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Bridal Pregnancy and Women's Educational attainment in South Korea

ABSTRACT

We examine relatively less explored areas of Korean marriage and family life by focusing on the change of bridal pregnancy (marriage preceded by pregnancy). We first demonstrate the trend of bridal pregnancy, its' association with education level, and finally present our speculations on possible causes of recent drop of bridal pregnancy by using recent four waves of pooled data on 25,886 ever married women in South Korea. We utilize a comparative perspective that allows us to compare with similar cases in other countries (i.e., United States and Japan) and found that bridal pregnancy in South Korea displays somewhat unique paths: (a) not concentrated among lower education like Japan but rather occurred all across education levels; (b) drops significantly in the 2000s. We discuss possible reasons that might explain the observed discrepancies or features based on the unique cultural and socio-economic context of South Korea.

INTRODUCTION

Marriage and family life has experienced dramatic changes since 1970 in South Korea; TFR was 4.53 in 1970, but it is 1.15 in 2009, the percentage of never married women in late 20's was only 9.7% in 1970, but it is 59.1% in 2005, and mean age at first marriage in 1981 was 26.4 and 23.2 for men and women, respectively, but it is 31.4 and 28.3 for men and women in 2008, and crude divorce rate in 0.4 in 1970, and it has gradually increased and it is 2.5 in 2009 (Byun 2010). More people are delaying marriage, divorcing more, and having a fewer children in South Korea. We have observed this similar pattern in the United States as well as most of industrialized countries. In the U.S., the median age at first marriage, for example, in 2008 was 27.4 and 25.6 for men and women, respectively, but it was 24.7 for men and 22 for women in 1980. Crude divorce rate rose from 2.2 in 1960 to 5.2 in 1980, and then dropped gradually to 3.6 in 2006. In this vein, the United States and South Korea seem to experience similar family formation transitions regarding marriage and divorce. They differ, however, considerably in one respect-- the link between family and childbearing (Lesthaeghe 1996). There has been increase in out of wedlock childbearing, and now 39.7% of all births in the United States occur to unmarried women including unpartnered unmarried women and partnered unmarried women (cohabitation) (Bumpass 1990, Cherlin 2010). However, South Korea seems to maintain the link between marriage and childbearing despite of increasing sexual activity at young age (Tsuya and Bumpass 2004).

Cohabitation is not common and is not considered as substitute or precursor to marriage yet in South Korea. Non-marital childbearing is also rare even though there is increased exposure to the risk of non-marital pregnancy due to increasing age at the first marriage and earlier initiation of sex. In turn, increase in non-marital conceptions might lead to the increase in bridal pregnancy (shotgun marriage) since there is still strong social norm that child should be raised by two married parents and high stigma toward single parenthood. Japan also has similar social norm toward non-marital childbearing like South Korea. Raymo and Iwasawa (2008) found that bridal pregnancy in Japan has been increased among 1970-1979, 1980-1989, and 1990-2002 marriage cohorts, and bridal pregnancy is more concentrated among low educated women. Will bridal pregnancy in South Korea show similar pattern like Japan? The answer might be "yes" or "no". One reason might be that women's education attainment has increased so dramatically in South Korea. In 1970-1979 marriage cohorts, 5% of women had college degree, but in 2000 marriage cohort, 32% of women had college degree. However, only 6% of Japanese women who married in 1970-1979 had college degree, and 14% of women who married between 1990 and 2002 had college degree(Raymo and Iwasawa 2008). It is not clear, however, whether bridal pregnancy in South Korea is also concentrated among low educated women like Japan since educational attainment among South Korean women has increased too quickly, thus there may not have been enough time to observe the educational effects on women's family behaviors that took places in the U.S.(Raymo and Iwasawa 2008).

Moreover, South Korea experienced economic hardship in late 1990s and early 2000s, and it is also worthy to add recent marriage cohort and see whether the trend of bridal pregnancy among recent marriage cohort is affected by this economic hardship. Several studies investigated how men's difficulty in career entry affects their marriage timing (Oppenheimer 1998). If men have hard time to find a stable

job, they might not get married even though their partner gets pregnant because of their unpreparedness and uncertainty.

It is one of the needy tasks of reporting the change of marriage and family life, and we will look at the recent trend of bridal pregnancy and its associations with women's education by marriage cohorts, by utilizing Raymo and Iwasawa's research framework. We also attempt to speculate the impact of economic hardships on bridal pregnancy. We will investigate these following research questions using data from 1997-2006 National Survey of Fertility and Family Health (NSFFH) of South Korea: 1) How the trend of bridal pregnancy in South Korea has been changed by marriage cohorts, does it increase or decrease? 2) How does the trend of bridal pregnancy among marriage cohort differ by women's educational attainment? does it concentrated among low educated women like Japan or not? 3) How does economic hardship in late 1990s and early 2000s affect bridal pregnancy trend among recent marriage cohort in South Korea?

METHOD

Data and Variables

We use a cross-sectional data of National Survey of Fertility and Family Health (NSFFH) collected by Korean Institute for Health and Social Affairs (KIHASA). The survey has been conducted every three year since 1991 and it collects information among ever married women about reproductive behaviors and fertility records over the past two and half years at the time of each survey. The survey includes partial histories of marriage (first marriage and current marriage), childbearing (first birth and last birth), and employment (employment before marriage, current employment) in addition to summary measures of fertility such as total number of pregnancies, live birth by sex, and living children by sex. Details on pregnancies during two and half years before survey were collected but full fertility record was not collected (Kim, 2004).

We utilize data from the surveys in recent four waves including 1997, 2000, 2003, and 2006. The sample represents the population of ever-married women aged 15 - 49. Pooling data from the four waves of survey, we only use the participants who entered their first marriage between 1970 and 2005, who report the timing and outcome of the first pregnancy and it provides us with a sample of 25,886 ever married women. For Small missing cases (less than 2% of the sample size) on other independent variables are treated with list-wise deletion.

Bridal pregnancy. We define this focal variable by selecting the cases in which the first child was born within the first 8 months of first marriage.

Education. Educational attainment is constructed as four dummy variables (less than high school graduation, high school graduation, some college/2 year college experiences, 4 year college graduation)

Marriage cohort. We constructed a semi-decadal measure of marriage cohort since 1970 (1970-1979, 1980-1989, 1990-1999, and 2000-2005).

Age at marriage. Three dummy variables (age 22 or younger, ages 23-25, age 26 or older)

RESULTS

Descriptive Statistics

[Table 1 about here]

In Table 1, we described sample characteristics of proportion of bridal pregnancy, age at first marriage, and education level by marriage cohort. Figures in bridal pregnancy shows steady increases over times that are considerably close to the ones recently reported in Japan (Raymo 2008) and in the United States in the 1950s, ranging from 16% in the 1970s to 17.6% in the 1990s. However, the figure drained to 11.7% since 2000s, which seems to be a huge contrast of what is happening in the neighbor country, Japan. Following rows that report the change of age at first marriage and educational level by marriage cohort vividly demonstrate the ground-breaking social and demographic change that took place over the three and half decades in South Korea. During this period, the proportion of age of marriage 22 or younger shrinks to one eighth (12.5%) while the corresponding figure of age of marriage 26 or older increased over twelvefold (1214 %). Educational level has also increased rapidly. During the 1970s, it is the group of less than high school graduates who took the majority (68%) and 4 year college graduates only constitutes 5% of the sample. In contrast, women who married during the 1990s demonstrates the reversed pattern in educational level, that is, less than high school graduates occupy only 6% of the sample while that of 4 year college graduate has increased to 23%, which is second highest group following high school graduate (43%). In the 2000s, the trend of educational boost for women continued where the lowest educational level constitutes less than 5% and highest educational level takes up more than 30%. In short, women in South Korea are delaying marriage and their educational attainment has increased so remarkably.

[Graph 1 is about here]

While it is impressive to observe such a rapid increase in women's education over a little longer than a single generation, we think it is important to consider the unique meaning or implication of those steep rise of education. As correctly indicated in previous research (Tsuya and Bumpass 2004), the rate of socioeconomic change took place in South Korea is almost unprecedented and it is reasonable to expect the effect of those changes on Korea are somewhat different than other industrialized country who faced the changes with much slower pace. In other words, it is possible that Korea might not share the expected effects of education on family and marriage life. The patterns reported in Japan and in the U.S. suggest that bridal pregnancy is increasingly concentrated among lower educational ladder in Japan and is more prevalent among low SES or minority population in the U.S. Either way, it is fair to claim that bridal pregnancy is more prevalent in some segments of population, particularly in socioeconomically lower strata. That said, we do not know yet whether bridal pregnancy is associated with women's education with a similar manner observed in Japan or in the U.S.. If Korea follows the path of these countries, we would expect that the marriage at age gap between education levels would widen as women in higher education end may take more time to take a full advantage of their educational benefits than their counterparts with lower education.

In order to gauge this issue, we use two areas. First, we graphed age at first marriage by marriage cohort and education level in graph 1. It is clear that age at first marriage has increased in all four education groups over the three and half decades. While the graph suggests that age at marriage has increased in each of the four education groups, it also demonstrates the pattern of increase is either parallel or slightly converging among education group over the study periods. The age gap between the lowest and the highest education group has decreased from 2.7 to 1.7 years. In the United States, however, college educated women are more likely to ever married, but they are more likely delaying marriage than less educated women, so there is growing educational gap in marriage rate and timing of marriage (Cherlin 2010). At this point, it is not clear what role education played for women in South Korea. Thus, we will investigate the how the bridal pregnancy is influenced by education and marriage cohort.

[table 2 is about here]

Multivariate Findings

Table 2 reports the results of logit model that estimates the log odds of bridal pregnancy and regressors are a series of dummy variables of education and marriage cohorts and two ways effects between them. Following the framework in Raymo and Iwasawa's piece, we transformed the logs odds into odds ratios in Panel A and probability in Panel B. In Panel A, the reported figures are education specific odds ratios and second marriage cohort served as a reference category. The figures in Panel B are the predicted probability of bridal pregnancy between marriage cohort and education level.

The results of both panels report the similar findings. Two distinguishable patterns emerged. First, with regard to the patterns that have been observed in Japan and the U.S., the odds of bridal pregnancy are either slightly increasing if not stagnant across all educational levels up until third marriage cohort. For high school graduates and 4 year college graduate, the chances of bridal pregnancy are increasing 18% and 22%, respectively from second marriage cohort to third marriage cohort. However, none are significant for participants of less than high school and some college. Recall that bridal pregnancy are highly concentrated and increased over time among participants of less than high school and high school graduates in Japan, this finding clearly contrasts with cases in Japan.

Second notable pattern is that all indicators of bridal pregnancy drop significantly since 2000 marriage cohort. Although statistically non-significant for less than high school (probably due to the extremely small cell size), the percentage of bridal pregnancy has dropped comparing to the second wedding cohort, 24%, 35%, and 23% for high school, some college, and college graduate, respectively—(waiting for the 2009 cycle data as it becomes available). This is, of course, a huge turnaround, and is also interesting to see that the frequency of drop takes places across all education groups. It suggests that there must have been a periodic event that has huge impact on marriage behaviors, if everything is being equal. On this matter, we might think the economic hardship occurred in almost all East Asia including South Korea between late 1990s and early 2000s. It might be possible that men's career entry difficulties in this period might promote delaying marriage because it involves considerable uncertainty associated with career immaturity affecting assortative mating. Economic hardship in South Korea in

early 2000s might make young men's career entry difficult and increase their uncertainty about their future career. This might also affect their marriage timing. However, it is not clear how this economic hardship might affect bridal pregnancy. Men might not get married even though their partner get pregnant because they do not sure about their future, but women might also not get married because they are not sure whether their partner will have stable career to support them and their future baby. Women might either choose to terminate their pregnancy or have a non-marital birth. In the end, it might decrease the frequency of bridal pregnancy in the period of economic hardship.

DISCUSSION AND FUTURE DIRECTION

Family in South Korea has experienced so many changes regarding increasing in age at first marriage, rising in divorce rate, and declining the number of children. However, there is still strong social norm about what family should look like. Thus, people expect to get married even the timing is delayed, and to have a child within marriage relationship even though fewer children are born and reared. This leads us to investigate how bridal pregnancy has been changed during three and half decades, and how this change might be differed by women's educational attainment. We found that there is slight increase in bridal pregnancy from 1970-1979 to 1990-1999 marriage cohorts, but we also see the sudden declines in bridal pregnancy among 2000-2005 marriage cohorts. Unlike Japan, bridal pregnancy has increased in all educational level even the magnitude of increase is slightly different by women's educational level. These result raise one important question: will the bridal pregnancy keep increase? Or decrease?

This is critical question to speculate whether South Korea follows the pattern of the United State or Japan in the future. If the bridal pregnancy is keep increasing after 2005 marriage cohort, it means that South Korea might keep strong social norm and stigma toward single parenthood, so more premarital pregnancy will be legitimated by marriage under assumption that premarital sex, abortion, and contraceptive use do not change. And we might also see a rapid increase in bridal pregnancy since bridal pregnancy has increased in all women's educational level. However, if bridal pregnancy stay at same level or increase little but still stay below than 1990-1999 marriage cohort, it imply either way of family formation change in South Korea. One might increase in non-marital birth that is not legitimated by marriage since premarital sex behavior might not change. It is possible that economic hardship might change people's marriage perception since it takes a long time to recover economic recession. Thus, we might see the similar pattern like the United State. Another way is that people (especially young unmarried) might start to use "highly effect contraceptive use" to avoid the premarital pregnancy. More young people might learn that it would be better to use contraceptive method instead of having a premarital pregnancy from their friends, relatives, or co-workers. Under this scenario, nonmarital fertility might not increase unlike the United State, but also bridal pregnancy might not increase either unlike Japan.

We plan to have one more new wave data (2009 NSFFH) within this year, so we can investigate how bridal pregnancy has been changed after economic hardship in South Korea. We will also investigate the effect of women's educational attainment on bridal pregnancy using quartile instead of degree attainment. Since having a less than high school degree in 1970-1979 marriage cohorts is totally

different meaning after 2000 marriage cohort, it will be better to use quartile instead of degree attainment to measure the effect of change in women's educational attainment.

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Table 1. Descriptive Statistics, by Marriage Cohort

	Marriage Cohort				
	1970-1979	1980-1989	1990-1999	2000-2005	total
Bridal Pregnancy	0.160	0.164	0.176 *	0.117 **	0.164
Age at first marriage					
22 years old and below	0.618 **	0.281	0.143 **	0.077 **	0.268
23 - 26 years old	0.327 **	0.478	0.388 **	0.235 **	0.399
26 years old and above	0.055 **	0.241	0.469 **	0.688 **	0.332
women's education					
Less than high school	0.676 **	0.284	0.057 **	0.020 **	0.242
High school	0.265 **	0.523	0.576 **	0.428 **	0.492
Some college/2 year college	0.014 **	0.052	0.133 **	0.236 **	0.091
4 year college	0.045 **	0.139	0.233 **	0.315 **	0.173
Total	4,290	9,794	9,691	2,111	25,886

* Different from 1980-1989 cohort at p<.05. ** Different from 1980-1989 cohort at p<.01.

Graph 1. Mean age of first marriage by educational attainment over marriage cohort

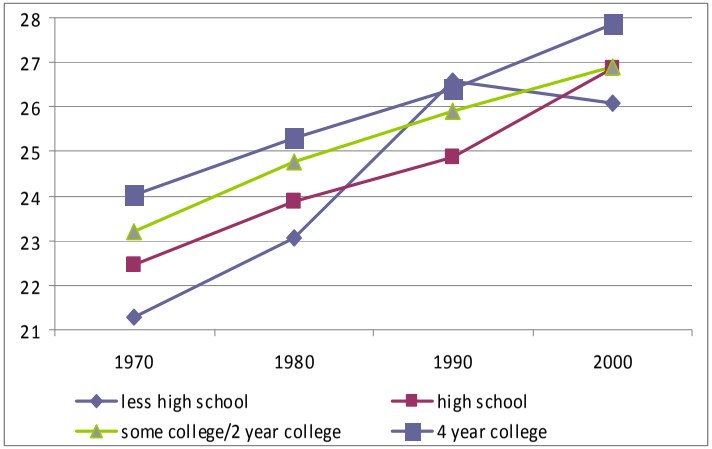

Table 2. Odds Ratios and Predicted Probabilities of Bridal Pregnancy, by Marriage Cohort and Educational Attainment

Panel A: Odds ratios

	Women's education			
Marriage cohort	less than high school	high school	some college /2 year college	4 year college
1970-1979	0.96	1.02	0.41 +	0.85
1980-1989	1.00	1.00	1.00	1.00
1990-1999	0.96	1.18 **	0.81	1.22 +
2000-2005	0.39	0.76 **	0.65 *	0.76 +

+ at p<.1, * at p<.05, and ** at p<.01 level, statistical differences from the second cohort (1980-1989), two tailed test

Panel B: Predicted probability

	Women's education			
Marriage cohort	less than high school	high school	some college /2 year college	4 year college
1970-1979	0.16 +	0.18	0.08 +	0.09 **
1980-1989	0.16 +	0.18	0.18	0.10 **
1990-1999	0.16 *	0.20	0.15 **	0.12 **
2000-2005	0.07	0.14	0.13	0.08 **

N=25,886, df=15, ch2=214.10

+ at p<.1, * at p<.05, and ** at p<.01 level, statistical differences from the second education group (high school)