabitation in Spain : No Longer a Marginal Path to Family Formation, *Journal of Marriage and Family*, *75*(April), 422–437.

Goldscheider, F., Bernhardt, E. and Lappegård, T. (2015). The Gender Revolution: A Framework for Understanding Changing Family and Demographic Behavior. *Population and Development Review* 41(2): 207-239.

González-Ferrer, A., Séiz, M., Castro-Martín, T. and Martín-Garcia, T. (2014). Spain. Country-specific case Studies on partnership dynamics among immigrants and their descendants. FamiliesAndSocieties Working Paper 13. http://www.familiesandsocieties.eu/wp-content/uploads/2014/12/WP13KuluEtAl2014Part2.pdf

Hayforth, S. and Guzzo, K.J. (2015). The single mother by choice myth, *Contexts*, 14(4): 70-72.

Laplante, B., Castro-Martín, T, Cortina, C.; Martín-García, T. (2015). Childbearing within marriage and consensual union in Latin America, 1980–2010, *Population and Development Review* 41(1): 85–108.

Laplante, B., Fostik, A. (2015). Two period measures for comparing the fertility of marriage and cohabitation. *Demographic Research* 32(14).

Manlove, J., Ryan, S., Wildsmith, E. and Franzetta, K. (2010). The relationship context of nonmarital childbearing in the U.S. *Demographic Research* 23-22: 615-654.

McLanahan, S. and Percheski, C. (2008). Family structure and the reproduction of inequalities. *Annual Review of Sociology* 34: 257-76.

Padilla, Y.C. and Reichman, N.R. (2001). Low birthweight: Do unwed fathers help? *Children and Youth Services Review* 23 (4/S): 427-452.

Perelli-Harris, B., Kreyenfeld, M., Sigle-Rushton, W., Keizer, R., Lappegård, T., Jasilioniene, A., Berghammer, C., and Di Giulio, P. (2012). Changes in union status during the transition to parenthood in eleven European countries, 1970s to early 2000s. *Population Studies* 66(2): 167-182.

Sobotka, T. and Toulemon, L. (2008), "Changing family and partnership behavior: common trends and persistent diversity across Europe", *Demographic Research,* 19-6: 85-138.

Štípková, M. (2013). Declining health disadvantage of non-marital children: Explanation of the trend in the Czech Republic 1990-2010. *Demographic Research* 29-25: 663-706.

Sullivan, K., Raley, R.K., Hummer, R.A. and Schiefelbein, E. (2011). The potential contribution of marital-cohabitation status to racial, ethnic, and nativity differentials in birth outcomes in Texas. *Maternal and Child Health Journal* 16 (4): 775-784.

Sweeney, M.; Castro-Martín, T.; Mills, M. (2015) The reproductive context of cohabitation in comparative perspective, *Demographic Research,* 32(5): 147-182.

Tapales, A. and Finer, L. (2015) Unintended pregnancy and the changing demography of American women, 1987-2008. *Demographic Research*, 33(45):1257-1270.

Young, R.L.; Declercq, E. (2010). Implications of subdividing marital status: Are unmarried mothers with partners different from unmarried mothers without partners? An exploratory analysis. *Maternal and Child Health Journal* 14(2): 209-214.

Zeitlin, J.A., Saurel-Cubizolles, M.J., Ancel, P.Y., and the EUROPOP Group (2002). Marital status, cohabitation, and the risk of preterm birth in Europe: Where births outside marriage are common and uncommon. *Paediatric and Perinatal Epidemiology* 16(2): 124-130.

Table 1. Distribution of women with children below age 1 in the 2011 census according to union status and distribution of 2011 births according to mother's union status

	Married	Cohabiting	No co-residential partner	Total
Census				
2011	284096	107381	43557	435344
	65.3%	24.7%	10.0%	100.0%
Vital Statistics				
2011	295734	131586	44679	471999
	62.7%	27.9%	9.5%	100.0%

Sources: 2011 birth register microdata, 2011 Census microdata (Spanish Statistical Office).

Figure 1. Composition by conjugal status of women in reproductive age
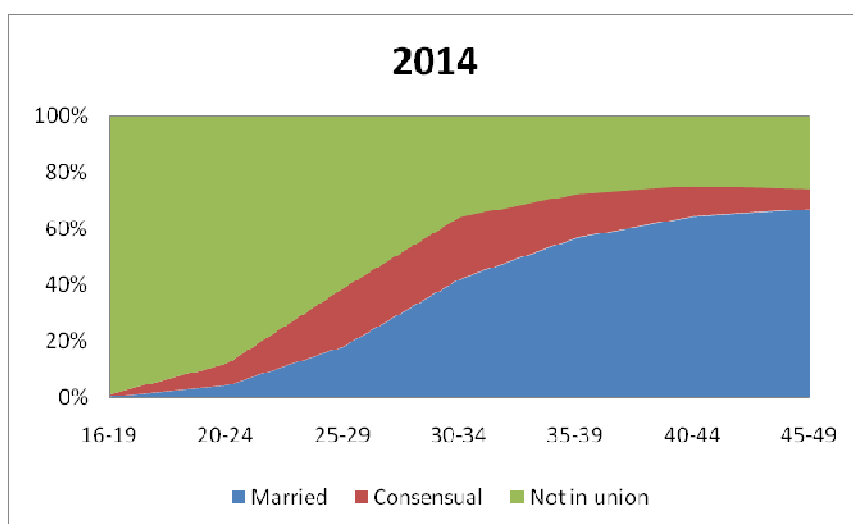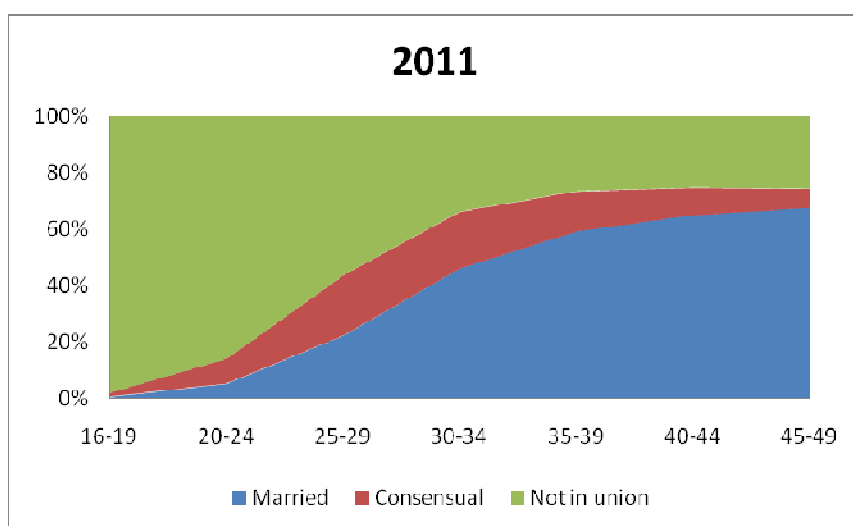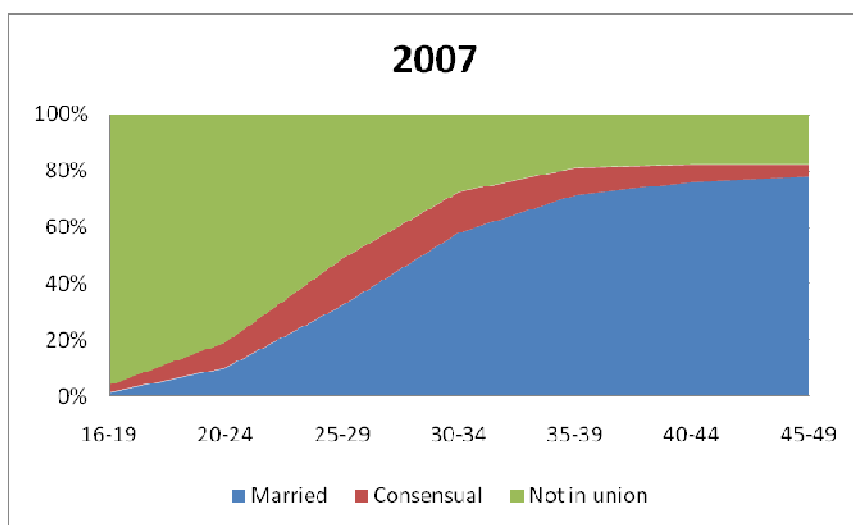
Table 2. Estimates of the contribution of each conjugal status to the total fertility rate, Spain 2007 and 2014

	2007	2014
TFR	1.38	1.34
Contribution to TFR		
Marriage	0.94	0.74
Cohabitation	0.34	0.43
Not in union	0.11	0.17
Proportion of TFR		
Marriage	68%	55%
Cohabitation	24%	32%
Not in union	8%	13%

Source: own calculations based on birth register microdata, Population Register 2007, Continuous Household Survey 2014.

Figure 2. Estimates of the contribution of each conjugal status to age-specific fertility rates, Spain 2007 and 2014
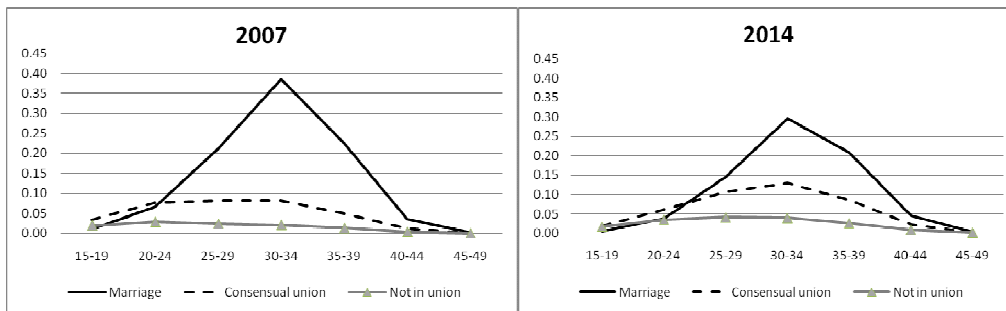
Source: own calculations based on birth register microdata, Population Register 2007, Continuous Household Survey 2014.

Figure 3. Estimates of the contribution of each conjugal status to cumulative fertility, Spain 2007 and 2014
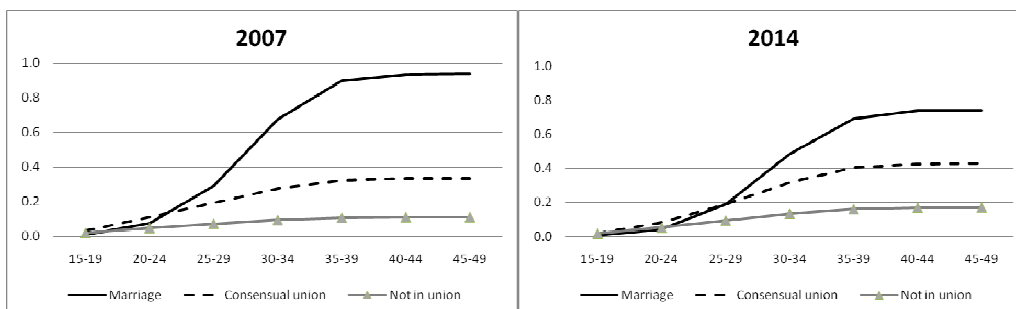
Source: own calculations based on birth register microdata, Population Register 2007, Continuous Household Survey 2014.

Figure 4. Distribution of births according to mothers' union status at the time of childbirth, 2007-2014.
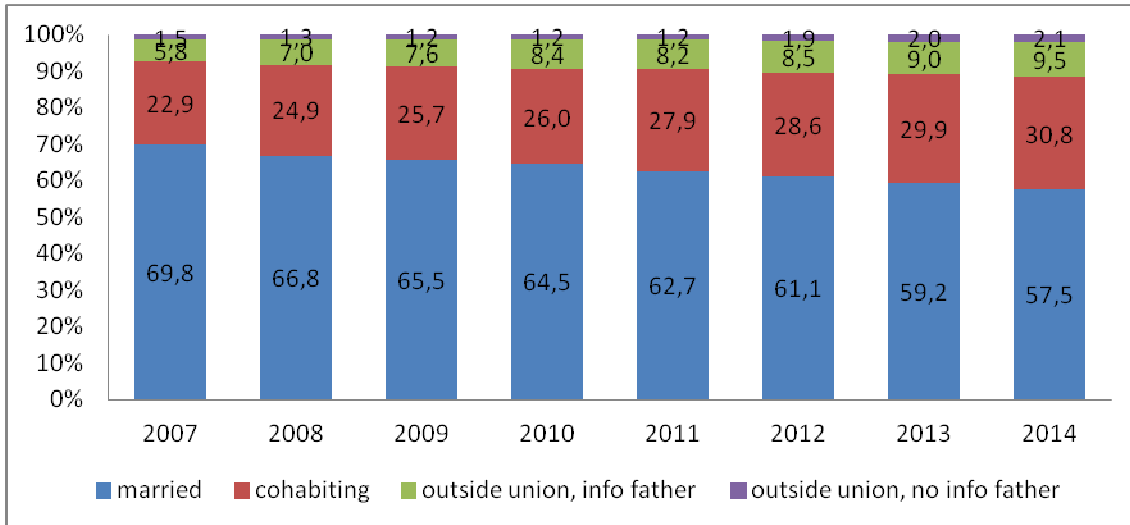
Source: Spanish Statistical Office, birth register microdata 2007-2014.

Figure 5. Household composition according to conjugal status of the mother (with children below age 1) 2011
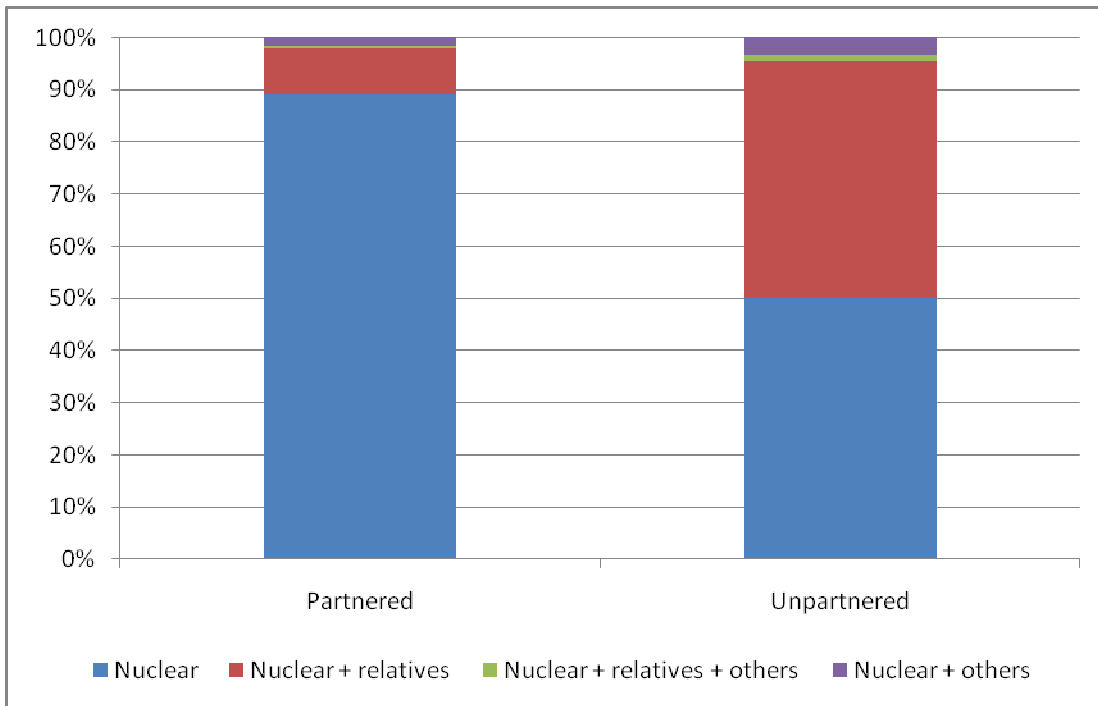
Source: Spanish Statistical Office, Population Census 2011.

Table 3. Socio-demographic profile of mothers according to union status at the time of childbirth, 2007-2014 (%)

	Married	Cohabiting	Not in union	Not in union w father info	Not in union w/o father info
N	*2400479*	*1016316*	*357040*	*298829*	*58211*
Age					
<20	0.5	4.5	9.5	8.4	15.4
20-24	4.7	14.3	19.6	18.8	23.3
25-29	18.9	23.8	22.8	23.3	20.1
30-34	42.2	31.2	25.2	26.7	17.8
35-39	28.2	20.8	17.4	17.8	15.2
40+	5.4	5.3	5.5	5.0	8.1
No. of previous births					
0	48.9	62.8	71.0	70.8	72.4
1	40.6	28.2	21.0	21.8	17.3
2+	10.5	9.0	7.9	7.4	10.4
Educational level					
Less than Lower Secondary	10.4	18.5	21.4	20.8	24.1
Lower Secondary	19.5	26.3	24.2	25.1	19.6
Upper Secondary	27.7	26.7	22.0	23.6	13.6
University	37.2	22.8	15.6	17.2	7.3
Missing	5.1	5.6	16.9	13.3	35.4
Nationality					
Spain	81.8	78.7	76.0	78.2	64.9
Rest of Europe	4.3	7.8	5.1	4.5	8.6
Latin America	3.9	9.5	10.8	9.2	18.8
North Africa	7.1	1.7	4.2	4.4	2.9
Sub-Saharan Africa	.9	.9	1.9	1.8	2.8
Other	2.0	1.5	2.0	2.0	2.0
Occupation					
Professional & technical	27.4	19.9	15.5	16.2	12.3
Administrative	21.3	16.2	13.5	14.4	8.8
Other	24.4	32.6	29.6	29.6	29.9
Inactive	21.0	26.1	28.8	27.0	38.4
missing	5.9	5.2	12.5	12.8	10.7
Size of place of residence					
<20,000	30.8	28.8	22.8	23.3	20.7
20,000-100,000	27.9	28.3	27.9	27.6	29.4
100,000+ or province capital	41.2	42.9	49.2	49.1	49.9
Father's info in birth register	100.0	99.8	83.7		

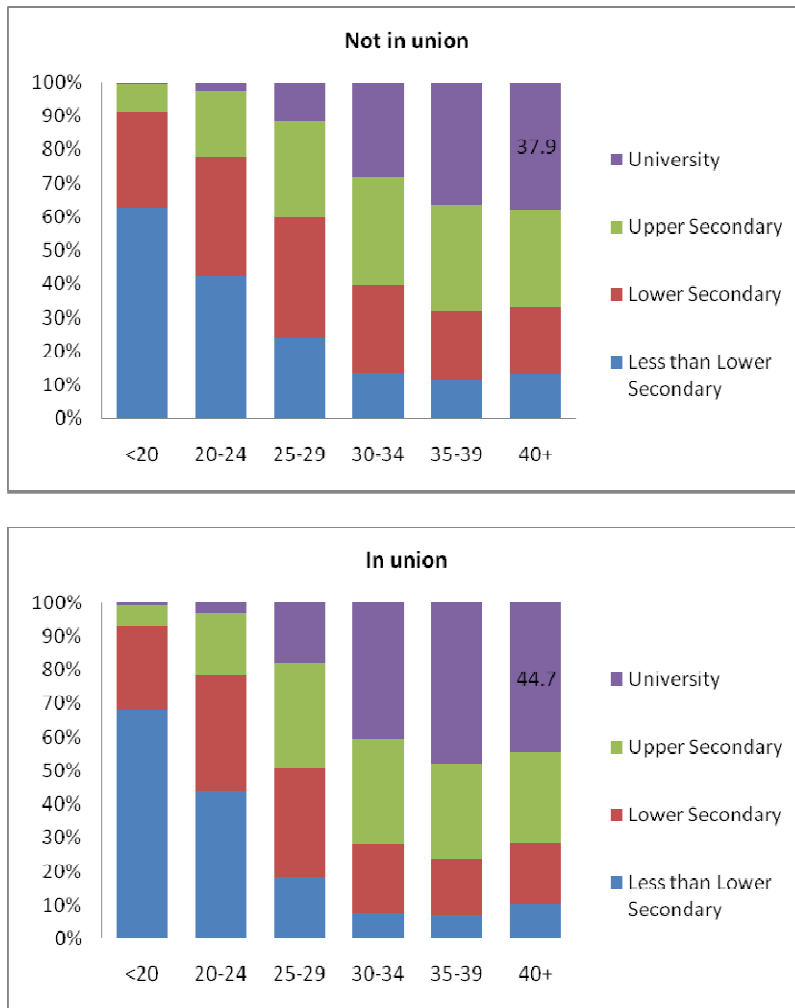*Source: Spanish Statistical Office, birth register microdata 2007-2014.*

Table 4. Logit and multinomial regression models on the conjugal status of the mother at the time of childbirth, 2007-2014. Odds ratios.

	Out of union vs. in union		Out of union vs. married		Out of union vs. cohabiting	
Age						
<20	4.84	***	16.01	***	2.15	***
20-24	2.90	***	5.16	***	1.50	***
25-29	1.46	***	1.66	***	1.13	***
(30-34)	1		1		1	
35-39	1.12	***	1.16	***	1.06	***
40+	1.60	***	1.79	***	1.27	***
Prior births						
(None)	1		1		1	
1	0.49	***	0.40	***	0.72	***
2+	0.61	***	0.52	***	0.79	***
Educational level						
Less than Lower Secondary	1.28	***	1.66	***	1.02	***
(Lower Secondary)	1		1		1	
Upper Secondary	0.79	***	0.70	***	0.94	***
University	0.52	***	0.42	***	0.83	***
Missing	*2.75*	***	*2.56*	***	*3.12*	***
Occupation						
Professional & technical	0.86	***	0.86	***	0.86	***
(Other)	1		1		1	
Nationality						
(Spain)	1		1		1	
Rest of Europe	0.63	***	0.73	***	0.53	***
Latin America	1.32	***	1.83	***	0.96	***
North Africa	0.41	***	0.19	***	1.87	***
Sub-Saharan Africa	1.36	***	1.08	***	1.78	***
Other	0.55	***	0.39	***	0.88	***
Size of place of residence						
(<20,000)	1		1		1	
20,000-100,000	1.30	***	1.35	***	1.23	***
100,000+ or province capital	1.56	***	1.67	***	1.41	***
Year						
(2007-2008)	1		1		1	
2009-2010	1.33	***	1.46	***	1.16	***
2011-2012	1.48	***	1.77	***	1.14	***
2013-2014	1.70	***	2.18	***	1.18	***
N	*3,773,835*		*3,773,835*			
-2 log likelihood	2118260.2		5848494			
df	22		44			

Source: Spanish Statistical Office, birth register microdata 2007-2014.

* p<.05 ** p<.01 *** p<.001

Figure 6. Distribution of mothers by age and education according to conjugal status at the time of the childbirth, 2007-2014

Source: Spanish Statistical Office, birth register microdata 2007-2014.

Table 5. Logit regression models predicting the likelihood of low birth weight, 2007-2014. Odds Ratios (OR)

	Crude OR		Adjusted OR		Crude OR		Adjusted OR	
Conjugal status at birth								
Married	1		1					
Cohabiting	1.24	***	1.11	***				
Out of union	1.43	***	1.21	***				
Conjugal status at birth					1		1	
Married					1.24	***	1.11	***
Cohabiting					1.36	***	1.17	***
Out of union - info father					1.78	***	1.45	***
Out of union - No info father								
Mother's								
Age								
<20			1.02				1.01	
20-24			0.90	***			0.90	***
25-29			0.91	***			0.91	***
(30-34)			1				1	
35-39			1.17	***			1.17	***
40+			1.46	***			1.46	***
Educational level								
Less than Lower Secondary			1.21	***			1.21	***
(Lower Secondary)			1				1	
Upper Secondary			0.85	***			0.85	***
University			0.71	***			0.71	***
Missing			*0.99*				*0.98*	
Occupation								
Professional & technical			0.92	***			0.92	***
(Other)			1				1	
Nationality								
(Spain)			1				1	
Rest of Europe			0.94	***			0.94	***
Latin America			0.77	***			0.77	***
North Africa			0.66	***			0.66	***
Sub-Saharan Africa			1.08	***			1.08	***
Other			0.88	***			0.88	***
Size of place of residence								
(<20,000)			1				1	
20,000-100,000			1.02	**			1.02	**
100,000+ or province capital			1.08	***			1.08	***
Year								
(2007-2008)			1				1	
2009-2010			1.02	**			1.02	**
2011-2012			1.01				1.01	
2013-2014			0.99				0.99	

Newborn's						
Sex	(Boy)		1		1	
	Girl		1.22	***	1.22	***
Birth O	(1)		1		1	
	2		0.68	***	0.68	***
	3+		0.75	***	0.75	***
N		3439177	3439177	3439177	3439177	
-2 log likelihood		1539541	1525554	1539310	1525403	
df		2	25	3	26	

Source: Spanish Statistical Office, birth register microdata 2007-2014.

* p<.05 ** p<.01 *** p<.001

Figure 7. Odds ratios from logistic regression predicting low birth weight. Interaction between maternal union status and education
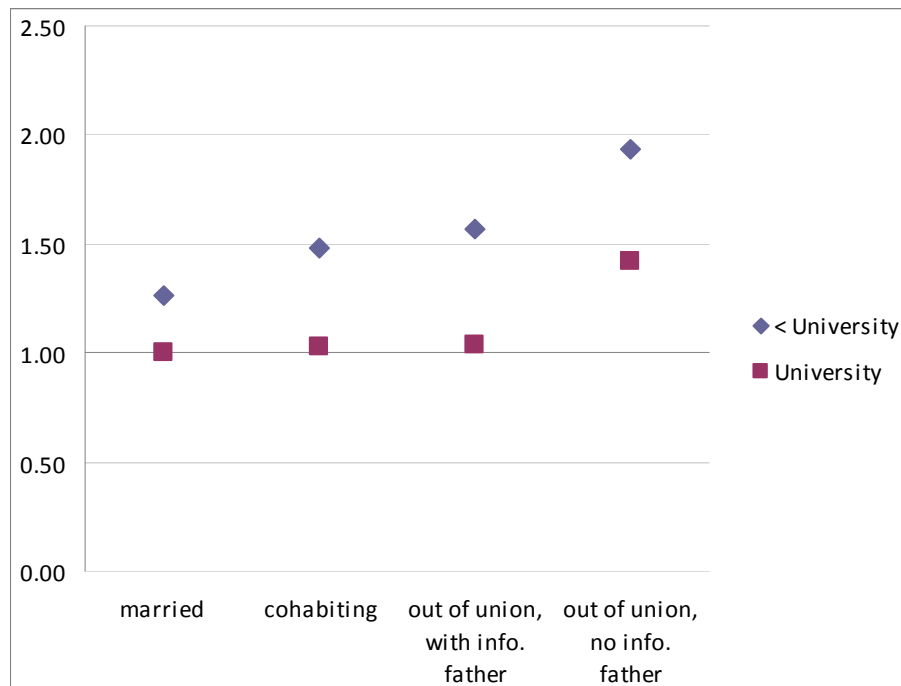
Source: Spanish Statistical Office, birth register microdata 2007-2014.

Note: The model controls for mother's age, nationality, size of place of residence, year and newborn's sex and birth order.