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**COHABITATION AND FAMILY FORMATION  
IN JAPAN**

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## **Cohabitation and Family Formation in Japan**

### **Abstract**

This paper documents the prevalence, duration, and marital outcomes of cohabiting unions in Japan. It then examines the correlates of cohabitation experiences and describes differences in the family formation trajectories of women who have and have not cohabited. Cohabitation has increased rapidly among recent cohorts of women and cohabiting unions in Japan tend to be relatively short and almost as likely to dissolve as to result in marriage. Life table analyses demonstrate that the cumulative probabilities of marriage and parenthood are roughly similar for women who did and did not cohabit. The most notable difference is in the pathways to family formation, with women who cohabited more likely to both marry subsequent to pregnancy and delay childbearing within marriage. Taken as a whole, these results suggest that cohabiting unions in Japan are best viewed as an emerging stage in the marriage process rather than as an alternative to marriage or singlehood. We conclude with speculation about the likelihood of further increases in cohabitation in Japan and the potential implications for marriage and fertility.

The prevalence of nonmarital cohabitation has increased rapidly in most low-fertility societies (Kiernan 2004) but cross-national studies demonstrate that the nature and roles of cohabiting unions depend upon context. Substantial regional variation in the prevalence of cohabiting unions, their duration, and their relationships to marriage and childbearing (e.g., Heuveline and Timberlake 2004; Kiernan 2001) has been linked to variation in policies, economic circumstances, and normative environments (Lesthaeghe 1995). Comparative studies have also provided important insights into the role that cohabitation plays in the family formation process, suggesting that cohabiting unions tend to function as an alternative to marriage in some societies but as a precursor to marriage in other societies (Heuveline and Timberlake 2004).

Japan has not been included in international comparisons of cohabitation although it is likely a rich source of insight with respect to the emergence of cohabiting unions and their role in the family formation process. As one of the few non-western countries characterized by very late marriage and lowest-low fertility, Japan provides an excellent opportunity to evaluate the generality of increasing nonmarital cohabitation. Until recently, available evidence suggesting that nonmarital cohabitation remains uncommon in Japan (Atoh 2001a) has presented an important challenge to the generality of a “package” of family changes associated with the second demographic transition (Lesthaeghe 1995). However, more recent studies demonstrating substantial increases in the prevalence of cohabitation in Japan (Iwasawa 2005; Tsuya 2006) provide seemingly powerful evidence for the universal importance of nonmarital cohabitation in low-fertility, late-marriage societies.

Japan also presents a valuable opportunity to examine how the role of cohabitation may depend upon linkages between marriage and childbearing. Unlike many low-fertility societies where nonmarital childbearing is common and often occurs within cohabiting unions, the

proportion of children born to unmarried mothers in Japan is negligible. Furthermore, limited socioeconomic differentials in earlier family change (Hodge and Ogawa 1991; Raymo 2003) and the relative homogeneity of the Japanese family life course (Brinton 1992) provide an important opportunity to evaluate the generality of subpopulation differences in the role of cohabitation in the U.S. and elsewhere (Manning and Landale 1996; Raley 1996).

Our objective in this paper is to advance our understanding of premarital cohabitation in Japan within the limitations of newly available, nationally-representative data. We begin by describing the prevalence of cohabitation experience, the mean duration of cohabiting unions, and the proportion of cohabiting unions that end in marriage. This basic information will allow for initial comparison of cohabiting unions in Japan with those in other countries and provide further basis for theorizing about contextual influences on the prevalence and characteristics of nonmarital unions in late-marriage, low-fertility societies.

We then estimate multivariate models for cohabitation experience, duration, and outcomes as a function of established covariates of cohabitation experience in the U.S. and elsewhere. Like cross-national studies, analyses of within-country heterogeneity have provided valuable insights into the meaning of cohabitation. In the U.S., racial, ethnic, and socioeconomic differences in the prevalence and nature of cohabiting unions suggest the importance of cultural differences (e.g., Manning and Landale 1996) and highlight the role of economic stability as a prerequisite for marriage (Smock, Manning, and Porter 2005). Do we observed similar patterns in Japan, where socioeconomic differentials in the family life course have been relatively limited but economic inequality at younger ages has increased in recent years (Ohtake 2005)?

Finally, we describe and compare the marriage and childbearing trajectories of women who have and have not cohabited. Studies exploring the relationships between cohabitation,

marriage, and childbearing in the U.S. have demonstrated that cohabitation is associated with an increased likelihood of premarital conception (and subsequent marriage) and that an increasing proportion of conceptions and childbirths occur within cohabiting unions (Kennedy and Bumpass 2007; Wu, Bumpass, and Musick 2001). Relationships between cohabitation and marriage timing may be particularly important in Japan where the trend toward later marriage, combined with negligible levels of nonmarital childbearing, has contributed to very low period fertility rates (Tsuya and Mason 1995). Recent increases in the proportion of marriages preceded by pregnancy (Raymo and Iwasawa 2007) also suggest that nonmarital conceptions may be an important mechanism linking cohabitation to marriage and fertility, particularly for women at the lower end of the socioeconomic spectrum.

## **Background**

### *Cohabitation prevalence, duration, and outcomes*

The prevalence, duration, and marital outcomes of cohabiting unions vary substantially across countries. The prevalence of cohabitation experience is particularly variable, ranging from over 80% in France to less than 10% in Italy.<sup>1</sup> Median duration of cohabiting unions ranges from over four years in France to just over one year in the U.S. and the proportion resulting in marriage exceeds 75% in several countries (e.g., Austria, Belgium, Finland) but is less than half in others (e.g., France and New Zealand).<sup>2</sup> This cross-national variation in the prevalence and nature of cohabiting unions is the basis for Heuveline and Timberlake's (2004) classification of countries

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<sup>1</sup> These figures refer to the life table proportion of women who have ever been in a cohabiting union by age 45 (Heuveline and Timberlake 2004).

<sup>2</sup> Median duration is the life table estimate of the duration at which 50% of cohabiting unions end in either marriage or dissolution (Heuveline and Timberlake 2004).

according to the role of cohabitation in the family formation process. They characterized cohabitation as an alternative (or equivalent) to marriage in societies such as France and Sweden where prevalence is high, duration is long, and the proportion resulting in marriage is relatively low. In countries like Austria and Finland where prevalence is high but average duration is short and a large proportion of unions result in marriage, they argue that cohabitation is better described as a precursor to marriage or a trial marriage. In other countries such as Italy, Poland, and Spain, the role of cohabitation is described as “marginal,” with normative sanctions and institutional penalties combining to limit cohabiting unions to a relatively small minority of couples (Heuveline and Timberlake 2004:1216). These broad classifications are informative and important but substantial within-country heterogeneity in the nature of cohabiting unions makes the process of classifying countries into a single category difficult and somewhat arbitrary. In the U.S., for example, most studies of cohabitation recognize that nonmarital unions are heterogeneous in nature with many serving as a precursor to marriage, others as an alternative to singlehood or dating, and some as an alternative to marriage (Casper and Bianchi 2002; Heuveline and Timberlake 2004).

Cross-national comparisons of cohabiting unions have not included Japan because the necessary data have not been available. Until recently, data on current and past cohabitation experiences were collected only from unmarried respondents to the Japanese National Fertility Surveys. These data indicate that the prevalence of cohabitation at any point in time has been very low, ranging from less than 1% of respondents in 1987 to about 2% in 2005. Similarly, relatively low proportions of unmarried men and women report having ever cohabited, ranging from 3% in 1987 to 8% in 2005 (National Institute of Population and Social Security Research 2007). The actual proportion that has cohabited is obviously higher but, without data from

married respondents, it has been impossible to ascertain how much higher. Nevertheless, these incomplete data do suggest that cohabitation continues to play a marginal role in family formation in Japan.

Japan would thus appear to challenge the purported generality of cohabitation as part of a package of family changes associated with the second demographic transition. This is particularly true in light of other significant changes in the family formation process that are potentially linked with cohabitation. These changes include the growing gap between earlier initiation of sexual activity (Japanese Association for Sex Education 2000) and later marriage (Raymo 2003; Retherford, Ogawa, and Matsukura 2001), increasing marital instability (Raymo, Iwasawa, and Bumpass 2004), changing attitudes about family and gender relations (Atoh 2001b), and widespread skepticism about the benefits of marriage (Tsuya, Mason, and Bumpass 2004). Japanese scholars have suggested several possible explanations for the relatively low prevalence of cohabiting unions including: the highly asymmetric gender division of household labor, limited evidence of an increase in individualistic attitudes, relatively limited opportunities for meeting potential partners, the high cost of establishing a temporary residence, as well as minimal financial, emotional, and normative incentives to leave the parental home before marriage (Atoh 2001a; Miyamoto, Iwakami, and Yamada 1997).

However, recent survey data which include married respondents indicate that the prevalence of cohabitation in Japan is substantially higher than previously believed. For example, one in five 24-34 year old female respondents to the first rounds of the Japanese Gender and Generations Survey and the Survey on Population, Family, and Generations reported that they had lived in a cohabiting union (Iwasawa 2005; Tsuya 2006).<sup>3</sup> This figure is twice as

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<sup>3</sup> Both of these surveys were conducted in 2004.



high as the proportions reported by respondents just 10 years older. This rapid increase in cohabitation presents a valuable opportunity to evaluate the generality of findings from other countries where cohabitation emerged earlier.

### *Correlates of cohabitation*

Like cross-national comparisons, studies of within-country variation in the prevalence and nature of cohabiting unions have provided important insights into the role of cohabitation in the family formation process. Several studies of cohabiting unions in the U.S. have shown that prevalence is higher among racial minorities, those with lower levels of education, less favorable economic circumstances, lower social class backgrounds, and who are less religious and have more liberal attitudes toward marriage and family (see Seltzer 2000 and Smock 2000 for reviews). Other studies have shown that cohabiting unions are longer in duration and less likely to result in marriage for blacks (Manning and Smock 1995) and couples with less stable economic circumstances (Smock and Manning 1997). Together, these results have been interpreted as evidence that cohabiting unions are more likely to function as alternatives to marriage among Blacks and those with more limited economic resources but as precursors to marriage or trial marriage among Whites and those with more favorable economic prospects. Because the large majority of Americans express a desire to marry eventually, these findings suggest that cohabitation may play a role in the differential realization of family goals. Furthermore, because cohabiting unions are less stable than marriage (Manning, Smock, and Majumdar 2004), racial and socioeconomic differentials in cohabitation may have implications for variation in the well-being of women and children (Avellar and Smock 2005; Raley, Frisco, and Wildsmith 2005).

Currently, we know very little about the correlates of cohabitation in Japan. Tsuya (2006) found that, as in the U.S., cohabitation is more common among those with less education.

Significant socioeconomic differentials in the prevalence and nature of cohabiting unions, in conjunction with evidence of increasing differentials in other family behaviors including shotgun marriage (Raymo and Iwasawa 2007), divorce (Raymo, Iwasawa, and Bumpass 2004), and married women's labor force participation (Kohara 2001), would represent an important departure from the homogeneity that characterized Japanese family behavior in the second half of the 20<sup>th</sup> century (e.g., Brinton 1992). This pattern is also potentially consistent with a more general emphasis on growing socioeconomic differentials in family behavior in industrialized countries (McLanahan 2004). Attitudes are another established correlate of cohabitation in the U.S. and elsewhere, but similar relationships have yet to be examined in Japan. Evidence of substantial change and variation in family related attitudes (Atoh 2001b) suggest that more liberal attitudes toward marriage, childbearing, and family behavior more generally may also be associated with a higher likelihood of unmarried cohabitation in Japan as well.

#### *Cohabitation, marriage, and fertility*

Efforts to understand the role of cohabitation and how it may differ across countries or population subgroups have focused on linkages of cohabitation with marriage and childbearing. Studies in the U.S. find an association between cohabitation and nonmarital conception (Brien, Lillard, and Waite 1999; Manning and Landale 1996) and demonstrate that first births are increasingly likely to occur within cohabiting unions (Carlson, McLanahan, and England 2004; Kennedy and Bumpass 2007). The fact that nonmarital conceptions are less likely to lead to marriage among Black and Hispanic women suggests that cohabitation more closely resembles an alternative to marriage among racial and ethnic minorities (Manning 2001; Manning and Landale 1996). Similar differences with respect to economic circumstances have also been interpreted as further evidence that the role of cohabitation as an alternative to marriage is

stronger among those in less stable economic circumstances whereas nonmarital unions more closely resemble a stage in the marriage process for those with higher socioeconomic status (e.g., Loomis and Landale 1994).

In Japan, the implications of delayed marriage and very low fertility for population aging and population decline are the subject of great social and political concern and have motivated several high-profile policy efforts to promote marriage and increase fertility rates. It is thus surprising that little scholarly or political attention has been devoted to premarital cohabitation and its potential impact on marriage and fertility. In the only previous study to address these relationships, Tsuya (2006) found that cohabitation is associated with higher rates of marriage and bridal pregnancy (i.e., shotgun marriage). In this paper, we extend Tsuya's (2006) research by using life table methods to simultaneously describe differences in marriage and childbearing patterns with respect to cohabitation experience and to examine how these relationships differ by educational attainment.

Existing research on the role of cohabitation in the family formation process in the U.S. and elsewhere, in conjunction with recent work on marriage and childbearing in Japan, suggests several ways in which family formation trajectories may differ by cohabitation experience. Of particular importance is the strong relationship between marriage and childbearing in Japan. Recent vital statistics data indicate that only 2% of births are registered to unmarried mothers while approximately one-in-four first marriages are preceded by pregnancy (Raymo and Iwasawa 2007). It may be that cohabitation hastens marriage by increasing the risk of pregnancy via more frequent sexual activity (Bachrach 1987) or less vigilant contraception. Alternatively, it may be that unanticipated pregnancy increases the likelihood of forming a cohabiting union prior to marriage and childbirth. The concentration of bridal pregnancy at the lower end of the

educational spectrum (Raymo and Iwasawa 2007) suggests that early marriage via cohabitation and premarital pregnancy should be more common among these women.

At the other end of the socioeconomic spectrum, distaste for the highly asymmetric gender division of labor and the associated opportunity costs of marriage have been linked to later marriage among women with higher education and higher earnings (Raymo 2003; Raymo and Ono 2007). This suggests that cohabitation may be associated with later marriage and fertility among these women to the extent that non-marital unions are perceived as relatively egalitarian arrangements (South and Spitze 1994); relationships that offer many of the benefits of marriage (e.g., coresidential intimacy, sexual access, economies of scale) without either the normative assumptions of long-term emotional and financial commitment or the legal barriers to dissolution that accompany marriage.

Documenting differences in the family formation patterns of those who have and have not cohabited is straightforward but it is very difficult to evaluate causal effects of cohabitation on marriage and childbearing. This is so because of both the complexity of the family formation process and the fact that men and women who form cohabiting unions differ systematically from those who do not with respect to characteristics such as religiosity, family attitudes, and relationship skills that are not typically ascertained in surveys (e.g., Clarkberg, Stolzenberg, and Waite 1995). Recognizing that cohabitation, marriage, and childbearing are interrelated components of an increasingly complex and heterogeneous family formation process in the U.S. and Europe, recent studies model the three processes simultaneously (Baizán, Aassve, and Billari 2003, 2004; Brien, Lillard, and Waite 1999; Musick 2006). These studies have found that observed relationships between cohabitation, marriage, and childbearing partly reflect unobserved factors, with those who are more likely to cohabit are also more likely to bear

children and to marry. Data limitations prevent us from adopting a similar approach but we evaluate results with these possibilities in mind.

## **Data and Methods**

### *Sample*

We use data from the 1<sup>st</sup> Survey on Population, Family, and Generations (SPFG), a nationally representative survey of 2,421 women aged 20-49. The SPFG was conducted in April 2004 by the Population Problems Research Council of the Mainichi Shimbun and had a response rate of 61%. The survey contained three questions about cohabitation experience. The first asked respondents if they had ever cohabited, with response options of “no,” “yes, in the past,” and “yes, currently cohabiting.” The second asked the length of the most recent (or ongoing) cohabiting union, with ten categorical response options ranging from “less than one month” to “five years or more.” The third asked respondents whether they married their most recent cohabiting partner or intend to marry their current partner.

### *Basic descriptive characteristics*

Using these data, we first construct measures of prevalence, duration, and outcomes similar to those presented by Heuveline and Timberlake (2004). The percent ever in a cohabiting union refers to both current and past unions, mean duration is a weighted average of the midpoints of the ten duration categories, and the percent ending in marriage refers to completed unions.<sup>4</sup> We provide tabulations of each of these characteristics by respondents’ birth cohort to describe

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<sup>4</sup> For the open-ended duration category (five or more years), we arbitrarily assign a value of seven years to calculate mean union duration. Because only seven percent of women with cohabitation experience reported unions of five or more years, results change little when we use alternative assumptions such as 5 or 10 years.

change over time. This basic information extends our empirical understanding of cohabitation in Japan and allows for comparison with other industrialized countries.

### *Correlates of cohabitation*

We then examine the correlates of cohabitation by estimating logistic regression models for cohabitation experience and cohabitation ending in marriage and a linear regression model for the duration of cohabiting unions.<sup>5</sup> In these models, we use available information to measure sociodemographic and attitudinal correlates identified in studies of cohabitation in the U.S. and elsewhere. We describe change over time using a six-category measure of *birth cohort* (1954-59, 1960-64, 1965-69, 1970-74, 1975-79, 1980-84) and evaluate socioeconomic differences with a four-category measure of *respondent's education* (high school or less, vocational school, junior college, university) and a dichotomous indicator of *nonstandard employment* (i.e., part-time employment and self-employment) in the first job after completing school. Differences with respect to socioeconomic background are evaluated using a measure of *father's education* (years of schooling plus a dichotomous indicator of missing values). Research on the U.S. suggests that cohabiting unions should be more common, longer, and less likely to result in marriage among women with lower education, non-standard employment, and less educated fathers.

The SPFG included several attitudinal questions and we include four of these in our models. We measure *family attitudes* with responses to questions about the degree to which respondents (dis)approve of (a) married couples having different last names and (b) same-sex

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<sup>5</sup> The number of observations lost as a result of nonresponse to the cohabitation questions was 23 in the model for cohabitation experience, 30 in the model for cohabitation duration, and 31 in the model for marital outcomes.

couples.<sup>6</sup> We measure *attitudes toward marriage and childbearing* with responses to questions about the degree to which respondents (dis)agree that (a) couples should marry if they get pregnant and (b) married couples should have children. For each of these questions, we treat responses as categorical. Related research on cohabitation in the U.S. suggests that women with more liberal family attitudes should be more likely to cohabit (Clarkberg, Stolzenberg, and Waite 1995), have longer unions, and be less likely to marry.<sup>7</sup>

### *Cohabitation and family formation*

Our ability to estimate relationships between cohabitation experience and marriage timing and parenthood is limited by the fact that the SPFG did not collect information on the beginning and end dates of cohabiting unions. Without information on the timing of transitions into and out of cohabiting unions, we are unable to model transitions into cohabiting unions and first marriages as competing risks or to treat cohabitation as a time-varying covariate in models of first marriage and first birth rates. In the absence of information required to examine entry into cohabiting unions, first marriage, and parenthood simultaneously, we treat cohabitation experience as a fixed characteristic and use life table methods to describe the family formation trajectories of women who did and did not live in a cohabiting union. Because it is not possible to link cohabiting unions to a specific marriage, we limit the sample to the 2,211 women who were

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<sup>6</sup> Japanese law requires spouses to have the same last name and in the vast majority of cases women take their husband's surname. The pros and cons of revising this law have received a good deal of political and media attention in recent years.

<sup>7</sup> Of course, we recognize that the experience of cohabitation may also influence family-related attitudes but the cross-sectional nature of the available data do not allow us say anything about the direction of relationships between cohabitation experience and attitudes.

never married or in their first marriage. Excluding cases with missing data on the year and month of first marriage or first birth (n=81) and educational attainment (n=7) as well as those who reported marrying before age 16 (n=5) or having a premarital birth (n=57) leaves us with an analytic sample of 2,061 respondents.

Because sample size is small (especially for women who have cohabited), we begin by estimating event-history models to generate predicted probabilities of first marriage and first marital birth. We do this by expanding the cross-sectional data into person-month form and estimating two sets of discrete-time hazard models via logistic regression. We first estimate the following competing-risks model for first marriage separately for women in each of the four educational categories:

$$\ln[p_{ijt}/(1-p_{i0t})] = \beta_1jDUR_i(t)+\beta_2COHAB_i+\beta_3ENROLL_{it},$$

where  $p_{ijt}$  is the probability that the  $i^{\text{th}}$  woman experiences first marriage type  $j$  ( $j$ =marriage prior to pregnancy, marriage subsequent to pregnancy) at time  $t$  and  $p_{i0t}$  is the probability of remaining never married. Exposure begins in the month of the respondent's 16<sup>th</sup> birthday and censoring occurs in the month of first marriage or the survey date. We define bridal pregnancy as cases in which the reported month of first birth occurs eight months or less after the reported month of marriage. Based on the results of preliminary analyses, time dependence is measured as a linear spline (DUR) with knots at ages 26 and 35.<sup>8</sup> COHAB is the dichotomous indicator of cohabitation experience and ENROLL is a time-varying indicator of school enrollment included to control for the rarity of marriage while still enrolled in school.<sup>9</sup> We use the estimated

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<sup>8</sup> For university graduates, the first knot in the duration spline is placed at 27 years old, the age at which observed marriage rates peak.

<sup>9</sup> In the absence of enrollment history data, we estimate the month of school completion by



coefficients from these models to calculate age-specific probabilities of marriage prior to pregnancy and marriage subsequent to conception, by cohabitation experience and educational attainment.<sup>10</sup> We then use these predicted probabilities to construct a total of eight first marriage tables (i.e., 2 categories of cohabitation experience x 4 categories of educational attainment).

We add information on the transition to parenthood in two steps. For women who married subsequent to pregnancy, we assume that first birth occurred at the same age as marriage. For all other women, we estimate a separate set of discrete-time hazard models for first birth following marriage. In these models, exposure begins in the eighth month after marriage and censoring occurs at first birth or the survey date. As in the marriage models, time-dependence is specified as a linear spline. Based on preliminary analyses, we use a spline with a single knot at four years after first marriage. These models also include the dichotomous indicator of cohabitation experience, control for age at marriage, and are estimated separately for women in each of the four educational categories. Estimated coefficients from these models allow us to generate predicted marriage duration-specific first birth probabilities by age at marriage, cohabitation experience, and educational attainment. We then apply these predicted probabilities to the predicted number of age-specific marriages from the marriage tables described above to generate the predicted numbers of first births by duration since marriage, age at marriage, cohabitation experience, and educational attainment. We present results as age-specific synthetic cohort proportions to experience bridal pregnancy, first marriage and first birth, and first marriage but not first birth.

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utilizing the formulaic determination of age at school entry and assuming no grade skipping or grade retention (Raymo 2003).

<sup>10</sup> We evaluate these probabilities for the 1965 birth cohort.

## Results

### *Basic descriptive characteristics*

In Table 1, we describe the prevalence, duration, and outcomes of cohabiting unions reported in the SPFG. The first row shows that 15% of the sample ever cohabited, that the mean duration of cohabiting unions was slightly less than two years, and that slightly more than half (58%) of completed unions resulted in marriage.<sup>11</sup> Tabulations by birth cohort show a substantial increase in cohabitation experience among women born after 1965. One in five women born in the 1970s (i.e., women age 24-34 at the time of the survey) reported ever living in a cohabiting union.<sup>12</sup> This figure is far lower than in the U.S. (Kennedy and Bumpass 2007) and most European countries (Kiernan 2001) but represents a substantial change in the family formation process in Japan. The low prevalence of cohabitation in the youngest cohort (born 1980-84) reflects the fact that these women were only age 20-24 at the time of the survey. Iwasawa (2005) finds that, controlling for exposure, the likelihood of cohabitation is highest among the youngest cohorts.

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<sup>11</sup> The proportion of completed cohabiting unions resulting in marriage will be biased upward to the extent that respondents have experienced multiple cohabiting unions. We suspect that serial cohabitation is uncommon in Japan but have no way of evaluating this assumption. It is also higher than would be the case if we limited the tabulations to women currently in their first marriage. It may be that post-divorce cohabitation is relatively common and that these unions have a relatively high likelihood of resulting in remarriage but we are not able to evaluate this possibility with the available data.

<sup>12</sup> This figure replicates Iwasawa's (2005) tabulations of these same data and is very similar to the figure calculated by Tsuya (2006) based on the first Japanese Gender and Generations Survey.

[Table 1 about here]

Mean duration is highest for women born in the late 1960s and the apparent decline in the length of cohabiting unions for cohorts born after 1970 reflects the relatively limited opportunity to experience cohabiting unions of five or more years.<sup>13</sup> The sharp decline in the proportion of completed unions resulting in marriage for cohorts born after 1975 reflects two different processes. The first is a matter of timing, with some of these younger cohorts reporting that they intend to marry, but have not yet married, their former cohabiting partner. It is also possible that there has been a real decline in the likelihood that cohabiting unions result in marriage.

In sum, the figures in Table 1 indicate that cohabiting unions in Japan are less common and shorter in duration but have a similar likelihood of resulting in marriage when compared with other countries included in recent cross-national studies. The classification scheme proposed by Heuveline and Timberlake (2004) suggests that cohabitation was a marginal experience for earlier cohorts of Japanese women but can be described as a prelude to marriage for women born after 1965. Given the high cost of establishing a temporary residence and the prevalence of extended coresidence with parents in Japan (Nishi and Kan 2007), this change represents seemingly powerful evidence that the emergence of nonmarital cohabiting unions is a universal feature of family change associated with the second demographic transition.

#### *Correlates of cohabitation*

In Table 2, we describe relationships between experience, duration, and results of cohabiting unions and the sociodemographic and attitudinal characteristics described above. Along with the distribution of covariates in column 1, we present exponentiated coefficients (i.e., odds ratios) from a logistic regression model of cohabitation experience (column 2), coefficients from a

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<sup>13</sup> Median duration is 15 months for all cohorts born between 1965 and 1979.

linear regression model of cohabitation duration (column 3), and odds ratios from a logistic regression model of cohabitation resulting in marriage (column 4).

Looking first at the likelihood of ever cohabiting (column 2), odds ratios for birth cohort describe the increase in cohabitation over time already presented in Table 1. As in earlier studies (Iwasawa 2005; Tsuya 2006), we find a strong relationship between educational attainment and cohabitation experience. Relative to high school graduates, the odds of cohabitation were less than half as high for women with at least a two-year college degree. There was no significant difference between high school graduates and vocational school graduates, suggesting that the common practice of collapsing vocational school graduates and junior college graduates into a single educational category may not be appropriate in studies of cohabitation.

[Table 2 about here]

The likelihood of cohabiting was positively related to non-standard employment following school completion but was not significantly related to father's education. Attitudinal variables were also related to cohabitation experience, with more liberal attitudes associated with a higher likelihood of having lived in a cohabiting union.<sup>14</sup> For example, women who were not opposed to spouses having different last names were much more likely to have cohabited relative to those who were strongly opposed. Similarly, the likelihood of cohabitation experience was higher for those not at all opposed to homosexual couples and those who disagreed that couples

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<sup>14</sup> We recognize that educational attainment and attitudes are correlated and have estimated models with and without the attitudinal variables. Because the estimated coefficients for education and other variables are similar in both sets of models, we present results for the full model only.

should marry if they get pregnant. Contrary to our expectations, the odds of cohabitation were lower among those who somewhat disagreed that married couples should have children.

The coefficients in column 3 indicate that, among those who have cohabited, union duration was shorter for daughters of more highly educated men and longer for women with more liberal attitudes toward different last names for spouses and marriage in response to pregnancy. Interestingly, cohabiting unions were shorter, on average, for the small proportion of women who strongly disagreed that married couples should have children. The results in column 4 indicate that cohabiting unions were less likely to result in marriage for women with more educated fathers and more liberal attitudes toward family arrangements and marriage in response to pregnancy. One exception was the relatively high likelihood that cohabiting unions result in marriage for those with neutral attitudes toward the importance of children for married couples.

#### *Relationships between cohabitation and first marriage*

Figures 1 and 2 present results from the life table analyses of first marriage and first childbirth. In Figure 1, we present the synthetic cohort proportions experiencing bridal pregnancy, both marriage and parenthood, and marriage but not parenthood by ages 25, 30, and 40.<sup>15</sup> These figures are based on the full sample. In Figure 2, we present cumulative probabilities of experiencing each outcome by age 30 for women in each of the four educational categories.

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<sup>15</sup> To adjust for educational differences in age at marriage and childbearing, we also examined the proportions experiencing marriage and parenthood by duration since school completion. Because conclusions regarding educational differences in the relationship between cohabitation and family formation trajectories were similar for both measures of time, we have chosen to present results by age. Results based on time since school completion are available on request.

Figure 1 shows that the cumulative probabilities of marriage and first birth were very similar for women with and without cohabitation experience. The proportion married was 3-5 percentage points higher for women who cohabited and the proportion with a first birth was 1-2 percentage points higher. The only notable differences are that women who cohabited were more likely to experience bridal pregnancy and also somewhat more likely to marry but not yet have a child. This suggests potential heterogeneity in the nature and role of cohabiting unions. To further explore this possibility, we compare results across educational categories.

[Figure 1 about here]

Figure 2 shows that the proportions married by age 30 are, in most cases, slightly (3-13 percentage points) higher for women who reported cohabiting. One exception is vocational school graduates, for whom the cumulative probability of marriage is three percentage points lower for those who cohabited. For high school graduates and junior college graduates, similarity in the proportion married masks differences in the pathway to marriage, with those who cohabited more likely to marry while pregnant. This is especially true for high school graduates – 20% of those who cohabited had experienced bridal pregnancy by age 30 compared to 11% of those who had not cohabited.

[Figure 2 about here]

For all educational groups, women who cohabited were more likely to marry but remain childless by age 30. This is particularly true among vocational school graduates for whom similarity in the proportion married reflects very different patterns of family formation through age 30. Among women who cohabited, the proportion of parents was substantially lower (.44 versus .61 among those who did not cohabit) while the proportion married but without children was twice as high (.27 vs. .13). To some extent, the relatively high proportion married but

without children reflects later marriage among cohabitators – the proportion of vocational school graduates married by age 25 (not shown) was .25 for those who did cohabit and .31 for those who did not. Among junior college and university graduates, the higher proportion married among those who had cohabited primarily reflects the higher likelihood of being married but without children. For university graduates, cohabitators were slightly more likely to experience each of the three family formation pathways and the difference in the cumulative probability of marriage by cohabitation experience was largest for this group (13 percentage points).

These patterns continue through age 40 (results not shown), with the cumulative probability of marriage higher among those who had cohabited for all educational groups and the largest difference (10 percentage points) observed among university graduates. Differences in the cumulative probability of first birth are generally smaller than those for marriage. For high school and junior college graduates, the most notable difference is the higher likelihood of bridal pregnancy among those who had cohabited. For vocational school and university graduates, the most notable difference is the relatively high proportion married but not yet having children among women who cohabited.

## **Discussion**

In contrast to the rapidly growing body of research on cohabitation in the U.S. (Seltzer 2000; Smock 2000) and Europe (Kiernan 2002), nonmarital unions have received extremely little attention in studies of family formation in Japan. This likely reflects the relatively low prevalence of cohabiting unions as well as the lack of suitable data with which to construct even the most basic demographic measures of cohabitation. In the absence of adequate information, it has been commonly assumed that cohabitation does not play a significant role in the Japanese setting. This is an important limitation given policy emphases on promoting marriage and

fertility in Japan as well as the potential relevance of the Japanese experience for evaluating the generality of findings from research on cohabitation in other low-fertility western societies.

This paper begins to fill this large gap in our understanding of the family formation process in Japan. Using one of the very few nationally representative sources of data on cohabitation, we have been able to examine trends in cohabitation and to provide evidence on the duration of cohabitation, the extent to which cohabiting partners marry each other, and linkages between cohabitation and family formation. We demonstrated that cohabitation has increased rapidly among recent cohorts of women and that cohabiting unions in Japan tend to be relatively short in duration and almost as likely to dissolve as to end in marriage.

We have also shown the correlates of cohabitation in Japan resemble those in the U.S., with lower educational attainment and more liberal family attitudes both strongly associated with cohabitation experience. Educational differentials suggest that, as in the U.S., cohabitation may serve as an alternative to marriage for couples without the economic resources deemed necessary for marriage. Unlike the U.S., however, the strong link between marriage and childbearing results in a relatively high proportion of shotgun marriages rather than nonmarital births among less-educated Japanese women in cohabiting unions. The fact that highly educated women are less likely to cohabit suggests that the perceived opportunity costs of nonmarital unions are high, either because they are seen as a precursor to marriage or as similar to marriage in terms of expectations regarding the division of household labor. The strong relationships liberal between family attitudes and the likelihood of cohabitation suggest the relevance of linkages between values and family behavior emphasized in discussions of the second demographic transition.

Our life table analyses indicated that family formation trajectories do not differ substantially with respect to cohabitation experience. Cohabitors married and became parents



somewhat earlier than those who did not cohabit but the magnitude of these differences was small. The most notable difference was in the pathway to family formation, with women who cohabited more likely to experience bridal pregnancy and more likely to delay childbearing within marriage. These two different patterns of family formation appear to be related to education, with the former most common among women at the lower end of the educational spectrum and the latter more pronounced among vocational school and university graduates.

Taken as a whole, these results suggest that cohabiting unions in Japan may be best viewed as an emerging stage in the marriage process rather than as an alternative to marriage or singlehood. It is important to keep in mind, however, that our analyses have not accounted for selection into cohabitation. To the extent that cohabitation is associated with unobserved characteristics that are also associated with the pace of marriage and childbearing, our life table analyses may obscure important influences of cohabitation on the family formation process. For example, if cohabitators are selectively comprised of women who are more likely to postpone marriage and childbearing for unobserved reasons, our results will understate the extent to which cohabitating is associated with earlier marriage and childbearing. Similarly, if cohabitators are selectively comprised of women who are more likely to marry and have children early, as appears to be the case in the U.S. and other low-fertility societies (e.g., Baizán, Aassve, and Billari 2003, 2004; Brien, Lillard, and Waite 1999; Musick 2006), our results will overstate the extent to which cohabitation is associated with earlier family formation. It is important to keep this issue in mind when interpreting results for a country such as Japan where cohabitation has increased but can still be described as a non-normative or innovative family arrangement.

In addition to the empirical regularity with which cohabitation has spread in other late-marriage, low-fertility societies, there are several reasons to expect further increase in the

prevalence of cohabiting unions in Japan. The first is the powerful role of social networks and diffusion processes. In light of evidence that half of adult Japanese know someone who has cohabited and that disapproval of cohabitation appears to be weaker than previously believed (Rindfuss et al. 2004), we suspect that normative barriers to cohabitation are waning. The SPFG survey provides more direct evidence of the potential for further increases in cohabitation. When asked if they would like to cohabit in the future, only a minority of never married respondents said no. One-third said yes while another one-fourth was unsure.

There are many limitations to this study that we hope can be addressed in subsequent research as the necessary data become available. The most important is the limited information collected on cohabitation in the SPFG, especially the absence of beginning and ending dates. As a result, we were unable to model cohabitation and marriage as competing risks or to treat cohabitation as a time-varying covariate in models of first marriage timing. By treating cohabitation experience as a fixed characteristic and using life table methods to compare the family formation trajectories of women who have and have not cohabited, we were able to work around these data problems but we obviously have not resolved them. Without information on the beginning and ending dates of all cohabiting unions, it was impossible to determine the temporal ordering of pregnancy and union entry. Furthermore, because we have information only on respondents' current marriage, we could not examine the relationship between cohabitation and first marriage timing for women who have separated from their first spouse. Finally, the absence of information on aborted pregnancies prevented an examination of the extent to which women in cohabiting unions are more likely than their unpartnered counterparts to legitimate premarital pregnancies. The collection of such missing but essential data should be a priority. Another important subject for future study is to extend research from the U.S. and

elsewhere on relationships between cohabitation experience and other marital outcomes such as divorce. Divorce in Japan has increased substantially in recent years (Raymo, Iwasawa, and Bumpass 2004) and the role of cohabitation (if any) in this trend remains unexplored. We are not aware of any source of currently available data appropriate for this kind of analysis.

We conclude by emphasizing that the results in this paper, along with evidence from related research on divorce (Raymo, Iwasawa, and Bumpass 2004) and bridal pregnancy (Raymo and Iwasawa 2007), highlight that conditions are not only “ripe for substantial change in family behavior in Japan” (Rindfuss et al. 2004:854) but also that substantial change is already underway. By taking advantage of the distinctive social, political, and economic context in which these changes are taking place, research on ongoing family change in Japan may provide a rich source of insight into the generality of patterns observed in the U.S. and other Western societies, as well as the ways in which local contexts shape the pace and nature of family change.

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Table 1: Cohabitation experience, duration, and outcomes, by birth cohort

	Prevalence of cohabitation experience (%)	Mean duration of cohabiting unions (months)	Percent of completed cohabiting unions resulting in marriage
Total	15	21	58
<i>Birth cohort</i>			
1954-59	10	22	64
1960-64	10	21	70
1965-69	17	26	62
1970-74	21	20	61
1975-79	21	21	40
1980-84	10	16	44

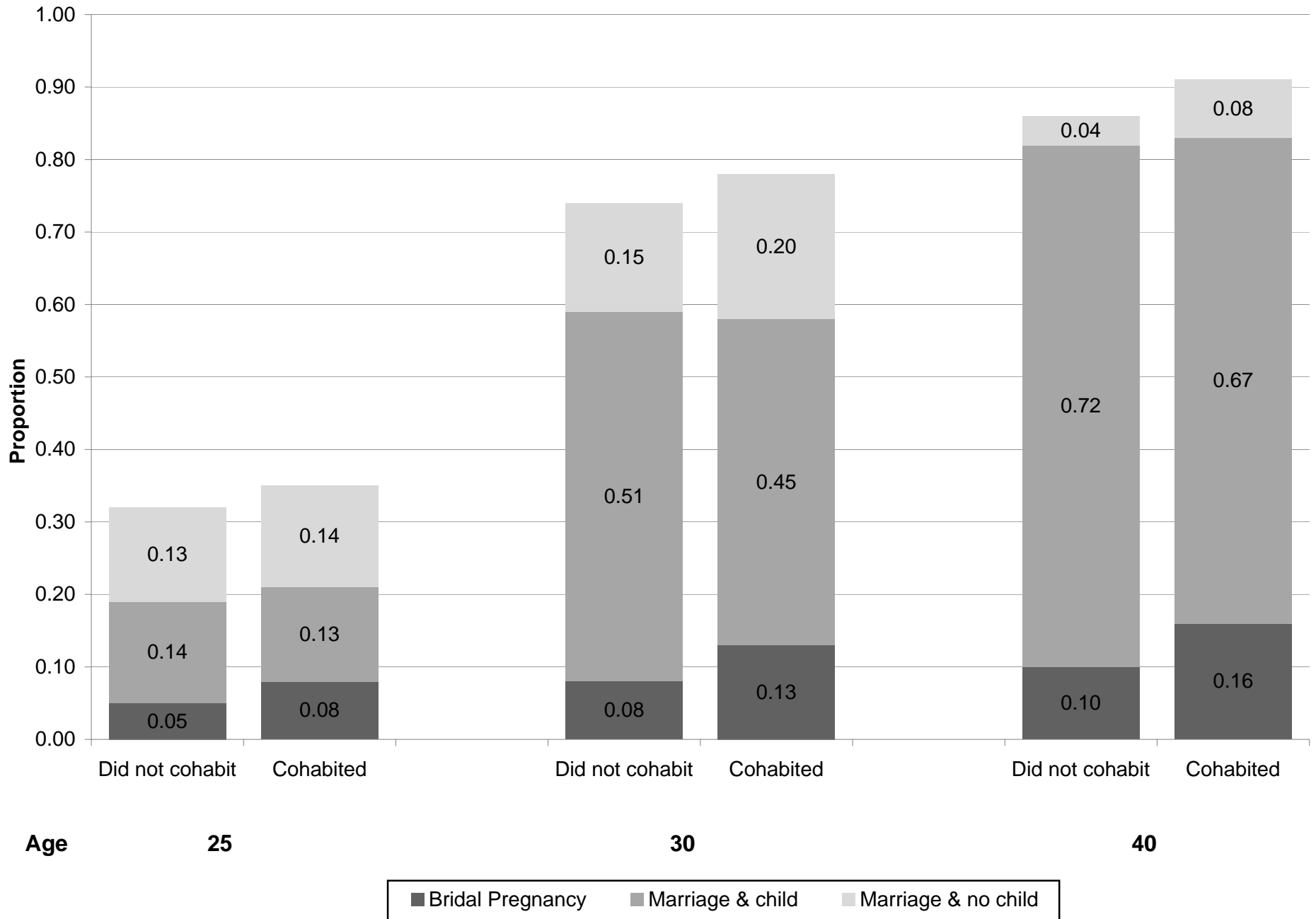
Table 2: Multivariate analyses of cohabitation experience, duration, and outcomes

<i>Variable</i>	Percent / Mean	Cohabitation experience (yes-no) <sup>a</sup>	Duration of cohabiting union (months) <sup>b</sup>	Completed cohabiting union resulted in marriage (yes-no) <sup>a</sup>
<i>Birth cohort</i>				
1954-59	20	1.00	0.00	0.00
1960-64	19	1.11	-2.98	1.45
1965-69	19	1.82 **	3.11	1.02
1970-74	18	2.41 **	-5.43	1.20
1975-79	15	2.18 **	-2.47	0.53
1980-84	9	0.76	-6.95	0.87
<i>Educational Attainment</i>				
High school or less (omitted)	44	1.00	0.00	1.00
Vocational school	17	0.77	0.32	0.66
Junior college	22	0.43 **	-3.95	0.95
University	17	0.44 **	-1.02	1.48
<i>Part-time/self-employed after completing school<sup>c</sup></i>	14	1.77 **	-0.93	1.08
<i>Father's educational attainment</i>		1.02	0.97 #	0.81 **
<i>Father's education missing<sup>c</sup></i>	4	0.92	1.07	2.31
<i>Attitudes toward different last names for spouses</i>				
Strongly opposed (omitted)	16	1.00	0.00	1.00
Somewhat opposed	35	1.39	6.61	0.36 #
Not very opposed	30	1.56 *	7.86 #	0.38 #
Not at all opposed	19	1.82 *	10.00 *	0.29 *
<i>Attitudes toward homosexual couples</i>				
Strongly opposed (omitted)	26	1.00	0.00	1.00
Somewhat opposed	35	1.05	-1.48	1.23
Not very opposed	26	1.34	-3.68	0.64
Not at all opposed	13	1.66 *	-5.49	0.36 *
<i>In the case of premarital pregnancy, it is best to marry</i>				
Strongly agree (omitted)	18	1.00	0.00	1.00
Somewhat agree	58	1.22	3.24	0.46 #
Somewhat disagree	20	1.84 **	8.84 *	0.32 *
Strongly disagree	3	1.97 *	9.50	0.47
<i>Married couples should have children</i>				
Strongly agree (omitted)	26	1.00	0.00	1.00
Somewhat agree	57	0.87	-6.78	2.76 **
Somewhat disagree	11	0.58 *	-6.50	3.48 *
Strongly disagree	6	0.80	-15.89 **	1.67
Constant			21.32 **	
n	2,398	2,267	336	311
(Pseudo) R <sup>2</sup>		0.07	0.09	0.16

\*\*p &lt; .01, \*p &lt; .05, #p &lt; .10

Notes: a) odds ratios from logistic regression model, b) estimated coefficients from ordinary least squares regression model, c) reference category is no.

**Figure 1: Life-table proportions married and having a first child, by age, and cohabitation experience**



**Figure 2: Life-table proportions married and having a first child by age 30, by cohabitation experience and educational attainment**

