Research Article

The reproductive context of cohabitation in comparative perspective:
Contraceptive use in the United States, Spain, and France

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Abstract

BACKGROUND
Discussions of cohabitation's place in family formation regimes frequently emphasize comparisons of reproductive behavior among married versus cohabiting couples. Many argue that the rise in cohabitation may have been fueled by availability of highly effective contraception, but that differences in contraceptive use between married and cohabiting couples should diminish as cohabitation becomes more established.

OBJECTIVE
We ask whether cohabiting women in the United States, Spain, and France are more likely than married women in these countries to use the most effective contraceptive methods and reversible methods. We also investigate whether the association between union status and contraceptive use has changed since the mid-1990s.

METHODS
Using data from the U.S. National Survey of Family Growth, the Spanish Fertility, Family and Values Survey, the French Gender and Generations Survey, and the Fertility and Family Surveys, we first descriptively compare contraceptive use patterns of cohabiting women to those of married women and then estimate regression models to adjust for group differences in key background factors.

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RESULTS
Net of differences in age and parity, cohabitors were more likely than married women to use the most effective contraceptives in the mid-1990s' United States and France, yet notably not in Spain even when cohabitation was relatively uncommon. The case of Spain thus refutes the assumption that highly effective contraception is a necessary precursor for dramatic growth in cohabitation.

1. Introduction

Few topics have fascinated family demographers more than the dramatic rise of non-marital cohabitation in industrialized countries. Cohabitation shifted from being unusual to a relatively common phenomenon over the past thirty years in the United States (Bumpass and Lu 2000; Kennedy and Bumpass 2008). European countries vary considerably in the role played by cohabitation in broader patterns of romantic partnership. Cohabitation has increased rapidly in much of Northern and Western Europe in recent decades, whereas the diffusion of non-marital cohabitation has been slower across Southern Europe (e.g., Di Giulio and Rosina 2007). Levels of cohabitation in France are lower than the Nordic countries but remain well above Eastern and Southern Europe (Köppen 2010; Potârcă, Mills, and Lesnard 2013). Although cohabitation remains relatively uncommon in Italy (Nazio and Blossfeld 2003), recent evidence suggests that a dramatic change in patterns of union formation may be unfolding in Spain (Dominguez-Folgueras and Castro-Martin 2013).

These shifting patterns of family formation raise fundamental questions about how cohabiting unions fit into the broader landscape of family life. Scholars frequently investigate patterns of reproductive behavior to understand how the function of cohabitation differs from that of marriage, and how this varies among subpopulations, across countries, and over time (e.g., Guzman et al. 2010; Hayford and Guzzo 2010; Heuveline and Timberlake 2004; Kiernan 2001; Manning 2001; Musick 2002; Perelli-Harris et al. 2010; Raley 2001). The cases of the United States, Spain, and France provide a compelling comparative investigation of the reproductive context of cohabitation, as these countries are widely considered to represent three distinct regimes of cohabitation behavior (e.g., Heuveline and Timberlake 2004). Although contraceptive use directly influences the likelihood that a woman will give birth, and is thus a key proximate determinant of fertility (Bongaarts 1978; Davis and Blake 1956), relatively little is known about patterns of contraceptive use among cohabiting women.

The current analysis sheds light on recent patterns of contraceptive use among cohabitors in the United States, Spain, and France, and brings new evidence to bear on

debates regarding change and variation in the relative meanings of cohabitation and marriage in each country. Comparing several sources of recently released data – the United States' 2006–10 National Survey of Family Growth (NSFG), Spain's 2006 Fertility, Family, and Values Survey, and France's 2005 Gender and Generations Survey – to data from the Fertility and Family Surveys of the mid-1990s, we ask whether cohabiting women are more likely than married women to use highly-effective and reversible contraceptive methods, and also investigate whether the association between union status and contraceptive use has changed over time. Data from the 2006–10 NSFG offers an opportunity to investigate how the reproductive behavior of cohabitors has evolved in recently available national data for the United States. Studies of contemporary patterns of contraceptive use in Spain and France are scarce, with particularly little known about contraceptive use patterns among cohabiting women in these countries (Bajos et al. 2012; Castro-Martin 2005).

2. Background

Recent discussions about the nature of family change in industrialized countries emphasize the shifting relationship context of reproductive behavior. Many scholars argue that European countries are in the midst of a partnership transition, progressing through a series of stages where cohabitation is first relatively rare and normally childless, to a relatively common relationship in which children are commonly born and reared within both marriages and cohabiting unions (e.g., Kiernan 2002; Perelli-Harris et al. 2010; Prinz 1995). Such typologies have been expanded to include the United States. For example, based on analysis of data from the Fertility and Family Surveys of the mid-1990s, Heuveline and Timberlake (2004) classified Spain as falling into the category of "marginal" cohabitation in the mid-1990s, in which cohabiting unions are relatively rare and children's exposure to cohabiting unions is low. They classified the mid-1990s United States as an "alternative to single" cohabitation regime, in which cohabitation was more common than in a "marginal" regime, but partners choose to cohabit while they postpone family formation. Heuveline and Timberlake concluded that cohabitation in France during this period served as an "alternative to marriage," with cohabitation tending to be relatively common and providing a relatively stable setting for childbearing and rearing. This is coupled with a growth in the more legalized or formalized types of non-marital partnerships and commitment, such as the Pacte Civil de Solidarité (PACS) in France, which also provide a legally protective setting for childbearing in cohabiting unions (Poortman and Mills 2012).

The diffusion of non-marital cohabitation has progressed in all three of our study countries in recent decades, but since the mid-1990s the pace of change has been most

dramatic in Spain. The rise of cohabitation occurred considerably earlier in France, with fully 90% of couples entering unions in the mid-1990s doing so through cohabitation rather than direct marriage (Toulemon 1997). The rise of cohabitation was also well underway in the United States by the mid-1990s, with more than half of first unions formed between 1990-94 initiated by cohabitation rather than marriage (Bumpass and Lu 2000). In contrast, cohabitation was relatively rare in Spain during the mid-1990s (Heuveline and Timberlake 2004; Kiernan 2002), but has increased markedly in more recent years. Whereas only 7 percent of Spanish women born in the 1950s entered their first union through cohabitation, the same was true of fully 39 percent of Spanish women born in the 1970s (Dominguez-Folgueras and Castro-Martin 2013).

The rapid rise in non-marital cohabitation in Spain has been accompanied by considerable childbearing and childrearing within cohabiting unions, to the extent that fully 39 percent of cohabiting couples reported children in common in the 2001 Spanish Census (Dominguez-Folgueras and Castro-Martin 2008). Birth registry data further indicate that about 20 percent of all Spanish births in 2007 occurred to cohabiting couples (Castro-Martin 2010). This very recent and dramatic shift in patterns in family formation and reproduction makes Spain a particularly interesting comparative case for analysis. Although Spain and the U.S. have similar levels of non-marital childbearing (roughly 39% and 41% of all births, respectively), the percentage of births occurring within cohabitating unions is currently higher in Spain: about two-thirds of all non-marital births (Castro-Martin 2010) compared to one-half in the US (Manlove et al. 2010). This differs from France, where roughly 53% of all births occurred outside of marriage in 2010 and roughly 90% of all recent first births occurring outside of marriage were to cohabiting couples (OECD 2014; Perrelli-Harris et al. 2009).

Observed childbearing patterns provide important insight into how the reproductive context of cohabitation varies across countries. Yet the far more limited attention paid to patterns of contraceptive use among cohabitors is surprising, particularly given that contraceptive use is a key proximate determinant of fertility. To understand trends and differentials in childbearing, demographers have long called for attention to factors that intervene directly before, during, and after the time of a possible conception (Bongaarts 1978; Davis and Blake 1956). This approach seems particularly important, given complexities in the psychological underpinnings and measurement of reported birth intentions (e.g., Edin et al. 2007; Kavanaugh and Schwarz 2009; Trussell, Vaughan, and Stanford 1999). Women sometimes simultaneously have positive and negative feelings about a possible pregnancy (Miller, Barber, and Gatny 2013) and distinctions between intended and unintended pregnancies may be ambiguous (Bachrach and Newcomer 1999). Moreover, many unintended pregnancies are thought to end in abortion, with the likelihood of abortion influenced by the desirability of childbearing within a particular relationship or life context, the acceptability of

terminating a pregnancy under any circumstances, and the cost and accessibility of abortion services (Brown and Eisenberg 1995; Zabin et al. 2000). The quality of data on abortion is also highly variable, and abortion tends to be underreported in surveys (Fu et al. 1998; Sedgh et al. 2011). Contraceptive use can thus offer a useful alternate window onto the reproductive behavior of cohabitors (Bachrach 1987; Sweeney 2010).

The lack of empirical attention to contraceptive use among cohabitors is also surprising given suggestions that the introduction of modern "medical" contraceptive methods, which are both highly effective and temporally separate decisions about sex from childbearing (e.g., the birth control pill), may have facilitated growth in cohabitation among the unmarried (e.g., Cherlin 2009; Nock 2005; Thornton, Axinn, and Xie 2007). In Spain, the stigma against cohabitation – which was commonly referred to as "living in sin" until the early 1980s – was very much tied to the taboo against premarital sex and the fear of a non-marital birth.[4] The pill provided the potential for greater control over the timing of pregnancy and possibly played a major role in the rise of cohabitation.[5] Similar arguments have been made about the once stigmatizing association of cohabitation with premarital sex in the United States (Bumpass 1990). France is a very different context, with less stigmatization associated with premarital sex (Buss 1989) and more widespread cohabitation occurring early and operating as an alternative to marriage as a stable relationship, often with children (Toulemon 1997; Heuveline and Timberlake 2004). This suggests that the availability of the most effective contraceptives may be most important in the early years of cohabitation's emergence, particularly in contexts of strong social disapproval associated with premarital sex. But as cohabitation becomes more widespread – and sharing a bed with an unmarried partner becomes less stigmatized – we would expect differences in contraceptive behavior among cohabitors versus that among married women to diminish.

Consistent with this view, data from the National Survey of Family Growth suggest that highly-effective reversible contraception methods such as inter-uterine devices (IUDs) and particularly the birth control pill (hereafter "the pill") were the most commonly chosen contraceptive methods among U.S. never-married cohabiting women in the early 1980s, when cohabitation was in a relatively early stage of its rise (Sweeney 2010). The share of never-married cohabiting U.S. women using such methods had declined somewhat by 2002, however, arguably as cohabitation became more normatively accepted as a context for bearing and rearing children – particularly among

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[4] It was not until 1981 that legal rights of marital and non-marital births were equalized in Spain.

[5] It should be noted that until 1978, the use, sale, and distribution of modern contraceptives in Spain were forbidden by law. In fact, withdrawal accounted for half of all contraceptive use until the late 1970s. Although causal linkages are difficult to assess, expanded access to the pill coincided with the emergence of cohabitation. In France, contraception was legalized much earlier, in 1967.

the least educated women (Sweeney 2010). A similar pattern can be observed in Spain. In the mid-1980s, pill use was more than twice as high among cohabiting women as married women, but union status differences in pill use narrowed by the mid-1990s (Ruiz-Salguero et al. 2005). No study has examined cohabiting women's reliance on the pill thereafter, precisely in the period when cohabitation has become more widespread. Overall, use of the pill and other modern birth control methods tends to be less common in Spain than in the United States or Northern and Western Europe (Mosher and Jones 2010).

France serves as a useful benchmark, since both the rise in cohabitation and use of highly effective contraceptives started earlier and has reached higher levels. As described previously, this was accompanied by widespread childbearing outside of marriage. Contraception was legalized in 1967, with contraceptive pill use in particular rising steadily since that time (Guibert-Lantoine and Leridon 1999; Leridon et al. 1987; Toulemon and Leridon 1992). French scholars have referred to this as the medicalization of contraception, with French women being among the world's main users of the pill and IUD (Bajos, Leridon, and Job-Spira 2004; Leridon et al. 2002). Widespread adoption of contraception emerged early in France, but also within younger age groups, with a 68% contraceptive prevalence rate among women aged 20-44 as early as the late 1970s (Guibert-Lantoine and Leridon 1999). It is very common for young women to use the birth control pill, with almost two-thirds of women age 20-24 using the pill in 2010 (Bajos et al. 2012). Less is known about how contraceptive use tends to vary among cohabiting versus married women in France, however, or how the association between union status and use of the most effective contraceptives has changed over time.

Although contraceptive use among cohabitors has been studied for the late 20th century United States (through 2002) (Bachrach 1987; Sweeney 2010), little is known about the contraceptive context of U.S. cohabitation in more recent years or among cohabiting women in Spain and France. We expect that differences between married and cohabiting women in contraceptive use patterns will be the greatest when cohabitation tends to be relatively rare or functions as an alternative to being single, but will diminish as it becomes more common – and more commonly accepted – as a union status. When cohabitation is relatively uncommon in a society, we expect greater selectivity in the background characteristics and attitudes of individuals entering cohabiting unions. This idea has been extensively investigated with respect to the association between premarital cohabitation and subsequent marital instability (Liefbroer and Dourleijn 2006; Manning and Cohen 2012; Reinhold 2010; Schoen 1992). Given previously-described differences in the cohabitation trends of our three study countries, we would expect union status differences in contraceptive use in the

mid-1990s to be largest in Spain and smallest in France, and also to display the greatest change between the mid-1990s and 2005-10 in Spain.

Using data from multiple rounds of the National Survey of Family Growth (NSFG), the 2006 Spanish Fertility, Family, and Values Survey (FVS), 2005 French Gender and Generations Survey (GGS), and the Fertility and Family Surveys (FFS) of the mid-1990s, the current research investigates contraceptive use among cohabiting women in the U.S., Spain, and France. We address two sets of specific questions in this research. First, we ask whether cohabiting women differ from married women in the likelihood of using the most effective and reversible methods of contraception. If marriage has greater normative acceptability than cohabitation as a setting for childbearing, we would expect cohabiting women to be more likely than married women to use the most effective contraceptive methods. Although cohabiting women tend to be younger and to have fewer prior births than married women (Fields and Casper 2001), we expect these differences to persist after adjusting for group composition with respect to age and parity. If cohabiting women are more likely than married women to foresee the possibility of wanting children with a future partner – which may indicate that cohabitation is less normatively acceptable as a long-term setting for childrearing – we would further expect cohabitors to be more likely than married women to choose reversible methods of contraception, even once adjusting for differences in age and parity distributions. We also explore whether the answers to these questions have changed since the mid-1990s, indicating that the reproductive context of cohabitation may have shifted over time. We would expect such change to be most pronounced in the case of Spain, which has experienced the most dramatic rise in cohabitation during this period. As the meaning and function of cohabitation may vary, depending on whether a union is formed before first marriage or after a marital dissolution (Bumpass, Sweet, and Cherlin 1991), and because of relatively greater ambiguity in the timing and relationship context of decisions to use non-reversible contraceptive methods among the previously married, we focus on comparisons between never-married cohabitors and women in first marriages throughout this research.

3. Method

3.1 Data

We utilize six data sources in the current analysis. To study the contraceptive behavior of cohabitors in the United States, this research relies on data from the 1995 and 2006/10 National Surveys of Family Growth (NSFG) (Lepkowski et al. 2010). The

samples are large, including 10,847 women in 1995 and 7,356 women in 2006/10. The data are representative of the U.S. civilian non-institutional population of women ages 15–44 in each survey year and include oversamples of women who are Black, Hispanic, or between the ages of 15 and 24. The 2006–10 cycle of the NSFG interviewed men as well as women, but data from men are not used in the current analysis. The NSFG is particularly appropriate for the current analysis because detailed information is gathered on contraceptive method use and self-reported union status at the time of interview and sample sizes are reasonably large. Moreover, the similar design of the various cycles of the larger NSFG study facilitates an analysis of change over time.

To study the contraceptive behavior of recent cohabitors in Spain, we use the 2006 Fertility, Family and Values Survey (FVS), conducted by the Spanish Center for Sociological Research. In this nationally representative sample, 9,737 women aged 15 and over were interviewed. Detailed information was gathered on contraceptive method use and union status at the time of interview.

For recent information on contraceptive use in France, we use Wave 1 of the Generations and Gender Survey (GGS), carried out in 2005. The GGS is a panel survey of a nationally representative sample of resident men and women, aged 18-79 years in European and non-European countries (Vikat et al. 2007). Data were collected from 5,708 women. Although men were also interviewed for the French GGS, these data were not used for the current analysis.

To consider how the contraceptive context of cohabitation may have changed over time, we compare the Spanish and French data above to the Fertility and Family Survey (FFS) data for each country. The FFS study for Spain was conducted largely in 1995 and includes a nationally representative study of 4,021 women ages 18–50. The FFS study for France was conducted in 1994 and includes a nationally representative sample of 2,944 women ages 20–50. The questionnaires administered were very similar in the FVS, GGS and FFS, which facilitates the comparison and analysis of change over time.

3.2 Measures

We classify contraceptive use as "*very effective, non-reversible*" (female and male sterilization), "*very effective, reversible*" (pill, IUD, other hormonal methods), "*effective*" (diaphragm, female condom, male condom), "*less effective*" (periodic abstinence, withdrawal, and other methods), and "*no method*" (seeking pregnancy, other reasons). It is worth noting that the "very effective" methods are distinguished from other major methods by a substantially reduced risk of unintended pregnancy but also by coital independence – meaning they do not require a specific intervention at the time of intercourse. Although estimates of efficacy associated with individual contraceptive

methods vary across countries and across individual studies, our broader classification of efficacy applies broadly (Mansour, Inki, and Gemzell-Danielsson 2010; Moreau et al. 2007; Trussell 2011).

Union status is classified into four categories: cohabiting – never married,[6] currently married – first marriage, single - never married, and any previous marriage. We group together all women who had a first marriage that ended, regardless of their current union status, because of evidence that patterns of contraceptive use tend to differ for the previously married than other union status groups (e.g., Bachrach 1987) and because of small sample sizes in the Spanish and French data when previously-married women are further disaggregated by current union status. We also construct measures of age, parity, educational attainment, and school enrollment status.[7] As the education systems differ greatly between the United States, Spain, and France, we rely on the International Standardized Classification of Education (ISCED) to create plausibly standardized measures of education. We classify respondents into low, medium, and high education groups where "low" refers to completion of lower secondary schooling or less (ISCED 0-2), "medium" refers to completion of upper secondary schooling (ISCED 3-4), and "high" refers to completion of at least a 4-year college / Bachelor's degree (ISCED 5-6). Coding schemes for all variables are displayed in Tables 1a, 1b, and 1c.

3.3 Analytic strategy

Our analysis explores broad patterns of contraceptive use in the mid-1990s and 2005–10. To maximize comparability across the multiple data sources, we limit all analytic samples to women of ages 20 to 44 years. Given our focus on the association between union status and contraceptive use, we further eliminate women from the sample who are not at risk of pregnancy for reasons other than surgical sterilization (e.g., who were pregnant or postpartum, did not have a current sexual/intimate relationship, or were non-surgically sterile).

We begin by examining the bivariate association between union status and contraceptive use, broadly defined, in each of the countries for the two time periods. Given interest in understanding how "marriage-like" cohabitation is, with respect to reproductive behavior, we focus here on comparisons between the never married cohabiting (hereafter "cohabiting") women and women currently in their first marriages

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[6] For France, the category of cohabitation also includes those in a legally registered non-marital union Pacte Civil de Solidarité (PACs) (n=26 in the analytical sample of GGS).

[7] Information on race was not collected in either data source for Spain and France.

(hereafter "married") at the time of the survey. We next turn to a regression analysis of the association between union status and two outcomes: use of a "very effective" method of contraception (vs. an "effective" method, "less effective" method, or no method) and use of a reversible method of contraception. Here we ask whether key patterns of association between union status and contraceptive use persist after adjusting for group differences with respect to background factors such as age, parity, education, and school enrollment. To avoid confounding contraceptive reversibility with level of effectiveness, the analytic sample for the latter analysis is further limited to women using a "very effective" method of contraception. Because of differences in sample design over time for Spain and France, we estimate separate models for each time period. All analyses and descriptive statistics are estimated using appropriate corrections for complex sampling design.

4. Results

4.1 Trends and differentials in contraceptive use

4.1.1 Contraceptive use in the mid-1990s

We begin with a descriptive examination of the association between union status and contraceptive use in Spain, the United States, and France in the mid-1990s. We focus first on differences across countries in overall reliance on the most effective contraceptive methods (e.g., sterilization, pill, IUD). Broad patterns of contraceptive use in the mid-1990s among women at risk of pregnancy or surgically sterilized are displayed graphically in Figure 1a and in Tables 1a (Spain), 1b (United States), and 1c (France). In the mid-1990s, cohabitation in our study countries was least common in Spain and most common in France (see also Heuveline and Timberlake 2004). Use of the most effective contraceptives in the mid-1990s mirror these differences in the prevalence of cohabitation, with only 48% of Spanish women relying on sterilization, the pill, IUD, or other "very effective" contraceptive methods, compared to 64% of U.S. women and 76% of French women (see Figure 1a and Tables 1a – 1c). We also notice strong differences across countries in the percentage of women relying on reversible contraceptive methods. Consistent with prior research (e.g., Godecker, Thomson, and Bumpass 2001), the United States stands out for its high rate of contraceptive sterilization (37% of women), compared with 19% of Spanish women, and 6% of French women, respectively. Spain, on the other hand, stands apart from our other study countries for relatively high levels of reliance on condom use. Again, this is consistent with evidence from prior studies of comparatively high rates of usage of such relatively

less effective methods in Spain (Spinelli et al. 2000). Finally, we clearly see the remarkable "medicalization" of contraception among French women even in the mid-1990s, with a high prevalence of very effective methods primarily attributed to the pill and IUD, with only limited use of sterilization, the condom, and other less effective methods (see also Bajos et al. 2004; Frejka 2008).

Table 1a: Current contraceptive use among women age 20−44 at risk of pregnancy or contraceptively sterile, by union status and characteristics: Spain, 1995 Fertility and Family Survey (FFS)

	Total	Married - First Marriage	Never Married Cohabiting	Never Married Single	Previously Married
Method Use	%	%	%	%	%
Very Effective					
Non-Reversible	**18.88**	**21.59**	**4.87**	**2.28**	**30.32**
Female Sterilization	10.44	11.19	4.87	2.28	26.41
Male Sterilization	8.44	10.39	0.00	0.00	3.91
Reversible	**28.84**	**26.99**	**38.90**	**34.13**	**39.72**
Pill	20.49	17.75	34.07	33.16	22.59
IUD	8.11	8.98	4.83	0.96	16.41
Other (e.g., implant, injectables, patch)	0.23	0.26	0.00	0.00	0.73
Effective	**32.84**	**29.61**	**41.92**	**56.23**	**15.03**
Diaphragm, female condom	0.36	0.33	1.60	0.00	0.91
Condom	32.48	29.28	40.33	56.23	14.12
Less Effective	**11.16**	**12.33**	**9.31**	**5.07**	**8.90**
Periodic Abstinence[1]	1.63	1.75	0.99	0.97	1.84
Withdrawal	9.40	10.45	7.53	4.10	7.06
Other (e.g., foam, spermicides)	0.13	0.12	0.79	0.00	0.00
No Method	**8.30**	**9.49**	**5.01**	**2.29**	**6.03**
Background Characteristics (at Interview)					
Age					
20–24 years	12.76	5.77	32.65	54.73	1.07
25–29 years	21.32	19.34	37.61	31.33	14.08
30–34 years	23.31	25.88	17.23	7.44	27.69
35+ years	42.61	49.00	12.51	6.50	57.16
Number of Children					
0	23.45	10.55	67.44	96.28	9.74
1	23.07	25.38	19.81	3.25	42.54
2	39.25	47.80	6.78	0.00	23.14
3+	14.23	16.27	5.98	0.48	24.58
Education[2]					
Low	68.29	73.76	50.57	39.25	67.51
Medium	24.88	20.55	33.92	48.37	28.35
High	6.83	5.68	15.51	12.38	4.14
Enrolled in School (1=yes)	5.67	2.21	12.60	26.80	1.50
N	2,410	1,942	83	290	95
Column % of total *N*	100%	81%	3%	12%	4%

Notes: Refers to method used in the month of interview. [1] Includes natural family planning, cervical mucus test, temperature and calendar rhythm methods. [2] As described in text, based on International Standardized Classification of Education (ISCED) where "low" refers to completion of lower secondary schooling or less (ISCED 0-2), "medium" refers to completion of upper secondary schooling, (ISCED 3-4), and "high" refers to completion of at least a 4-year college / Bachelor's degree (ISCED 5-6).

Table 1b: **Current contraceptive use among women age 20−44 at risk of pregnancy or contraceptively sterile, by union status and characteristics: United States, 1995 National Survey of Growth (NSFG)**

	Total	Married - First Marriage	Never Married Cohabiting	Never Married Single	Previously Married
Method Use	%	%	%	%	%
Very Effective					
Non-Reversible	**36.58**	**39.02**	**14.17**	**10.95**	**53.44**
Female Sterilization	26.22	23.65	11.55	10.43	44.76
Male Sterilization	10.36	15.37	2.62	0.52	8.68
Reversible	**26.62**	**22.00**	**46.90**	**44.63**	**19.62**
Pill	22.64	19.00	39.74	37.93	16.17
IUD	0.76	0.75	1.42	0.54	0.81
Other (e.g., implant, injectables, patch)	3.22	2.25	5.73	6.15	2.65
Effective	**19.04**	**19.34**	**21.53**	**27.09**	**12.50**
Diaphragm, female condom	2.04	2.71	1.59	1.49	1.19
Condom	17.00	16.64	19.93	25.60	11.30
Less Effective	**6.00**	**6.69**	**6.93**	**4.75**	**5.31**
Periodic Abstinence[1]	2.09	2.66	2.30	0.87	1.78
Withdrawal	2.61	2.89	2.90	2.33	2.19
Other (e.g., foam, spermicides)	1.30	1.14	1.73	1.55	1.35
No Method	**11.76**	**12.94**	**10.48**	**12.59**	**12.59**
Background Characteristics (at Interview)					
Age					
20–24 years	16.19	9.90	39.90	43.62	5.39
25–29 years	19.21	19.41	30.58	26.29	11.87
30–34 years	22.46	25.06	18.21	14.87	23.33
35+ years	42.14	45.63	11.30	15.23	59.41
Number of Children					
0	28.13	19.34	59.85	66.21	13.51
1	19.00	19.35	15.71	16.45	20.67
2	30.14	37.37	13.89	9.17	33.27
3+	22.73	23.94	10.55	8.17	32.55
Education[2]	11.61	9.27	14.65	11.17	15.89
Low	65.62	63.58	66.34	64.50	70.23
Medium	22.78	27.15	19.01	24.32	13.88
High					
Enrolled in School (1=yes)	9.70	6.62	13.77	23.21	5.77
N	7,584	3,744	374	1,463	2,003
Column % of total *N*	100%	49%	5%	19%	26%

Notes: See Table 1a.

Table 1c: **Current contraceptive use among women age 20−44 at risk of pregnancy or contraceptively sterile, by union status and characteristics: France, 1994 Fertility and Family Survey (FFS)**

	Total	Married - First Marriage	Never Married Cohabiting	Never Married Single	Previously Married
Method Use	%	%	%	%	%
Very Effective					
Non-Reversible	**5.60**	**7.33**	**0.77**	**0.79**	**11.42**
Female Sterilization	5.49	7.33	0.67	0.79	10.46
Male Sterilization	0.11	0.00	0.11	0.00	0.95
Reversible	**70.17**	**65.74**	**78.03**	**78.40**	**69.04**
Pill	50.06	39.91	70.21	72.68	37.73
IUD	20.11	25.82	7.82	5.72	31.31
Other (e.g., implant, injectables, patch)	0.00	0.00	0.00	0.00	0.00
Effective	**7.17**	**7.48**	**6.06**	**8.84**	**4.13**
Diaphragm, female condom	1.03	1.40	0.83	0.38	0.35
Condom	6.15	6.08	5.23	8.46	3.78
Less Effective	**4.41**	**5.16**	**4.59**	**2.27**	**3.76**
Periodic Abstinence[1]	1.49	1.86	1.46	0.57	1.12
Withdrawal	2.47	2.76	2.94	1.06	2.63
Other (e.g., foam, spermicides)	0.45	0.54	0.19	0.64	0.00
No Method	**12.65**	**14.30**	**10.55**	**9.69**	**11.66**
Background Characteristics (at Interview)					
Age					
20–24 years	16.84	1.08	2.35	3.32	0.25
25–29 years	19.92	1.62	2.25	3.11	1.43
30–34 years	20.08	1.92	1.87	2.13	2.53
35+ years	43.17	2.28	1.54	1.68	2.78
Number of Children					
0	28.61	8.11	56.55	83.37	6.31
1	21.12	22.95	24.11	12.16	22.32
2	28.59	39.09	14.74	2.91	35.14
3+	21.68	29.85	4.60	1.55	36.24
Education[2]					
Low	36.85	43.13	26.00	21.39	44.70
Medium	42.05	38.85	47.01	48.54	41.27
High	21.10	18.02	26.99	30.07	14.03
Enrolled in School (1=yes)	11.64	4.60	14.17	35.89	4.65
N	2,003	670	528	358	447
Column % of total *N*	100%	33%	26%	18%	22%

Notes: See Table 1a.

Thus far our discussion has focused on contraceptive use among all women, regardless of union status. We next consider patterns of contraceptive use among cohabiting women in each country in closer detail, about whom relatively little is known, investigating the extent to which cohabiting women themselves rely on the most effective contraceptive methods and the degree to which their contraceptive behavior resembles that of married women. We had expected differences in contraceptive use between married and cohabiting women in the 1990s to be largest in Spain and smallest in France. Yet in the mid-1990s, overall usage of "very effective"

contraceptive methods (combined reversible and non-reversible) was similar for cohabiting and married women both in Spain (44 vs. 49%, respectively) and in the United States (61% for both groups) as shown in Tables 1a, 1b, and Figure 1a. In France, however, use of "very effective" contraceptive methods was somewhat more common among cohabiting women than married women (79 vs. 73%). On the other hand, large differences in the use of non-reversible methods between married and cohabiting women were observed in all three countries, with sterilization being considerably more common among married than cohabiting women.

Figure 1a: Current contraceptive use, by union status and country, 1994/5
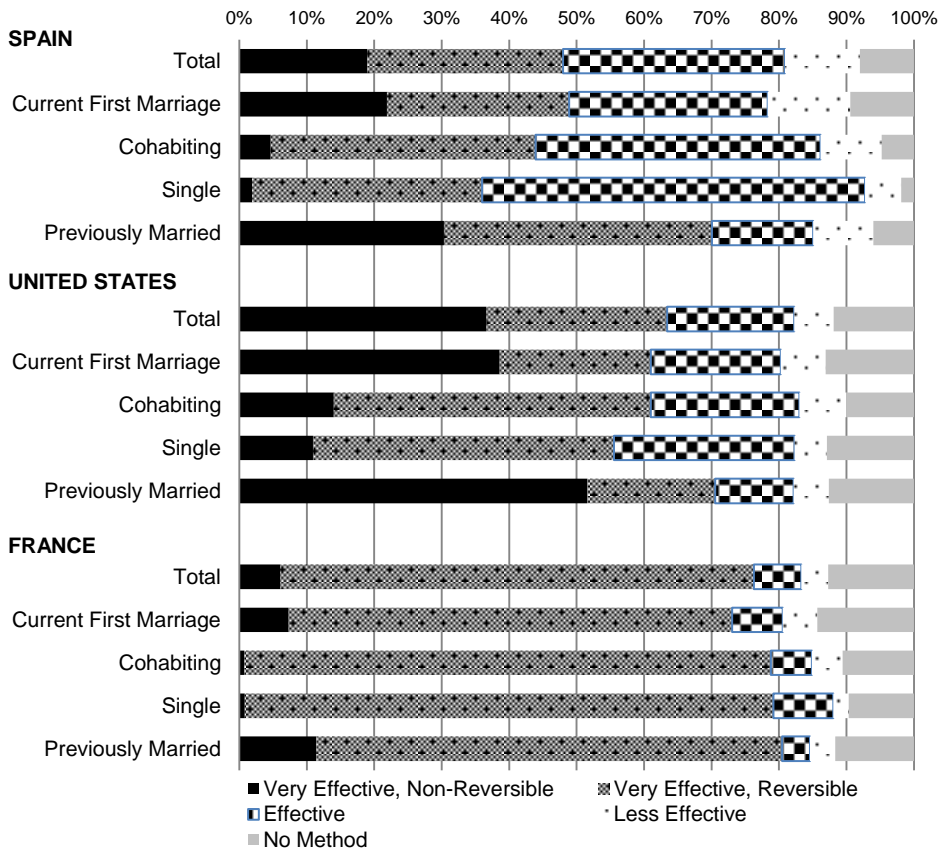
Note: See Tables 1a, 1b, and 1c.

4.1.2 Contraceptive use in 2005−2010

We next consider how patterns of contraceptive use changed between the mid-1990s and late-2000s in our study countries. As a comparison of Figure 1a and 1b demonstrate, overall use of the most effective methods (combined reversible and non-reversible "very effective" methods) declined among all Spanish women (from 48 to 42%) but remained stable or even slightly increased among American and French women. But as cohabitation became more common in Spain, did cohabitation also become more "marriage like" with respect to patterns of use of the most effective contraceptive methods? In short, although use of the most effective methods did decline among cohabiting women in Spain, use of these methods also declined among married women, resulting in relative stability in the overall resemblance between cohabiting and married women in overall use of the most effective contraceptive methods.[8] In the United States, use of the most effective contraceptives remained similar for cohabiting and married women in both time periods. Only in France do we see evidence of increasing resemblance between cohabiting and married women over time in use of the most effective contraceptive methods. With respect to reversibility of methods used, however, married women continue to be more likely than cohabiting women to rely on male or female sterilization in all three countries in the later period.

It is important to keep in mind that these results do not yet adjust for group differences in key correlates of reproductive behavior, such as age and prior childbearing. Indeed, we notice differences across time and place in ways in which the background characteristics of never-married cohabitors tend to differ from those of married women (see Tables 1a–1c and Tables 2a–2c). For example, cohabitors tend to be younger and more likely to be enrolled in school than married women in all three countries and time periods. Cohabitors also tend to have fewer children than married women, although the share of cohabiting women without children declined between the 1990s and 2000s within all three country settings. By the mid-2000s, the share of never-married cohabiting women who were childless had declined to 55% in Spain, 41% in the United States, and 45% in France (see Tables 2a, 2b, and 2c). This is compared with 67% in Spain, 60% in the United States, and 57% in France in the mid-1990s,

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[8] Although not the primary focus of this analysis, we also notice some decline over time in overall contraceptive prevalence in our three study countries. While the decline is relatively smaller in France, the larger declines observed for the United States, and particularly Spain, are consistent with other reports (Mosher and Jones 2010; United Nations 2012). The comparison of the 1995 and 2006 Spanish surveys shows an important reduction in the prevalence of female sterilization and withdrawal, while the prevalence of the rest of contraceptive methods remained relatively stable. Under-declaration of sterilization for health reasons – which was explicitly addressed in the 1995 survey but not in the 2006 survey – and increasing reluctance of women to declare the use of the withdrawal method might have influenced the downward trend recorded. This remains an important question for future research.

respectively (Tables 1a, 1b, and 1c). On the other hand, we note considerable variability across our three study countries in the educational composition of cohabitors. For example, cohabiting women in Spain and France tend to be better educated than their married counterparts in both time periods (Tables 1a, 1c, 2a, and 2c). Yet never-married cohabiting women in the United States tend to be relatively less well educated than their married counterparts throughout the time period considered here (Tables 1b and 2b).

Figure 1b: Current contraceptive use, by union status and country, 2005−10
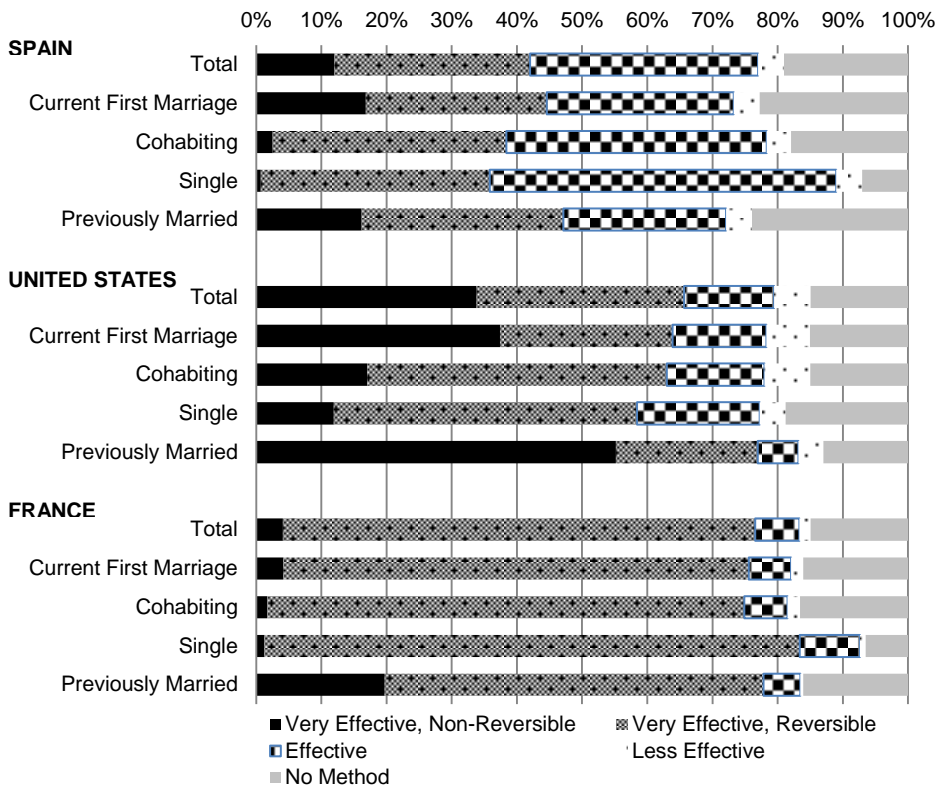
Table 2a: **Current contraceptive use among women age 20−44 at risk of pregnancy or contraceptively sterile, by union status and background characteristics: Spain, 2006 Fertility and Values Survey (FVS)**

	Total	Married - First Marriage	Never Married Cohabiting	Never Married Single	Previously Married
Method Use	%	%	%	%	%
Very Effective					
Non-Reversible	**11.66**	**16.80**	**2.71**	**0.97**	**16.39**
Female Sterilization	4.49	6.15	1.65	0.33	8.45
Male Sterilization	7.17	10.66	1.07	0.64	7.94
Reversible	**30.19**	**27.84**	**36.12**	**34.54**	**30.74**
Pill	23.99	20.49	29.09	32.42	19.27
IUD	6.20	7.01	6.79	1.82	11.36
Other (e.g., implant, injectables, patch)	0.31	0.34	0.23	0.30	0.11
Effective	**35.11**	**29.13**	**39.52**	**53.29**	**25.05**
Diaphragm, female condom	0.16	0.14	0.18	0.11	0.40
Condom	34.95	28.98	39.34	53.18	24.64
Less Effective	**3.69**	**3.55**	**3.72**	**4.01**	**4.11**
Periodic Abstinence[1]	0.25	0.21	0.77	0.00	0.21
Withdrawal	1.54	1.75	1.39	0.68	2.65
Other (e.g., foam, spermicides)	1.91	1.60	1.56	3.32	1.24
No Method	**19.04**	**22.68**	**17.93**	**7.19**	**23.72**
Background Characteristics (at Interview)					
Age					
20–24 years	12.83	2.55	21.00	41.56	3.12
25–29 years	20.09	11.81	35.08	38.31	7.16
30–34 years	21.85	24.89	24.91	10.84	18.80
35+ years	45.24	60.75	19.01	9.29	70.92
Number of Children					
0	34.01	12.34	55.01	92.37	11.18
1	24.10	28.23	27.08	6.14	34.18
2	33.01	47.59	15.55	1.02	30.87
3+	8.89	11.84	2.36	0.47	23.76
Education[2]					
Low	46.42	52.21	43.21	27.47	58.24
Medium	29.22	27.79	28.78	34.39	27.88
High	24.36	20.00	28.01	38.15	13.88
Enrolled in School (1=yes)	7.50	2.25	6.88	25.00	5.39
N	2,666	1,651	353	523	139
Column % of total *N*	100%	62%	13%	20%	5%

Notes: See Table 1a.

Table 2b: **Current contraceptive use among women age 20−44 at risk of pregnancy or contraceptively sterile, by union status and background characteristics: United States, 2006/10 National Survey of Family Growth (NSFG)**

	Total	Married - First Marriage	Never Married Cohabiting	Never Married Single	Previously Married
Method Use	%	%	%	%	%
Very Effective					
Non-Reversible	**33.67**	**37.47**	**16.61**	**12.14**	**55.18**
Female Sterilization	24.42	23.02	14.15	11.47	46.10
Male Sterilization	9.24	14.45	2.45	0.67	9.07
Reversible	**31.67**	**26.36**	**45.96**	**46.52**	**21.95**
Pill	21.29	16.70	29.77	34.85	14.02
IUD	4.95	6.23	5.95	2.90	3.54
Other (e.g., implant, injectables, patch)	5.43	3.43	10.24	8.78	4.38
Effective	**13.70**	**14.40**	**15.30**	**18.56**	**6.28**
Diaphragm, female condom	0.13	0.26	0.00	0.00	0.02
Condom	13.57	14.14	15.30	18.56	6.25
Less Effective	**5.55**	**6.66**	**7.05**	**3.89**	**3.88**
Periodic Abstinence[1]	1.03	1.40	1.50	0.26	0.73
Withdrawal	4.26	5.04	5.53	3.24	2.84
Other (e.g., foam, spermicides)	0.25	0.21	0.02	0.38	0.31
No Method	**15.42**	**15.11**	**15.08**	**18.88**	**12.72**
Background Characteristics (at Interview)					
Age					
20–24 years	17.71	7.50	36.09	46.05	3.68
25–29 years	20.29	18.76	32.30	25.45	12.76
30–34 years	18.23	21.19	16.10	12.70	17.98
35+ years	43.77	52.56	15.52	15.80	65.57
Number of Children					
0	29.56	19.53	40.95	63.76	12.47
1	18.10	18.08	24.73	15.78	17.29
2	27.59	35.28	17.57	10.94	31.46
3+	24.75	27.11	16.75	9.52	38.78
Education[2]					
Low	14.95	11.78	24.79	12.90	19.79
Medium	55.70	48.41	54.95	62.10	66.72
High	29.35	39.81	20.26	25.00	13.49
Enrolled in School (1=yes)	14.47	8.50	15.27	31.74	10.38
N	7,839	3,045	889	2,261	1,644
Column % of total *N*	100%	39%	11%	29%	21%

Notes: See Table 1a.

Table 2c: **Current contraceptive use among women age 20−44 at risk of pregnancy or contraceptively sterile, by union status and background characteristics: France, 2005 Generations and Gender Survey (GGS)**

	Total	Married - First Marriage	Never Married Cohabiting	Single	Previously Married
Method Use	%	%	%	%	%
Very Effective					
Non-Reversible	**4.09**	**4.16**	**1.67**	**1.22**	**19.71**
Female Sterilization	3.53	3.86	1.25	1.22	15.38
Male Sterilization	0.56	0.30	0.42	0.00	4.33
Reversible	**72.46**	**71.41**	**73.24**	**82.17**	**58.10**
Pill	52.26	45.30	57.46	78.11	33.48
IUD	18.62	24.52	14.43	2.07	22.93
Other (e.g., implant, injectables, patch)	1.58	1.59	1.35	1.99	1.69
Effective	**6.82**	**6.48**	**6.59**	**9.26**	**5.67**
Diaphragm, female condom	0.41	0.43	0.00	1.06	0.71
Condom	6.41	6.05	6.59	8.20	4.96
Less Effective	**1.68**	**1.89**	**1.94**	**0.89**	**0.41**
Periodic Abstinence[1]	NA	NA	NA	NA	NA
Withdrawal	1.40	1.36	1.94	0.89	0.41
Other (e.g., foam, spermicides)	0.28	0.53	0.00	0.00	0.00
No Method	**14.97**	**16.07**	**16.56**	**6.47**	**16.09**
Background Characteristics (at Interview)					
Age					
20–24 years	15.75	4.14	23.36	53.18	0.37
25–29 years	17.43	13.98	25.60	20.04	3.68
30–34 years	19.64	23.52	18.51	10.91	11.22
35+ years	47.18	58.36	32.53	15.87	84.74
Number of Children					
0	30.43	11.36	45.29	84.87	8.72
1	22.09	21.39	29.35	8.87	21.85
2	29.43	41.90	17.49	3.91	33.44
3+	18.05	25.35	7.87	2.35	35.99
Education[2]					
Low	15.91	17.06	13.93	5.89	35.31
Medium	42.46	43.91	39.34	45.2	39.32
High	41.62	39.03	46.73	48.91	25.38
Enrolled in School (1=yes)	7.28	2.01	7.61	30.70	1.29
N	**1,758**	**878**	**464**	**294**	**122**
Column % of total *N*	100%	50%	26%	17%	7%

Notes: See Table 1a.

4.2 Regression analysis of contraceptive use patterns

We turn next to logistic regression models to investigate differences between cohabiting and married women in the likelihood of using the most effective contraceptive methods, and reversible contraceptive methods, while adjusting for important differences in composition of these groups with respect to background characteristics such as age, parity, educational attainment, and school enrollment.

We begin with the analysis of "very effective" contraceptive use (see Tables 3a, 3b, and 3c). Consistent with the preliminary descriptive results, we find no significant differences for cohabiting versus married women in the likelihood of using a "very effective" contraceptive in either Spain or the U.S. during the 1995 to 2006–10 time period (Model 1a and 1b, Tables 3a and 3b,). In the United States, however, cohabiting women were significantly more likely than married women to use a very effective contraceptive method after adjusting for differences in age and parity distributions (Model 2a and 2b, Table 3b).[9] On the other hand, in Spain, it is worth emphasizing that even in 1995, when cohabitation was uncommon and considered to be only a marginal part of broader processes of union formation, differences between cohabiting and married women in the likelihood of using the most effective contraceptive methods were not statistically significant – even after adjusting for differing background characteristics of these two groups (Table 3a, Model 2a and 3a). It may well be that since these women were forerunners in experiencing a new living arrangement and largely selected in terms of high education, they also challenged the prevailing normative sequence requiring formal marriage prior to childbearing. However, because of small sample sizes, we need to be cautious about this interpretation.

Consistent with the previous descriptive results for France, we do find a statistically significant difference between cohabiting women versus married women in the mid-1990s, with cohabitors being more likely to use "very effective" contraception. This result persists with controls for age, parity, education, and school enrollment (Models 1a–3a, Table 3c). As suggested by our initial descriptive results, however, the difference between cohabiting and married women in France was no longer statistically significant by 2005.

Although not the focus of our analysis, we also note some interesting findings with respect to our control variables in Tables 3a to 3c. In the mid-1990s, we note that the youngest women were more likely than older women to rely on the most effective contraceptive methods in France, but associations with age were less consistent for Spain or the United States. By the early 2000s, Spain had joined France in this age pattern of use of the most effective contraceptive methods. We do not find a similar association between age and very effective contraceptive use in the contemporary United States. In all countries and time periods, having no children is associated with a reduced likelihood of using a very effective method. Being well educated is associated with an increased likelihood of using a "very effective" method for the United States in

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[9] Based on a comparison of predicted probabilities computed from the model. Sweeney (2010) reports that differences between married and cohabiting women in use of the most effective contraceptive methods were not significant in the 2002 NSFG, even after adjustments for age and parity. We again replicate this result using the 2002 NSFG (results not shown), but find a significant difference between these groups exists when using the larger sample sizes of the 2006-10 NSFG.

the early 2000s, but not for Spain or France. While current school enrollment is associated with a reduced likelihood of using a "very effective" method in Spain in the early 2000s, enrollment is associated with an increased likelihood of using a "very effective" contraceptive method in the United States during this period.

Table 3a: **Logistic regression of use of very effective contraceptive methods on union status and background characteristics: Spain, 1995 Family and Fertility Survey and 2006 Fertility and Values Survey, women age 20−44 at risk of pregnancy or contraceptively sterile**

	1995 FFS						2006 FVS					
	Model 1a		Model 2a		Model 3a		Model 1b		Model 2b		Model 3b	
	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.
Union Status (vs. Current First Marriage)												
Cohabiting, Never Married	0.82	-0.85	1.16	0.58	1.18	0.67	0.83	-1.52	1.09	0.66	1.09	0.64
Single, Never Married	0.61*	-3.77	0.99	-0.08	1.04	0.22	0.66*	-3.96	1.01	0.07	1.05	0.33
Previously Married	2.48*	3.92	2.82*	4.32	2.80*	4.28	1.22	1.14	1.24	1.17	1.25	1.21
Background Characteristics												
Age (vs. <25 years)												
25–29 years			1.22	1.21	1.08	0.42			0.97	-0.19	0.92	-0.56
30–34 years			0.95	-0.3	1.31*	1.99			0.66*	-2.64	0.62*	-2.96
35–44 years			0.81	-1.19	0.85	-1.47			0.73*	-2.00	0.69*	-2.31
Parity (vs. 0)												
1			1.22	1.22	1.19	1.04			1.43*	2.67	1.41*	2.52
2			2.21*	4.81	2.16*	4.57			2.57*	6.74	2.54*	6.51
3+			3.29*	6.12	3.22*	5.88			3.01*	6.10	2.97*	5.92
Education (vs. Low)												
Medium					1.08	0.68					1.05	0.53
High					0.91	-0.54					1.03	0.31
Enrolled in School (1=yes)					0.64	-2.06					0.67	-2.23
Constant	0.94	-1.23	0.55*	-3.19	0.53*	-3.68	0.81*	-4.35	0.55*	-3.55	0.58*	-3.05
N	2,410		2,410		2,410		2,666		2,666		2,666	

Note: *Coefficient differs from zero at .05 level (two-tailed test).

Table 3b: **Logistic regression of use of very effective contraceptive methods on union status and background characteristics: United States, 1995 and 2006/10 National Surveys of Family and Growth (NSFG), women age 15−44 at risk of pregnancy or contraceptively sterile**

| | 1995 NSFG | | | | | | 2006/10 | | | | | |
| | Model 1a | | Model 2a | | Model 3a | | Model 1b | | Model 2b | | Model 3b | |
	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.
Union Status (vs. Current First Marriage)												
Cohabiting, Never Married	1.00	0.01	1.43*	2.78	1.41*	2.62	0.94	-0.61	1.35*	2.77	1.43*	3.30
Single, Never Married	0.80*	-3.29	1.21*	2.28	1.19*	2.08	0.80*	-2.66	1.26*	2.40	1.25*	2.48
Previously Married	1.73*	7.88	1.67*	7.09	1.63*	6.52	1.90*	7.00	1.74*	6.00	1.77*	6.40
Background Characteristics												
Age (vs. <25 years)												
25–29 years			1.24*	2.19	0.85	-1.58			0.96	-0.29	0.93	-0.51
30–34 years			0.92	-0.93	0.79*	-2.29			0.88	-1.12	0.88	-1.13
35+ years			0.98	-0.27	0.85	-1.69			1.16	1.44	1.17	1.48
Parity (vs. 0)												
1			1.19*	2.27	1.16	1.83			0.84	-1.79	0.89	-1.12
2			2.69*	11.66	2.59*	10.57			2.32*	8.34	2.51*	8.53
3+			4.14*	17.30	3.97*	15.88			2.89*	9.73	3.29*	9.62
Education (vs. Low)												
Medium					1.13	1.35					1.36*	3.13
High					0.88	-1.12					1.40*	2.71
Enrolled in School (1=yes)					1.10	0.88					1.33*	3.20
Constant	1.57*	12.70	0.77*	-2.90	0.89	-0.86	1.77*	11.70	1.00	0.03	0.69*	-2.34
N	7,584		7,584		7,584		7,836		7,836		7,836	

Note: Data are adjusted for the complex sampling design of the NSFG. *Coefficient differs from zero at .05 level (two-tailed test).

Table 3c: **Logistic regression of use of very effective contraceptive methods on union status and background characteristics: France, 1994 Fertility and Family Survey and 2005 Generations and Gender Survey, women age 20−44 at risk of pregnancy or contraceptively sterile**

| | 1994 FFS | | | | | | 2005 GGS | | | | | |
| | Model 1a | | Model 2a | | Model 3a | | Model 1b | | Model 2b | | Model 3b | |
	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.
Union Status (vs. Current First Marriage)												
Cohabiting, Never Married	1.37*	2.03	2.01*	3.26	2.00*	3.21	0.93	-0.47	1.29	1.39	1.31	1.48
Single, Never Married	1.40	1.72	2.50*	3.45	2.51*	3.38	1.35	1.34	2.14*	3.06	2.07*	2.94
Previously Married	1.52*	2.21	1.64*	2.48	1.62*	2.43	1.04	0.16	1.10	0.38	1.17	0.60
Background Characteristics												
Age (vs. <25 years)												
25–29 years			0.38*	-4.07	0.39*	-3.86	0.50*	-2.75	0.49*	-2.80	0.53*	-2.47
30–34 years			0.21*	-5.78	0.22*	-5.42	0.44*	-3.23	0.30*	-4.56	0.33*	-4.09
35+ years			0.22*	-5.70	0.23*	-5.36	0.71	-1.38	0.43*	-3.16	0.48*	-2.61
Parity (vs. 0)												
1			2.76*	4.29	2.69*	4.01			1.17	0.78	1.24	1.05
2			1.52*	5.69	4.48*	5.39			3.11*	4.80	3.30*	5.12
3+			7.11*	6.57	7.30*	6.20			3.57*	4.83	4.06*	5.19
Education (vs. Low)												
Medium					1.30	1.47					1.32	1.35
High					0.98	-0.08					1.49	1.91
Enrolled in School (1=yes)					0.97	-0.10					1.59	1.17
Constant	2.71*	9.59	2.68*	3.51	2.36*	2.76	5.11*	6.50	3.45*	4.73	2.19*	2.32
N	2,003		2,003		2,003		1,758		1,758		1,758	

Note: *Coefficient differs from zero at .05 level (two-tailed test).

Finally, we turn to the analysis of the use of a reversible method among those choosing highly-effective methods of contraception (Tables 4a–4c). Beginning with Spain (Table 4a), we see that cohabiting women are significantly more likely than married women to rely on a reversible method of contraception in the baseline model both in 1995 (Model 1a) and 2006 (Model 1b), but that these differences are fully explained by age and parity composition in both time periods (Models 2a and 2b). The same holds for France (Table 4c), where the significantly higher likelihood for cohabiting women to use reversible contraceptive methods (Models 1a and 1b) disappears once we control for age and parity composition (Models 2a, 3a, 2b, 3b). In the United States, cohabiting women are more likely to use a reversible method than

married women in our full model which includes adjustments for education and school enrollment (Models 3a and 3b, Table 4b).

Table 4a: **Logistic regression of use of a reversible contraceptive method on union status and background characteristics: Spain, 1995 Fertility and Family Survey (FFS) and 2006 Fertility and Values Survey (FVS), women age 20−44 using a "very effective" contraceptive method**

	1995 FFS						2006 FVS					
	Model 1a		Model 2a		Model 3a		Model 1b		Model 2b		Model 3b	
	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.
Union Status (vs. Current First Marriage)												
Cohabiting, Never Married	6.39*	3.79	1.65	0.84	1.66	0.85	4.73*	5.48	1.20	0.54	1.19	0.51
Single, Never Married	11.95*	5.75	1.42	0.71	1.30	0.53	33.30*	5.97	1.25	0.31	1.28	0.35
Previously Married	1.05	0.18	1.11	0.31	1.08	0.23	0.92	-0.31	0.93	-0.24	1.01	0.03
Background Characteristics												
Age (vs. <25 years)												
25–29 years			0.44	-1.22	0.43	-1.26			0.47	-0.94	0.43	-1.03
30–34 years			0.13*	-3.08	0.12*	-3.12			0.24	-1.84	0.21*	-1.99
35+ years			0.04*	-4.71	0.04*	-4.76			0.10*	-3.00	0.09*	-3.22
Parity (vs. 0)												
1			1.78	1.46	1.94	1.64			0.30	-1.93	0.36	-1.64
2			0.32*	-3.17	0.35*	-2.84			0.05*	-4.83	0.07*	-4.47
3+			0.11*	-5.86	0.12*	-5.40			0.02*	-5.92	0.03*	-5.52
Education (vs. Low)												
Medium					1.15	0.67					1.04	0.19
High					1.53	1.20					2.31*	3.45
Enrolled in School (1=yes)					3.29	1.29					0.58	-0.87
Constant	1.25*	3.79	38.32*	5.44	33.85*	5.24	1.79	7.59	172.45*	5.61	146.50*	5.44
N	1,137		1,137		1,137		1,130		1,130		1,130	

Note: *Coefficient differs from zero at .05 level (two-tailed test).

Table 4b: **Logistic regression of use of a reversible contraceptive method on union status and background characteristics: United States, 1995 and 2006/10 National Surveys of Family and Growth (NSFG), women age 20−44 using a "very effective" contraceptive method**

| | 1995 NSFG | | | | | | 2006/10 NSFG | | | | | |
| | Model 1a | | Model 2a | | Model 3a | | Model 1b | | Model 2b | | Model 3b | |
	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.
Union Status (vs. Current First Marriage)												
Cohabiting, Never Married	5.87*	9.60	1.38	1.43	1.61*	2.05	3.93*	8.42	1.26	1.27	1.55*	2.41
Single, Never Married	7.23*	18.16	1.65*	4.23	1.91*	5.14	5.45*	11.50	1.15	0.82	1.39	1.91
Previously Married	0.65*	-5.71	0.80*	-2.41	0.89	-1.19	0.57*	-5.00	0.63*	-3.70	0.78*	-2.01
Background Characteristics												
Age (vs. <25 years)												
25–29 years			0.28	-7.55	0.25*	-7.84			0.29*	-5.35	0.28*	-5.51
30–34 years			0.16	-10.47	0.14*	-10.80			0.17*	-7.05	0.15*	-7.62
35+ years			0.03	-19.39	0.03*	-19.38			0.06*	-11.85	0.05*	-12.84
Parity (vs. 0)												
1			0.66*	-2.93	0.82	-1.30			0.45*	-4.12	0.54*	-2.96
2			0.12*	-15.64	0.16*	-12.96			0.13*	-11.08	0.16*	-9.12
3+			0.05*	-20.38	0.07*	-16.14			0.05*	-16.53	0.07*	-13.34
Education (vs. Low)												
Medium					1.50*	2.45					1.10	0.54
High					3.63*	6.63					2.51*	4.68
Enrolled in School (1=yes)					1.16	0.76					1.19	1.04
Constant	0.56*	-12.36	29.31*	16.83	15.40*	11.22	0.70*	-4.39	40.52*	14.25	24.78*	9.61
N	4,880		4,880		4,880		4,929		4,929		4,929	

Notes: Data are adjusted for the complex sampling design of the NSFG. *Coefficient differs from zero at .05 level (two-tailed test).

Table 4c: **Logistic regression of use of a reversible contraceptive method on union status and background characteristics: France, 1994 Fertility and Family Survey and 2005 Generations and Gender Survey, women age 20−44 using a "very effective" contraceptive method**

| | 1994 FFS | | | | | | 2005 GGS | | | | | |
| | Model 1a | | Model 2a | | Model 3a | | Model 1b | | Model 2b | | Model 3b | |
	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.	$e^{Coeff.}$	Coeff./ S.E.
Union Status (vs. Current First Marriage)												
Cohabiting, Never Married	11.23*	5.45	1.98	1.39	1.96	1.39	2.55*	2.30	1.45	0.83	1.59	1.02
Single, Never Married	11.07*	4.72	1.04	0.07	1.04	0.07	3.94*	2.47	1.30	0.35	1.27	0.32
Previously Married	0.67	-1.39	0.78	-0.84	0.76	-0.84	0.17*	-5.03	0.24*	-3.94	0.26*	-3.85
Background Characteristics												
Age (vs. <29 years)												
30–34 years			0.43	-0.71	0.43	-0.71			0.07*	-2.17	0.07*	-2.08
35+ years			0.08*	-2.19	0.08*	-2.19			0.02*	-3.36	0.02*	-3.18
Parity (vs. 0)												
1			0.19	-1.54	0.19	-1.54			1.74	0.86	1.94	0.99
2			0.18	-1.49	0.19	-1.49			2.09	1.16	2.21	1.22
3+			0.07*	-2.25	0.08*	-2.25			1.52	0.65	2.04	1.09
Education (vs. Low)												
Medium					1.53	1.25					2.42*	2.62
High					1.15	0.29					4.05*	3.55
Enrolled in School												
(1=yes)					1.19	0.18					na	na
Constant	8.97*	11.67	586.96*	5.95	453.12*	5.36	17.15*	15.14	345.09*	5.28	116.93*	4.04
N	1,559		1,559		1,559		1,364		1,364		1,364	

Note. Due to the extremely low level of contraceptive sterilization in France, particularly among young women, these models include only three age categories (<29, 30–34, 35+) and school enrollment cannot be included in 2005 GGS model. *Coefficient differs from zero at .05 level (two-tailed test).

We again also see some interesting associations between contraceptive use patterns and our background variables. For example, we find some evidence of a relatively reduced likelihood of choosing a reversible method (versus male or female sterilization) among the oldest women in all countries and time periods. In all countries and time periods, with the exception of the most recent period for France, having no children is associated with an increased likelihood of using a reversible method. Although, in the mid-1990s, being highly educated was only associated with an increased likelihood of using a reversible method in the United States, the same was true in all three study countries by the early 2000s.

5. Discussion

We addressed a number of questions in this research. First, we investigated the degree of resemblance between married and cohabiting women in use of the most effective contraceptive methods in the mid-1990s. Based on Heuveline and Timberlake's typology, we expected this resemblance to be relatively low in Spain and the United States during this period, where cohabitation was deemed to be "marginal" and an "alternative to single," respectively. Once adjusting for differences in background factors between these groups, we found this to be true for the United States but not for Spain. We had expected a close resemblance in contraceptive use of married versus cohabiting women in mid-1990s France, where Heuveline and Timberlake classified cohabitation as an "alternative to marriage." Here we were again surprised, and found higher use of the most effective contraceptive methods among cohabiting women than among married women.

We had expected differences in contraceptive use to change most over time in Spain, where the prevalence of cohabitation had experienced the most dramatic growth. Instead our results suggest remarkable consistency over time. It was already the case at the earliest stages of cohabitation's rise in Spain – even when cohabitation was statistically uncommon – that the contraceptive behavior of cohabiting women resembled that of married women. It was instead in France that we find some evidence of growth over time in the resemblance of contraceptive use among cohabiting versus married women between the mid-1990s and 2005−10.

We find relative stability over time in the extent to which cohabiting and married women are likely to choose a reversible contraceptive, conditional on using a very effective method. In Spain and France, differences between married and cohabiting women in the likelihood of using a reversible method are no longer significant after adjusting for compositional differences between these groups. In the United States, however, differences in the likelihood of selecting a reversible method persist after introducing controls for age, parity, education, and school enrollment. Both in 1995 and 2006-10, U.S. cohabitors are more likely than married women to rely on a reversible method, suggesting that cohabiting women are potentially more likely to anticipate wanting children with a new partner. With respect to the reversibility of contraception, it is thus the United States that appears to be exceptional.

Many family scholars argue that the rise of cohabitation was fueled by widespread availability of highly effective, reversible contraceptive methods, such as the birth control pill (e.g., Cherlin 2009; Nock 2005; Thornton, Axinn, and Xie 2007). If true, this would suggest that in times and places where cohabitation offers a less acceptable context for childbearing than marriage, these rates should be higher among cohabiting than married women after adjusting for other compositional differences between the

two groups. Our results indicate that while this may have been true in the United States and France, it seems unlikely to apply to the case of Spain. Reliance on the male condom has remained the most common method of contraception among Spanish cohabitors during the entire time span covered by this study, with no significant differences between married and cohabiting women in use of the most effective methods.

Cohabitation typologies, such as that developed by Heuveline and Timberlake (2004), have stimulated thinking and empirical research on cohabitation across the globe. Yet such typologies are necessarily broad, and may require some revision to incorporate new empirical findings. Our results for Spain suggest that the meaning of a "marginal" cohabitation status may need to be rethought. Just because cohabitation is relatively uncommon in a country does not mean that it does not provide an acceptable setting for childrearing for those who choose to adopt it. Aggregate analyses of the share of childbearing occurring within cohabitation (e.g., Castro-Martin 2010; Kiernan 2001) provide some information about the broad acceptability of cohabitation as a setting for childbearing in a full population, but may provide less information about the norms and expectations characterizing the "institution" of cohabitation in periods when cohabitation itself is relatively rare. We agree with Raley (2001) that to understand the place of cohabitation in a country's reproductive regime, it is necessary to consider both levels of cohabitation and the reproductive behavior of cohabitors themselves.

At the same time, our study considers just one aspect of reproductive behavior – contraceptive use patterns. Sex, contraceptive use, and post-conception behavior (e.g., abortion) are key proximate determinants of fertility (Bongaarts 1978), and thus individual fertility intentions must influence childbearing through these mediating factors (England, McClintock, and Shafer 2011; Sweeney and Raley 2014). Yet it is important to keep in mind that the determinants of contraceptive use range beyond fertility intentions alone, and may include social, cultural, or economic factors. For example, the acceptability and accessibility of particular contraceptive methods – which vary both across countries and over time – may also shape contraceptive decision-making (e.g., Bulatao 1989). Unravelling the multifaceted influences of specific country contexts on contraceptive use is an important area for future research (e.g., see Donadio 2013). While contraceptive use provides an important window onto the reproductive behavior of cohabitors, our approach offers just one piece of the large picture of the reproductive context of cohabiting unions.

In sum, whereas a large body of research highlights diversity in the timing of cohabitation's rise across low-fertility countries, our study also suggests that industrialized countries may not all follow neatly or at a similar pace through a series of stages beginning with cohabitation as rare and a normatively childless state to cohabitation as common and largely indistinguishable from marriage with respect to

reproductive behavior. Our sample sizes of Spanish cohabitors are relatively small, but the lack of significant differences in the use of very effective contraception between cohabiting and married couples as early as 1995 may suggest that cohabiting unions were not merely viewed as a childless prelude to marriage even before cohabitation became a widespread phenomenon.

We look forward to further analyses of these questions in future work; for example, by looking at contraceptive patterns by duration of cohabitation and by exploring reports of childbearing intentions across relationship statuses. Yet, at the same time, our study underscores a persistent puzzle in the demography of Europe: How does Spain, similar to other Southern European countries such as Italy (Dalla Zuanna, De Rose, and Racioppi 2005; Gribaldo, Judd, and Kertzer 2009), retain one of the lowest fertility rates in the world and one of the highest ages at first birth in the context of relatively low usage of very effective methods of contraception and high reliance on the condom? In future work, we plan to look more closely at use of condoms within cohabiting unions, at possible ambivalence about childbearing, and at attitudes towards terminating unplanned pregnancies among cohabitors. We also plan to extend this research to other countries to benefit from broader comparative insights on change and variability in the reproductive context of cohabitation.

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