

Unmarried Cohabitation and Family Formation in Japan

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Abstract

Recent studies have documented a rapid increase in nonmarital cohabitation in Japan. In this paper, we use nationally representative data to examine the relationship between cohabitation experience and the transition to marriage and parenthood among Japanese women. Using the results of discrete-time hazard models to construct synthetic cohort trajectories, we compare the transition to first marriage and first birth among women who have lived in a cohabiting union with those who have not. Cumulative marriage trajectories indicate that (a) cohabitation experience is not strongly associated with marriage timing and (b) differences in the transition to marriage at early ages likely reflect a higher incidence of premarital pregnancy among women who have ever cohabited. Cumulative first birth trajectories suggest that nonmarital unions are heterogeneous, with cohabitation experience associated with a faster transition to parenthood through age 27 and a slower transition to parenthood thereafter.

Introduction

Japan, like other industrialized countries, has experienced profound changes in family formation over the past 30 years. Fertility rates have been well below replacement level since the mid-1970s (Tsuya and Mason 1995) and mean age at first marriage has increased significantly (Raymo 2003; Retherford, Ogawa, and Matsukura 2001). One of the most striking differences between Japan and most other low-fertility, late-marriage societies is the fact that cohabiting unions have not emerged to offset the trend toward later and less marriage. In contrast to the U.S., where increases in cohabitation have largely offset delays in marriage rates (Bumpass, Sweet, and Cherlin 1991), the trend toward later and less marriage in Japan is more directly reflected in later family formation. Furthermore, because non-marital fertility remains extremely rare in Japan, changes in marriage timing have direct implications for fertility rates. Indeed, several studies have shown that nearly all of the decline in TFR since the mid-1970s is explained by declines in the proportion of women married (e.g., Atoh 1995; Tsuya and Mason 1995). A similar pattern is not observed in the U.S., where increases in nonmarital fertility, including childbearing within nonmarital unions (Bumpass and Lu 2000), have offset declines in marriage rates.

Although many previous studies of family formation have commented on the rarity of premarital cohabitation (e.g., Iwasawa 1999; Rindfuss et al. 2004), most have relied on incomplete data. Until recently, the only data on cohabitation experience was limited to responses provided by unmarried respondents to the Japanese National Fertility Surveys. These data show an extremely low cross-sectional prevalence of cohabitation, ranging from less than 1% in 1987 to about 2% in 2002. The proportion of unmarried women who have ever cohabited is also relatively low, ranging from 3% in 1987 to about 7% in 2002 (National Institute of

Population and Social Security Research 2004). Clearly, however, data for unmarried people only will understate both the prevalence and experience of cohabitation to the extent that cohabiting unions are short-lived and often transition to marriage. Indeed, two recent studies based on new survey data indicate that the prevalence of cohabitation in Japan is substantially higher than previously thought. Iwasawa (2005) uses data from the 1st Survey on Population, Family, and Generations (SPFG) and Tsuya (2005) uses data from the first round of the Japanese Gender and Generations Study to show substantial increases in the proportion of women who have ever cohabited. For women born in the 1970s, the proportion ever cohabiting is about 20%. This is far lower than in the U.S. (Bumpass and Lu 2000) or most European countries (Kiernan 2001) but represents a substantial change in patterns of Japanese family formation.

Analyses of data from the U.S. have examined linkages between cohabitation and other family processes, including marriage timing, fertility, and divorce (see Smock and Manning 2004 for an overview) but similar studies have yet to be conducted in Japan. This is an important limitation given that that low fertility, and associated trends in marriage and divorce, are issues of major social and political importance in Japan's rapidly aging society. In this paper, we take a first step toward filling this gap by examining relationships between cohabitation experience and the transition to marriage and parenthood. Using data from the aforementioned SPFG, we compare the marriage and fertility trajectories of women who have cohabited with otherwise similar women who have never cohabited. Do women who have cohabited marry earlier or later, on average, than women who not lived in nonmarital unions? On one hand, we might expect cohabitation to be associated with earlier marriage if cohabitation serves primarily as a relatively low-risk trial marriage. On the other hand, we might expect cohabitation to be associated with later marriage if relatively unfavorable attitudes toward marriage (Tsuya, Mason, and Bumpass

2004) have contributed to the emergence of cohabitating unions as an alternative to marriage.

Do women who have cohabited have their first child earlier or later than those who have not cohabited? On one hand, we might expect the transition to parenthood to be earlier among those who have cohabited if cohabitation is associated with greater sexual frequency and perhaps less vigilant contraception. On the other hand, we might expect later and less childbearing among women who have lived in cohabiting unions if cohabitation functions primarily as an alternative to marriage given that marriage continues to be a prerequisite for childbearing in Japan (Iwasawa 2002). Results of Iwasawa's (2005) study suggest that cohabiting unions in Japan resemble trial marriages more than an alternative to marriage. As in the U.S., the majority of cohabiting unions is short-lived and transitions to marriage. Other recent studies point to the potential importance of linkages between cohabitation and pregnancy. If recent increases in bridal pregnancies, i.e., "shotgun marriages" (Raymo and Iwasawa 2004) are concentrated among cohabiting couples, we would expect cohabitation to be associated with earlier transitions to marriage and parenthood.

The goal of these preliminary analyses is develop a descriptive framework for understanding the relationship between the emergence of cohabitation and patterns of family formation in Japan. Our relatively simple approach of comparing the family formation trajectories of women who have cohabited with those who have not is necessitated by data limitations. The SPFG does not provide information on the number of cohabiting unions or on the beginning and end date of these unions. In subsequent analyses, we intend to utilize information on the duration of the most recent cohabiting union but the preliminary analyses describe below focus only on whether or not respondents have ever cohabited.

Data

Sample

The SPFG is a nationally representative survey of 2,421 women aged 20-49 conducted in April 2004 by the Population Problems Research Council of the Mainichi Shimbun. The response rate was 61%. This is one of only two surveys containing information on cohabitation experience for a nationally representative sample.¹ As noted above, previous studies have only provided information on the cohabitation experience of currently unmarried men and women. The SPFG also collects information on the month and year of marriage and each childbirth, thus enabling us to compare the family formation experiences of women who have been in a cohabiting relationship with otherwise similar women who have never cohabited. Because we are interested in examining whether the relationship between cohabitation experience and transition to marriage and parenthood may vary by duration from initial exposure, we first expand the SPFG data to person-month form, creating one record for each year that a respondent lived between their fifteenth birthday and the survey date.

Measures

Cohabitation experience is measured as a dichotomous indicator – 0 if never cohabited, 1 if ever cohabited. Because we do not have information on the beginning and end dates of cohabiting relationships, this is a time-invariant characteristic. Caution is thus needed in making claims about causal effects of cohabitation experience. In subsequent extensions of the preliminary analyses presented below, we intend to incorporate information on the duration of the most recent cohabitation to distinguish short-term cohabiting unions (which are likely to include trial marriages and less serious relationships) from longer-term relationships (which may be more likely to reflect alternatives to marriage).

¹ The other is the first round of the Japanese Gender and Generations Survey (Tsuya 2005).

First marriage and first birth are time-varying indicators equal to zero for all months before experience of the event and one in the month that the event is experienced. Depending on the analysis, months subsequent to experience are either censored or coded as one. In all analyses, we restrict the sample to women who were either never married or in their first marriage. Of the original sample, 173 women (7% of total) were formerly married and another 139 women (6% of total) had missing data on either marital history or marriage timing. We thus begin with a sample of 2,109 women. Dropping observations with missing data on any of the other variables in the analysis reduces our analytic sample to 2,006.

Birth cohort is measured as a continuous variable. Given the recency of the emergence of nonmarital cohabitation (Iwasawa 2005; Tsuya 2005), it is essential that we control for birth cohort.

Educational attainment is a categorical variable distinguishing women with a high school degree or less from women with a junior college or vocational school degree, and women who attended university.

Area of residence distinguishes women who grew up in rural areas from those who grew up in urban areas. We expect that family formation will be more rapid for women who grew up in rural areas to the extent that rural upbringing is associated with more “traditional” attitudes toward family and gender roles. To the extent that rural upbringing is associated with a higher likelihood of remaining in rural areas, the transition to marriage and family formation may be slower as found in previous studies (Raymo 2003).

Pregnancy status is a time-varying dichotomous indicator used in models of marriage timing. It is equal to one during each of the eight months preceding the first birth. This is important given that a large proportion of marriages in Japan (especially those at younger ages) are preceded

pregnancy (Raymo and Iwasawa 2004). If cohabiting couples are more likely to become pregnant prior to marriage (e.g., due to less vigilant contraception or more frequent sex), we expect that premarital pregnancy may play an important role in explaining differences in family formation patterns with respect to cohabitation experience. Note that we only have information on pregnancies that resulted in live births – the SPFG does not collect information on terminated pregnancies.

Models

Based on these person-month data, we estimate discrete-time hazard models of the basic form:

$$\ln[p_{it}/(1-p_{it})] = \beta_1 \text{DUR}_i(t) + \beta_2 \text{COHAB}_i + \beta_3 \mathbf{Z}_i(t), \quad (1)$$

where p is the probability of the event of interest (first marriage, first birth) occurring in month t conditional on the event not occurring by month $t-1$. DUR is the duration from initial exposure – which we define as month of respondent’s fifteenth birthday. In all models, this baseline hazard is specified as a linear spline. Within each of the segments defined by the knots in these splines, the baseline hazard is linear in the log-odds of first marriage/childbirth. COHAB is the dichotomous indicator of cohabitation experience. Again, we emphasize that this measure does not reflect the timing of the cohabitation experience – it is constant from the time of initial exposure until experience of the event or censoring. \mathbf{Z} is a vector containing the other background variables such as education and birth cohort.

We next estimate a model in which the relationship between cohabitation experience and the event of interest is allowed to be non-proportional.

$$\ln[p_{it}/(1-p_{it})] = \text{Model 1} + \beta_5 [\text{DUR}_i(t) \times \text{COHAB}_i] \quad (2)$$

Based on the results of this model, we construct synthetic cohort trajectories of experience. This exercise allows us to present visually clear comparisons of the cumulative family formation

experiences of women who have ever cohabited and otherwise similar women who have not cohabited.

Results

Before presenting the results of these models, we describe the analytic sample in more detail.

Table 1 presents descriptive statistics for the variables used in the models. The first four rows indicate that prevalence and timing of first marriage and first birth are similar for women with and without cohabitation experience. Cohabitors are slightly more likely to have married and slightly less likely to have given birth but these differences are very small. Mean age at marriage is the same for the two groups but mean age at first birth is slightly lower for women who have lived in a cohabiting union. The majority of women with cohabitation experience were born in the 1970s, reflecting the trends described by Iwasawa (2005) and Tsuya (2005). Relative to women without cohabitation experience, those who have cohabited are slightly more likely to have grown up in a rural area and to have lower educational attainment. Interestingly, the proportion of women who married subsequent to pregnancy is twice as high among those with cohabitation experience (22% vs. 11%). Unfortunately the SPFG data do not allow us to determine whether entry into cohabiting union preceded or followed pregnancy.

Figure 1 presents the cumulative proportions of cohabitators and non-cohabitators never married by duration since age 15. These curves are calculated based on predicted duration-specific probabilities of marriage from the model described by equation (2). Probabilities are evaluated for women born in 1965 who grew up in an urban area and graduated from junior college or vocational school. Although there are not large differences in these curves, it appears that cohabitation is associated with somewhat higher rates of marriage at younger and older ages. Through age 25 (120 months since 15th birthday), the proportion of cohabitators ever married is

slightly higher than that of otherwise similar women who have not cohabited. To a large extent, this reflects the higher incidence of premarital pregnancy (and subsequent marriage) among young women with cohabiting experience. During prime marriage ages (25-30), cohabitation experience is unrelated to the proportion ever married. Beyond age 30 (180 months since 15th birthday), the proportion ever married is again slightly higher among women who have ever cohabited. We speculate that this reflects the transition to marriage among couples who have been in cohabiting unions of relatively long duration. Subsequent analyses will make use of information on duration of last cohabiting union to evaluate this speculative interpretation. In general, this figure suggests that (a) cohabitation experience is not strongly associated with marriage and (b) cohabiting unions appear to be heterogeneous, with early cohabitations associated with marriage precipitated by pregnancy and cohabitations of longer duration associated with higher rates of marriage at later ages.

Figure 2 presents the corresponding trajectories for the transition to parenthood. Through approximately age 27 (144 months since 15th birthday), cohabitation experience is associated with a more rapid transition to parenthood. This is not surprising given the results described in Figure 1 and is due, in large part, to a tendency for young women with cohabitation experience to marry subsequent to pregnancy. Interestingly, the two curves cross at about age 27, beyond which the proportion of women with a child is approximately five percentage points lower for those who have cohabited relative to those without cohabitation experience. Again, these results suggest the heterogeneity of cohabiting unions in Japan. At younger ages, cohabitation is associated with accelerated family formation via premarital pregnancy and subsequent marriage (*dekichattakon*). At older ages, cohabitation experience facilitates marriage but not childbearing. In subsequent analyses, we will examine the observable correlates of these two types of

cohabiting unions. Based on previous studies (Raymo and Iwasawa 2004), we anticipate that educational attainment will be a key correlate, with early cohabitation experience and rapid transition to marriage and parenthood more common among less educated women and longer term cohabiting unions more common among more educated women.

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Table 1: Sample Characteristics

Variable	Never Cohabited		Cohabited	
	Pct/mean	s.d.	Pct/mean	s.d.
<i>Married (No=0, Yes=1)</i>	67.4		70.3	
<i>Age at marriage</i>	25.8	3.7	25.6	3.8
<i>Had first birth (No=0, Yes=1)</i>	60.0		58.2	
<i>Age at first birth</i>	27.2	3.7	26.3	4.0
<i>Birth cohort</i>				
1950s	20.0		11.8	
1960s	36.9		30.0	
1970s	32.2		52.9	
1980s	10.8		5.3	
<i>Area of residence in childhood</i>				
Urban	71.9		68.8	
Rural	28.1		31.2	
<i>Educational Attainment</i>				
High School or less	40.7		50.2	
Junior College/Vocational School	41.6		36.5	
University	17.7		13.3	
<i>Pregnancy status at marriage</i>				
Not pregnant	88.8		78.3	
Pregnant	11.2		21.7	
N	1,743		263	

Figure 1: Cumulative proportion never married, by age and cohabitation experience



Note: based on predicted values evaluated at: childhood residence=urban, educational attainment=junior college/vocational school, birth cohort=1965.

Figure 2: Cumulative proportion childless, by age and cohabitation experience



Note: based on predicted values evaluated at: childhood residence=urban, educational attainment=junior college/vocational school, birth cohort=1965.