Early marriage and subsequent economic well-being:
A U.S.-Japan comparison

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Abstract

In this paper, we examine relationships between early marriage and subsequent economic well-being in the U.S. and Japan. Using multiple rounds of nationally representative surveys, we estimate the extent to which early marriage is associated with couples' subsequent income and evaluate the extent to which this relationship may be mediated and/or moderated by educational attainment. Preliminary analyses show that marriage before age 23 is increasingly concentrated at the lower end of the educational spectrum in Japan, but not in the U.S. We find that early marriage is associated with substantially lower income, that this relationship is explained by the prevalence of early marriage among women with lower levels of educational attainment, and that early marriage is actually associated with higher subsequent income among women in the lowest educational categories. These preliminary results provide little reason to believe that socioeconomic differentials in early marriage contribute to observed increases in economic inequality.

Background

Much attention has been devoted to documenting and understanding the trend toward later marriage and less marriage in industrialized countries (Blossfeld ed. 1995; Cherlin 2004; Oppenheimer 1988; Retherford, Ogawa, and Matsukura 2001) but research on early marriage is far less common. This is an important limitation given that a substantial minority of Americans marry at young ages (Schoen, Landale, and Daniels 2007; Uecker and Stokes 2008) and that early marriage has been linked to a variety of less favorable outcomes including lower levels of educational attainment, economic well-being, and marital stability (Astone and Upchurch 1994; Booth and Edwards 1985; Teachman 1983).

In contrast to the limited attention to marriage at young ages, a substantial body of research on early childbearing has demonstrated that early parenthood is increasingly concentrated at the lower end of the socioeconomic spectrum (e.g., Ellwood and Jencks 2004) and has negative implications for subsequent well-being (e.g., Maynard 1996). Evidence that early marriage, like single parenthood, is concentrated among those with fewer socioeconomic resources and is associated with less favorable outcomes highlights the importance of increased attention to this pathway to family formation. In this paper, we develop and evaluate hypothesized linkages between early marriage and subsequent economic well-being in two distinct contexts – the United States and Japan.

Hypotheses

The simplest hypothesis is that lower levels of income later may simply reflect the selection of women (and men) with lower earnings potential into early marriage. Research on the implications of early childbearing suggests that selection explains at least part of the subsequent disadvantages faced by teen mothers (Gernonimus and Korenman 1992).

A second hypothesis emphasizes the difficulties of work-family balance at young ages when employment is often precarious and skill development is important (Oppenheimer, Kalmijn, and Lim 1997). It is clear that earnings are positively associated with marriage for men (Cohen 2002) but marriage appears less important than motherhood for understanding lower earnings of married women (Budig and England 2001). The implications for family income are thus ambiguous and we posit that early marriage

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will be more detrimental for subsequent economic well-being when wives contribute a greater share of family income and/or when early marriage tends to be accompanied by early childbearing. This hypothesis suggests that the relationship between early marriage and lower subsequent income should be most pronounced for men and women with the greatest earnings potential.

A third hypothesis is that early marriage contributes to less favorable economic circumstances via its association with marital dissolution. Research on the correlates of marital dissolution has consistently demonstrated that early marriage is associated with a higher risk of divorce (Bumpass, Castro Martin, and Sweet 1991; Lehrer 2006, Raley and Bumpass 2003). Large gender differences in the economic impact of divorce (Bianchi, Subaiya, and Kahn 1999) suggest that the economic implications of early marriage may be particularly pronounced for women. The increasing concentration of divorce at the lower end of the socioeconomic spectrum is well-documented (Martin 2006) but the potential role of early marriage in this trend has not been explored.

Cross-national differences

We evaluate these three hypotheses in two very different contexts – the U.S. and Japan. Just as comparative studies have played an important role in shedding light on the mechanisms underlying the trend toward later and less marriage (e.g., Blossfeld ed. 1995), comparative research may provide important insights into the prevalence, nature, and implications of early marriage.

For example, we expect that the first hypothesis emphasizing selection will be particularly important in settings where family alternatives to marriage are limited at young ages (true in Japan but not it in the U.S.). Similarly, we expect the second hypothesis emphasizing the opportunity costs of early marriage will be particularly important in settings where labor market returns to education are high (true in both the U.S. and Japan) and where women's contributions to couples' income is large and men's participation in housework and childcare is substantial (true in the U.S. but not Japan). We expect that the third hypothesis emphasizing the link between early marriage and divorce will be particularly important in settings where divorce is common (especially true in the U.S.) and where married women's labor force attachment is tenuous and opportunities to reenter the labor force are limited (especially true in Japan).

Data and methods

We use nationally representative data from the U.S. and Japan to describe change over time in educational differences in early marriage and to examine linkages between early marriage and subsequent economic well-being. Data for the U.S. come from the 1995 and 2002 rounds of the National Survey of Family Growth (NSFG) and data for Japan come from the 1992 and 2005 rounds of the National Fertility Survey (NFS). We conduct two sets of analyses. In the first, we construct marriage tables by educational attainment and birth cohort to provide a visually intuitive representation of educational differentials in early marriage and how they have changed across time and differ across the two countries. In the preliminary analyses presented here, we focus only on women but subsequent extensions will involve parallel analyses of data for men (available in the 2000 NSFG and in both NFS surveys).

In the second step, we estimate models for couple's income as a function of age and whether or not the respondent married early (before age 23). We estimate these models separately by survey year to examine change over time in the relationships of interest. In the preliminary results presented here, we have focused only on women currently in their first marriage. In subsequent revisions, we will include all women to evaluate the extent to which linkages between early marriage and divorce contributed to differences in equivalent household income (i.e., third hypothesis presented above). We will also estimate parallel models for men and will examine the extent to which the relationship between early marriage and subsequent income depends upon whether the marriage was accompanied by parenthood (i.e., shotgun marriage).

Results

Table 1 presents the predicted proportions of women marrying before age 23, by educational attainment for two birth cohorts (1950 and 1965) in Japan and the U.S. From these numbers it is immediately clear that the prevalence of early is much higher in the U.S. than in Japan and that, in both countries, early marriage is inversely related to education and has declined over time. More importantly, we see that the concentration of early marriage at the lower end of the educational spectrum has increased across cohorts in Japan but is unchanged in the U.S. To the extent that early marriage is associated with lower

subsequent economic well-being, the pattern of change observed in Japan may have important implications for trends in inequality.

Tables 2 and 3 present results of OLS regression models for couples' income as a function of early marriage. Looking first at the results for Japan (Table 2), Model 1 shows that early marriage is associated with significantly lower subsequent income, net of both wife's and husband's age. This magnitude of this difference is much larger in the more recent (2005) survey. Model 2 shows that the negative relationship between early marriage and subsequent income is due entirely to the concentration of early marriage among less educated women who earn less and marry men who earn less than their more educated counterparts. These findings are consistent with our first hypothesis. The third model indicates that the relationship between early marriage and depends on educational attainment. In 1992, early marriage is positively related to the subsequent income of high school graduates but not those with less than or more than a high school education. In 2005, early marriage is positively associated with the income of women with less than high school education (at $p < .10$) but is unrelated to the income of women with at least a high school education. These findings are not consistent with a scenario in which the increasing concentration of early marriage at the lower end of the socioeconomic spectrum exacerbates inequality.

Table 3 presents the corresponding results for women in the NSFG. As in Japan, the baseline model shows that early marriage is associated with significantly lower levels of subsequent income and the second model shows that this relationship is largely due to selection. Net of wife's and husband's education, early marriage is unrelated, on average, to subsequent income of the couple. Results are very similar for the 1995 and 2002 surveys. Results of model 3 indicate that the relationship between early marriage and subsequent income is positive for women at the low end of the educational spectrum, insignificant for women with high school or some college, and negative among college graduates. These results are consistent with our second hypothesis but, like the results for Japan, do not provide any reason to believe that trends in early marriage are related to observed trends in inequality.

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Table 1: Life table proportions of women experiencing early marriage, by birth cohort and educational attainment

	Japan		United States	
	1950 cohort	1965 cohort	1950 cohort	1965 cohort
Proportion by educational attainment				
Less than high school	0.35	0.29	0.73	0.49
High school	0.24	0.18	0.70	0.49
Junior college/vocational	0.11	0.07	0.60	0.41
University	0.03	0.01	0.29	0.23
Proportion relative to university graduates				
Less than high school	13.42	19.91	2.47	2.13
High school	9.18	12.17	2.38	2.14
Junior college/vocational	4.06	4.71	2.02	1.80
University	1.00	1.00	1.00	1.00

Table 2: Coefficients from OLS models of couples' income in Japan, 1992 and 2005

	1992 Model 1	2005 Model 1	1992 Model 2	2005 Model 2	1992 Model 3	2005 Model 3
Wife's age	6.63 **	6.78 **	10.43 **	8.07 **	10.42 **	8.06 **
Husband's age	19.95 **	18.17 **	15.38 **	14.30 **	15.38 **	14.39 **
Husband's age squared	-0.15 **	-0.15 **	-0.10 **	-0.12 **	-0.10 **	-0.12 **
Early marriage[a]	-27.82 **	-60.05 **	35.18 **	11.88	43.62 **	10.85
Wife's education[b]						
Less than high school			-107.58 **	-64.40 **	-111.14 **	-94.52 **
More than high school			71.24 **	81.65 **	79.79 **	82.30 **
Husband's education[b]						
Less than high school			-81.80 **	-39.24 *	-81.80 **	-40.85 **
Junior college/vocational			43.17 **	-1.36	43.50 **	-1.08
University			110.59 **	129.47 **	110.55 **	128.91 **
Wife's education x early marriage						
Less than high school x early marriage					-23.52	64.30
More than high school x early marriage					-24.14	-8.06
Constant	-139.06 **	-144.76 **	-245.05 **	-195.83 *	-247.95 **	-197.41 *
N	6,930	5,299	6,930	5,299	6,930	5,299
R^2	0.10	0.10	0.20	0.20	0.20	0.20

*p<.05, **p<.01

Notes: a - reference category is did not marry before age 23, b - reference category is high school

Table 3: Coefficients from OLS models of family income in the U.S., 1995 and 2002

	1995 Model 1	2002 Model 1	1995 Model 2	2002 Model 2	1995 Model 3	2002 Model 3
Wife's age	7.25 **	10.24 **	5.20 **	9.12 **	5.30 **	9.18 **
Husband's age	21.30 **	18.55 **	13.83 **	6.21	13.62 **	6.14
Husband's age squared	-0.24 **	-0.30 **	-0.14 **	-0.11	-0.14 **	-0.11
Early marriage[a]	-87.34 **	-77.76 **	-6.06	-2.09	1.38	3.56
Wife's education[b]						
Less than high school			-81.57 **	-81.77 **	-114.43 **	-111.51 **
Some college			46.29 **	30.32 *	58.44 **	27.67
College and more			164.75 **	168.41 **	178.74 **	186.37 **
Husband's education[b]						
Less than high school			-83.35 **	-88.15 **	-83.76 **	-87.49 **
Some college			47.72 **	69.85 **	48.34 **	70.95 **
College and more			139.35 **	169.34 **	138.78 **	169.85 **
Wife's education x early marriage						
Less than high school x early marriage					41.31 *	44.25
Some college x early marriage					-18.92	5.45
College and more x early marriage					-31.53	-59.18 *
Constant	-154.84 **	-75.71	-70.77	13.27	-75.53	8.31
N	5,677	3,330	5,677	3,330	5,677	3,330
R^2	0.10	0.08	0.33	0.30	0.33	0.31

*p<.05, **p<.01

Notes: a - reference category is did not marry before age 23, b - reference category is high school