JOURNAL OF ASIAN SOCIOLOGY
Volume 52 | Number 3 | September 2023, 167-190
DOI 10.21588/dns.2023.52.3.001 **Article**

Social Factors Affecting Timing of Conception/ Pregnancy and Marriage*

Yujin Kim | Kangwon National University

To better understand the link between marriage and childbirth, this study examines social factors affecting premarital conception leading to marriage, while considering the timing of marriage after conception. Using data from the 2007-2020 Korean Longitudinal Survey of Women and Families (n = 8,021) and employing multivariate logistic regression, this study finds that marriages resulting from premarital conception occur both before and after childbirth, with variations in the timing of marriage across birth cohorts. Older cohort women were more likely to get married immediately after childbirth, while younger ones tended to opt for bridal pregnancies. Additionally, women with an advantaged socioeconomic status and family backgrounds exhibited a reduced likelihood of premarital conception that leads to marriage, as compared to their socially disadvantaged counterparts. The findings imply that family formation and structure situations in Korea may work as a mechanism that exaggerates social inequality, similar to observations in the West.

Keywords: *premarital conception, conception after marriage, bridal pregnancy, social inequality*

*This research was supported by the Laboratory Program for Korean Studies of the Ministry of Education of the Republic of Korea and the Korean Studies Promotion Service at the Academy of Korean Studies (AKS-2021-LAB-223001).

Introduction

Despite rapid changes in family formation behaviors, including getting married for the first time at a later age, having fewer children, and the increased prevalence of divorce (Statistics Korea [KOSTAT] 2022a), it is likely that Koreans maintain a strong connection between marriage and childbirth (Kim and Lee 2018; B. Lee 2017). As non-marital births are relatively low in Korea, making up around 2% of overall births (KOSTAT 2022b), to examine the degree of relation between marriage and childbirth, previous studies have investigated the trend of bridal pregnancy (i.e., covering up premarital pregnancy by marrying before childbirth) and its variations by women's socioeconomic status (Kim and Lee 2018; B. Lee 2017). An upward trend in bridal pregnancies has been discerned across generations, with prevalence increasing from 16% within the marriage cohort of the 1970s to 20% among those in the marriage cohort of the 2000s. This upswing appears to be concentrated within socioeconomically disadvantaged groups (Kim and Lee 2018).

It is important to pay attention to when premarital pregnancy culminates in marriage; that is, before or after childbirth. Examining marriage that takes place soon after childbirth can serve as an alternative perspective to explore the intricate relationship between marriage and childbirth. Marriage taking place after a premarital pregnancy can be affected by women and their partners' socioeconomic status, family background, and personal and sociocultural circumstances at the time of pregnancy (S. Kim 2016). If women can cover-up their premarital pregnancy through marriage before childbirth, they are more likely to do so because of the negative stigma attached to non-marital births in Korea (Raymo et al. 2015). However, if women or their partners are not able to marry before their child is born, they may opt to marry even after having their child since Korea is known as a relatively "tight" society, having strong norms and a low tolerance of deviant behaviors (Gelfand et al. 2011; Uz 2015). Importantly, they may differ from those who have and raise children out of wedlock (J. Lee 2018; McLanahan and Sandefur 2009). In addition, the phenomenon of marriage soon after childbirth diverges from the Western context, where the prevalence of non-marital births has substantially increased while the occurrence of bridal pregnancies has declined (Bachu 1999; Michas 2022; Osterman et al. 2023).

It is also critical to examine whether premarital conception that leads to marriage is more likely to be observed among women of lower socioeconomic

status, and whether these women are more likely to opt to marry soon after childbirth. Recent studies in Korea have identified trends in various family behaviors that are consistent with the "diverging destinies" framework, which means that family formation may act as a mechanism for exacerbating social inequality for the next generation (K. Kim 2017a; McLanahan 2004; Raymo and Park 2021). For example, women with higher levels of education are less likely to divorce than less-educated women (Raymo and Park 2021), and divorce is highly related to the degree of resources available for children. Identifying whether a premarital conception leading to marriage is more likely to occur among socially disadvantaged women provides another opportunity to examine the diverging destinies framework in the Korean context.

This study aims to examine the social factors of premarital pregnancy leading to marriage by dividing them into categories based on the timing of marriage and comparing these categories with traditional family formation behavior, i.e., conception after marriage. In terms of social determinants, unlike previous studies (Kim and Lee 2018; B. Lee 2017) that mostly focused on women and their partners' socioeconomic status, this study considers women's family background, including parents' education, financial situation, and family structure during childhood.

Theoretical Background and Literature Review

Premarital Conception Leading to Marriage

The link between marriage and childbirth has weakened significantly over the last few decades in the West as the proportion of children born to unmarried mothers in the US increased from 18% in 1980 to 40% in 2021 (Michas 2022; Osterman et al. 2023). Unlike the West, Korea still maintains a robust connection between marriage and childbirth, and therefore, the proportion of children born to unmarried women remains low (KOSTAT 2022b) while the number of premarital conceptions leading to marriage has increased (Kim and Lee 2018; B. Lee 2017). According to social comparison theory, individuals often compare themselves to others to establish a sense of what is "normal" (Himsel and Goldberg 2003). In a place like Korea, renowned for its relatively "tight" society (Gelfand et al. 2011; Uz 2015), individuals continue to closely observe others and strive to conform to normative behaviors (Baldwin and Mussweiler 2018). This is substantially

related to rigid social norms regarding childbearing within the context of marriage: Even though people are getting married later and having fewer children than before, there is still an expectation that children should be raised by married parents (Kim and Lee 2018).

While examining the trend of premarital conception leading to marriage, the majority of studies in Korea have focused on bridal pregnancy, that is, covering up premarital pregnancy by marrying before childbirth (K. Kim 2017b; Kim and Lee 2018; B. Lee 2017). However, marriage as a means to conceal premarital conception may occur not only before but also after childbirth. The timing of marriage after premarital conception may be affected by personal situations and sociocultural context (S. Kim 2016). In a society with strong social pressure to raise children within the institution of marriage, individuals may still desire to be wed even after having a child.

Women may realize that they are unexpectedly pregnant after the early stages of pregnancy have passed, especially old cohort women who have received little sex education and have poor access to contraception but are exposed to premarital sex (Korea Institute for Health and Social Affirs [KIHASA] 2010). A few case studies have examined sexual activities and contraceptive usage among the unmarried women in their late teens and 20s who moved to cities to work in factories in the ’80s and ’90s, when Korea underwent rapid industrialization, urbanization, and educational expansion (Han and Park 1996; Kwon et al. 1996). These case studies found that approximately 80% of the women had no formal sex education, and approximately 20% to 30% of them engaged in premarital sex. In addition, only 10% used any type of contraceptive when they had sex for the first time, which increased the possibility of premarital pregnancy and recognition of pregnancy at a later stage. While today it is not surprising to meet couples who disclose that they have become pregnant prior to marriage, at that time, social tolerance of premarital pregnancy was very low (Han and Park 1996; Kwon et al. 1996). Therefore, unless women are at an early stage of pregnancy and able to conceal their condition for a wedding, they may probably postpone their wedding until their child is born.

In addition, women who marry soon after childbirth differ from single or cohabiting mothers who raise a child outside of marriage (J. Lee 2018). The starting point of marriage may depend on an individual’s perception of what marriage means: a wedding ceremony, co-habitation, or marriage registration (KIHASA 2021). According to the 2021 National Family and Fertility Survey, approximately 70% of respondents aged 30 or older thought that wedding ceremonies were the starting point of marriage, while only 10%

said that married life began upon the marriage being registered (KIHASA 2021). It is conceivable that women who marry soon after childbirth may postpone a wedding ceremony but still register their marriage before childbirth, while considering the wedding ceremony to be the starting point of their marriage. It is important to consider premarital pregnancy that leads to marriage, both before and after childbirth, to examine the link between marriage and childbirth.

Social Factors in Premarital Conception Leading to Marriage

In general, premarital conception leading to marriage is affected by two factors: a woman's socioeconomic status and her family background (England et al. 2012; K. Kim 2017b; Kim and Lee 2018; B. Lee 2017; Raymo and Iwasawa 2008). Regarding women's socioeconomic status, a large body of research has paid special attention to the association between education and the risk of premarital pregnancy. It has found that women who are more educated are less likely to become pregnant before marriage (Kim and Lee 2018; B. Lee 2017). Higher education may reduce the likelihood of premarital pregnancy, most likely as a result of greater access to effective contraceptive methods and a stronger motivation to avoid unintended or unplanned pregnancies (Frost and Darroch 2008). Higher education is closely related to women's career aspirations and labor market involvement; as such, women who are in stable jobs try to avoid paying higher opportunity costs associated with unexpectedly having a child at an early age (Ellwood and Jencks 2004; Finer and Henshaw 2006; Frost and Darroch 2008).

It is also likely that women's socioeconomic status is related to the timing of marriage after premarital conception, as well as the chance of premarital pregnancy. Unless a woman decides to terminate her premarital pregnancy through abortion, she is more likely to marry before giving birth if she can do so, since non-marital childbirth is not socially acceptable in the current Korean culture (Raymo et al. 2015). Women who are highly educated and/or have stable jobs are more likely to meet men of similar or higher socioeconomic status based on mating patterns (Park and Smits 2005), and therefore, have more resources to afford marriage before childbirth than those who are less educated and/or have unstable jobs.

As for family background, the level of education and economic resources of a woman's parents may lower the risk of premarital pregnancy because they will encourage their daughter(s) to pursue higher levels of education (McLanahan and Sandefur 2009; South 1999), helping them avoid early

sexual activity and unintended premarital pregnancy (Plotnick 1992). In addition, family disruptions during childhood (e.g., either living with a single parent or with other adults besides one's parents) may increase the risk of women conceiving premaritally because of lower levels of parental control and a lack of economic resources and emotional support, likely resulting in behavioral problems during adolescence, including early sexual debut (Hofferth and Goldscheider 2010; H. Kim 2016).

Most previous studies in Korea have paid attention to women's socioeconomic status but have not considered their family background. One study that considered both of these factors found that the mothers' education of women and family structure during childhood are significantly related to the chance of premarital or marital pregnancy compared to that of not having children. More specifically, as the education level of the mothers of these women are increasing, the likelihood of having marital or premarital birth decreases compared to those who do not conceive (K. Kim 2017b). However, being married without children is a relatively rare phenomenon among Korean women, especially those born before 1980, making up approximately 5% of cases (Park and Park 2021). Therefore, it is hard to say that this study accurately examined whether the disadvantages in women's socioeconomic status and family background predispose them to premaritally conceive, leading to marriage, instead of following traditional family formation by conceiving after marriage.

Data and Method

Data

This study draws data from the Korean Longitudinal Survey of Women and Families (KLoWF), which has been collected biannually from a nationally representative sample of 9,997 women aged 19-64 in 2007 (Korean Longutidual Survey of Women and Families [KLoWF] 2020). This study utilizes data from all waves spanning from 2007 to 2020 (first through eighth wave). Among the 9,997 women surveyed in 2007, 75 respondents who did not provide information about the date of their first marriage or childbirth in all waves were excluded. In addition, 535 women who were divorced or had their first child/marriage before the age of 18 were excluded. Divorced women were excluded because the KLoWF only provides information on their current husband. The analytical sample was further refined by excluding

unmarried women or married women without children. This process yielded a total of 8,021 married women who either conceived after marriage, had bridal pregnancies, or married soon after childbirth across all waves. Among these women, 6,216 conceived after marriage, 500 married soon after the birth of their first child, and 1,305 had bridal pregnancies.

Measures

The dependent variable, marriage and childbirth sequence, was categorized into three groups: conception after marriage, bridal pregnancy, and marriage soon after childbirth. To determine the marriage and childbirth sequence of KLoWF respondents, this study utilized information on the year and month of respondents' first marriage and first childbirth between the first and eighth wave of the survey. In addition, this study assumed that all conceptions occurred nine months prior to birth and that the pregnancies were taken to full term, implying that pregnancies ending in stillbirth or induced abortion were not considered. Similar to previous studies (Iwasawa and Kamata 2014; Uchikoshi and Mogi 2018), to avoid the honeymoon effect, this study defined "bridal pregnancy" as a woman's first childbirth occurring within seven months of her first marriage. Marriages that took place within 24 months of the first childbirth were categorized as "marriage soon after childbirth." The KLoWF does not provide information on whether women marry the biological father of their first child, but it is unlikely that women marry other men within 24 months of their first child's birth. It is also likely that the chances of marrying the biological father steadily increases until 24 months after the child's birth, and then the rate of increase slightly start to decrease (Manning 1993). Therefore, this study set the cut-off point as 24 months after childbirth. The estimation based on the current data revealed that approximately 80% of the women married within one year of childbirth. For the sensitive analysis, this study employed the same analysis, but with the cut-off point as 12 months after childbirth.

As for independent variables, this study considered women's socioeconomic status and family background, as these factors recognized as significant contributors to premarital conception leading to marriage (England et al. 2012; K. Kim 2017b; Kim and Lee 2018; B. Lee 2017; Raymo and Iwasawa 2008). Specifically, women's socioeconomic status, encompassing their educational level, educational assortative mating, and employment status at the time of their first marriage, were taken into account. Educational level has been measured using three categories: high school or below, two years of

college education, and four years of college education or above. The variable for educational assortative mating was created based on a husband's relative education from the standpoint of the wife, and was divided into three categories: homogamy, which refers to pairings in which the husband and wife have the same level of education (coded as 0); hypergamy, which refers to pairings where the wife has had less education than her husband (coded as 1); and hypogamy, which refers to marriage in which the wife has had more education than her husband (coded as 2). Employment status around the time of the first marriage is measured in two ways. For women who were already married at the time of the first survey, information on their employment status was collected from the period between six months before and six months after their marriage. For women who married between the second and eighth survey waves, employment status around the time of their first marriage was derived from the job history data provided in each wave, which provides detailed information on previous jobs, current jobs, and job changes. Based on this information, employment status at the time of a woman's first marriage was classified into four categories: regular, temporary, self-employed, and unemployed.

Next, family background was measured using parents' educational level, residential area, family structure, and financial situation as of the time the respondent was approximately 15 years of age. Parents' educational level was based on the highest level of education attained by either the father or mother, and had three categories: middle school or below, high school, and college education or above. The area of residence at 15 years of age was constructed using three categories: metropolitan areas, medium and small cities, and rural areas. Family structure has been measured based on the question, "Did you live with your parents when you were 15 years old?" If the woman lived with both parents at that age, it was coded as 1, and 0 otherwise (e.g., living with a single parent or with other adults besides her parents). Financial situation was also measured based on the question, "How was your family's financial situation when you were 15 years old?" There were five categories, ranging from very poor to very rich, 1 being very poor and 5 very rich. As for other covariates, women's ages in 2007 were categorized as being in their 30s or younger, 40s, 50s, or 60s. The age at the time of the first marriage and the age gap between couples were also taken into consideration.

Analyses

To examine the effects of explanatory variables on the link between marriage

and childbirth sequence, this study employed three sets of multivariate logistic regression models, comparing three categories of outcome variables individually: 1) bridal pregnancy vs. conception after marriage, 2) marriage soon after childbirth vs. conception after marriage, and 3) marriage soon after childbirth vs. bridal pregnancy. Model 1 includes the variables of age in 2007, age at the time of the first marriage, and the age gap between couples, which are related to demographic aspects of marriage. In Model 2, women's socioeconomic status, including educational level, employment status, educational assortative mating, are added to Model 1. This model examines the effects of women's socioeconomic status on marriage and childbirth sequence while taking into account control variables. Model 3 adds several family background variables based on conditions when the women were approximately 15 years of age to Model 2. This model aims to investigate the effects of both women's socioeconomic status and family background on marriage and childbirth sequence.

Results

Descriptive Statistics

Table 1 presents the weighted descriptive statistics of the variables for the three marriage and parenthood sequences in 2007. In the total sample, approximately 78% women conceived after marriage, and 22% conceived before marriage, of which 16% married before childbirth and 6% soon after childbirth. Age distribution differed according to the marriage and parenthood sequence. More than half of the women who conceived after marriage or had bridal pregnancies were in their 40s or younger in 2007, while approximately half of the women who married soon after childbirth were in their 50s or older. The age gap between couples were larger for women who married soon after childbirth (four years), compared to those in other groups (three years).

In addition, approximately 65% of the women had a high school degree or below, and 22% had a four-year college degree. Women who married soon after childbirth were most likely to be disadvantaged in terms of attaining higher education. Women who conceived after marriage were more likely to have a four-year college degree (25%) than women with bridal pregnancies (16%) or women who married soon after childbirth (8%). The educational assortative mating variable reveals that approximately 76% of couples were

made up of two people with the same level of education. About 19% had husbands with higher levels of education compared to their wives, while only 5% had wives with more education than their husbands. Interestingly, compared to women who conceived after marriage, those who married soon after childbirth were less likely to be educated and less likely to have husbands with higher education. Employment status at the time of a woman's first marriage also differed according to marriage and parenthood sequence. Women who married soon after childbirth were less likely to be employed in either regular or temporary jobs compared with those who conceived after marriage.

Regarding family background, women who conceived after marriage were more likely to have grown up in metropolitan areas (at 15 years of age), while those who married soon after childbirth were more likely to have grown up in rural areas. In terms of educational achievement by individuals' parents, women who married soon after childbirth were more likely to have parents with lower educational levels. The family structure of women at 15 years of age was similar across the three groups.

Table 1
Weighted Descriptive Statistics of Variables in 2007

	Total (n = 8,021)	Conception after marriage	Marriage soon after childbirth		Bridal pregnancy	
Marriage and parenthood sequence						
Conception after marriage	78.22					
Marriage soon after childbirth	5.88					
Bridal pregnancy	15.90					
Age in 2007						
30s or younger	42.36	43.57	20.53	***	44.50	
40s	27.55	27.60	24.36	***	28.49	
50s	19.11	18.43	33.59	***	17.09	
60s	10.98	10.40	21.53	***	9.92	+
Age at the time of 1st marriage (wife)	24.94	25.10	23.73	***	24.61	*
Age gap between couples	3.36	3.30	4.14	***	3.34	
Educational level						
High school or below	65.39	62.74	86.39	***	70.66	***
2 years of college	12.18	12.48	5.57	***	13.13	

4 years of college or above	22.44	24.78	8.04	***	16.22	***
Educational assortative mating						
Homogamy	75.62	75.17	87.20	***	73.53	
Hypergamy	19.31	19.89	10.50	***	19.70	
Hypogamy	5.07	4.93	2.30	**	6.77	**
Employment status at the time of 1st marriage						
No employment	52.25	50.21	72.83	***	54.73	*
Regular employment	38.71	40.38	21.36	***	36.93	*
Temporary employment	5.55	5.82	2.38	**	5.38	
Self-employment	3.48	3.59	3.43		2.96	
Family background at around 15 years of age						
Residential area						
Metropolitan area	32.00	34.08	18.40	***	26.79	***
Medium and small cities	21.95	22.03	19.27		22.58	
Rural area	46.05	43.89	62.34	***	50.64	**
Family Structure (lived with both parents)	88.53	88.59	87.63		88.60	
Parents' educational level						
Middle school or below	69.56	67.65	84.83	***	73.33	~
High school	21.27	22.16	10.14	***	21.03	
College or above	9.16	10.19	5.03	**	5.64	***
Financial situation (1~5)	3.22	3.21	3.37	***	3.24	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$
Reference for the significance test (2 tailed t-test): conception after marriage

To further examine the association of age with marriage and parenthood sequence, Table 2 presents a weighted cross-tabulation of the two variables. Contrary to expectations, premarital conception leading to marriage is more likely to occur among older cohort women, while bridal pregnancy is more likely to occur among younger. More specifically, approximately 20% of the women in their 40s or younger conceived out of wedlock, leading to marriage, with approximately 16% marrying before childbirth, that is, bridal pregnancy. On the other hand, approximately 25% of women in their 50s or 60s conceived prior to marriage, with 14% marrying soon after childbirth, and 10% before childbirth. This demonstrates the importance of considering

Table 2
Weighted Cross Tabulation between Age and Marriage and Parenthood Sequence

	30s or younger	40s	50s	60s
Conception after marriage	80.45	78.37	75.45	74.11
Marriage soon after childbirth	2.85	5.19	10.33	11.52
Bridal pregnancy	16.7	16.44	14.22	14.37

premarital conception leading to marriage before and after childbirth, when examining the link between marriage and childbirth, especially among older cohort women.

Social Factors in Premarital Conception Leading to Marriage

The three models in Table 3 examine the effects of social factors on the possibility of having a bridal pregnancy compared to that of conceiving after marriage. The results from Model 1 show that women became less likely to have bridal pregnancies as they age, suggesting that bridal pregnancies are more likely to occur among younger cohorts of women, which aligns with the findings of previous studies (Kim and Lee 2018; B. Lee 2017). In addition, women with bridal pregnancies were more likely to marry at a younger age compared to women who conceive after marriage.

Model 2 examines the effect of women's socioeconomic status on the odds of bridal pregnancies while taking into account control variables. Women with a college degree or above were less likely to have a bridal pregnancy than those with high school diploma or below. For example, women with a four-year college degree or above were about 45% less likely to have a bridal pregnancy compared to women with a high school degree or below. In addition, women with higher education than their husbands were more likely to have bridal pregnancies than women with the same levels of education as their husbands. Furthermore, women with regular employment were less likely to have bridal pregnancies than those who were unemployed. However, women with other types of employment did not show significant differences from those without employment in terms of having bridal pregnancies.

Model 3 adds family background to Model 2, and the results demonstrate that residential area, parents' educational level, and financial situation significantly affect the odds of having a bridal pregnancy. Women who grew

Table 3
Results from Multivariate Logistic Models Predicting the Odds of Bridal Pregnancy compared to Conception after Marriage (n = 7,521)

Variables	M1		M2		M3	
	Coef	OR	Coef	OR	Coef	OR
Age in 2007 (Ref. 30s or younger)						
40s	-0.068	0.93	-0.168*	0.85	-0.167*	0.85
	(0.07)		(0.08)		(0.08)	
50s	-0.314***	0.73	-0.500***	0.61	-0.502***	0.61
	(0.09)		(0.10)		(0.10)	
60s	-0.447***	0.64	-0.652***	0.52	-0.654***	0.52
	(0.12)		(0.13)		(0.13)	
Age at the time of 1st marriage	-0.058***	0.94	-0.040***	0.96	-0.038***	0.96
	(0.01)		(0.01)		(0.01)	
Age differences between couples	-0.001	1.00	-0.002	1.00	-0.002	1.00
	(0.01)		(0.01)		(0.01)	
Educational level (Ref. high school or below)						
2 years of college			-0.302**	0.74	-0.293*	0.75
			(0.11)		(0.12)	
4 years of college or above			-0.590***	0.55	-0.534***	0.59
			(0.10)		(0.11)	
Educational assortative mating (Ref. homogamy)						
Hypergamy			-0.152+	0.86	-0.152+	0.86
			(0.09)		(0.09)	
Hypogamy			0.612***	1.84	0.593***	1.81
			(0.14)		(0.14)	
Employment status at the time of 1st marriage (Ref. no employment)						
Regular employment			-0.152*	0.86	-0.137+	0.87
			(0.07)		(0.07)	
Temporary employment			-0.171	0.84	-0.165	0.85
			(0.15)		(0.15)	
Self-employment			-0.119	0.89	-0.114	0.89
			(0.18)		(0.18)	

Family background at the age of 15 years				
Residential areas (Ref. metropolitan areas)				
Medium and small cities			0.240**	1.27
			(0.09)	
Rural areas			0.234**	1.26
			(0.08)	
Parents' educational level (Ref. middle school or below)				
High school			0.109	1.11
			(0.09)	
College or above			-0.344*	0.71
			(0.16)	
Financial Situation			-0.072*	0.93
			(0.04)	
Family structure (lived with both parents)			0.087	1.09
			(0.10)	
Constant	-0.020	-0.166	-0.184	
	(0.29)	(0.29)	(0.33)	

Note. Standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Ref.: reference category, OR: odds ratios, Coef: coefficients

up in metropolitan areas, had parents with college degrees or above, or lived in financially affluent families were less likely to have bridal pregnancies. This suggests that women from advantaged family backgrounds are more likely to adhere to traditional family behaviors, such as conception after marriage.

Models in Table 4 examine the influence of social determinants on the likelihood of marrying soon after childbirth compared to having a conception after marriage. Unlike in bridal pregnancies, Model 1 shows that the odds of marrying soon after childbirth increased as women age, especially for those in their 50s or older. This suggests that older cohort women are more likely to marry soon after childbirth compared to younger ones. Moreover, the age gap between couples was also larger for women who married soon after childbirth than for those who conceived after marriage.

Similar to bridal pregnancy, however, Model 2 shows that women's educational level is an important factor in lowering the odds of marriage soon after childbirth. For example, women with a four-year college degree or

above were 40% less likely to marry soon after childbirth compared to women with a high school degree. In addition, women with lower education than their husband were less likely to marry soon after childbirth compared to women with the same levels of education as their husbands. Moreover, women who have regular or temporary jobs had lower odds of marrying soon after childbirth compared to unemployed women. Additionally, the results of Model 3 show family background to have no significant effects on the likelihood of marrying soon after childbirth after taking into account control variables.

Table 4
Results from Multivariate Logistic Models Predicting the Odds of Marriage soon after Childbirth compared to Conception after Marriage (n = 6,716)

Variables	M1		M2		M3	
	Coef	OR	Coef	OR	Coef	OR
Age in 2007 (Ref. 30s or younger)						
40s	0.528***	1.70	0.271+	1.31	0.246+	1.28
	(0.14)		(0.14)		(0.15)	
50s	1.125***	3.08	0.683***	1.98	0.653***	1.92
	(0.13)		(0.15)		(0.15)	
60s	1.285***	3.61	0.798***	2.22	0.764***	2.15
	(0.16)		(0.17)		(0.17)	
Age at the time of 1st marriage	-0.020	0.98	0.008	1.01	0.011	1.01
	(0.02)		(0.02)		(0.02)	
Age differences between couples	0.038*	1.04	0.036*	1.04	0.036*	1.04
	(0.02)		(0.02)		(0.02)	
Educational level (Ref. high school or below)						
2 years of college			-0.450+	0.64	-0.447+	0.64
			(0.24)		(0.24)	
4 years of college or above			-0.946***	0.39	-0.940***	0.39
			(0.20)		(0.21)	
Educational assortative mating (Ref. homogamy)						
Hypergamy			-0.463**	0.63	-0.447**	0.64
			(0.16)		(0.16)	
Hypogamy			0.013	1.01	0.021	1.02
			(0.35)		(0.35)	

Employment status at the time of 1st marriage (Ref. no employment)					
Regular employment		-0.358**	0.70	-0.345**	0.71
		(0.12)		(0.12)	
Temporary employment		-0.629*	0.53	-0.621*	0.54
		(0.30)		(0.31)	
Self-employment		-0.198	0.82	-0.202	0.82
		(0.27)		(0.27)	
Family background at the age of 15 years					
Residential areas (Ref. metropolitan areas)					
Medium and small cities				0.222	1.25
				(0.16)	
Rural areas				0.199	1.22
				(0.14)	
Parents' educational level (Ref. middle school or below)					
High school				-0.130	0.88
				(0.17)	
College or above				0.242	1.27
				(0.25)	
Financial Situation				0.011	1.01
				(0.05)	
Family structure (lived with both parents)				-0.085	0.92
				(0.15)	
Constant	-2.820***	-2.849***		-3.089***	
	(0.46)	(0.45)		(0.52)	

Note. Standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Ref.: reference category, OR: odds ratios, Coef: coefficients

The last three models in Table 5 examine the relationship between social determinants and the likelihood of marrying soon after childbirth compared to that of having a bridal pregnancy. The results reveal that older cohort women had higher odds of marrying soon after childbirth than their younger counterparts. For example, women in their 60s or older were about five times as likely to marry soon after childbirth compared to women in their 30s or younger. In addition, women marrying soon after childbirth were more likely to have larger age gaps with their husbands.

Model 2 shows that women's education has marginal effects on the

timing of marriage after premarital conception. Women with four years of college education were less likely to marry after their childbirth instead of before it compared to women with a high school degree. Furthermore, women with lower education than their husbands were less likely to marry soon after childbirth, indicating that men with higher socioeconomic status than their wives are more likely to marry before childbirth. Women's employment status around the time of their first marriage also had marginal effects on the possibility of marrying soon after childbirth. This suggests that women with regular jobs are less likely to marry soon after childbirth than those without jobs. The final model indicates some marginal effects of family background on the likelihood of marrying soon after childbirth. In the sensitivity analysis, the cut-off point for marriage timing after childbirth was lowered to 12 months and the same analysis as presented in Table 4 and Table 5 was conducted. The results remained consistent and robust.

Table 5
Results from Multivariate Logistic Models Predicting the Odds of Marriage soon after Childbirth compared to Bridal Pregnancies (n=1,805)

Variables	M1		M2		M3	
	Coef	OR	Coef	OR	Coef	OR
Age in 2007 (Ref. 30s or younger)						
40s	0.583***	1.79	0.447**	1.56	0.393*	1.48
	(0.15)		(0.16)		(0.16)	
50s	1.406***	4.08	1.179***	3.25	1.156***	3.18
	(0.15)		(0.16)		(0.17)	
60s	1.681***	5.37	1.409***	4.09	1.368***	3.93
	(0.18)		(0.20)		(0.20)	
Age at the time of 1st marriage	0.025	1.03	0.042*	1.04	0.044*	1.05
	(0.02)		(0.02)		(0.02)	
Age differences between couples	0.038*	1.04	0.037+	1.04	0.037+	1.04
	(0.02)		(0.02)		(0.02)	
Educational level (Ref. high school or below)						
2 years of college			-0.156	0.86	-0.150	0.86
			(0.26)		(0.26)	
4 years of college or above			-0.399+	0.67	-0.418+	0.66
			(0.22)		(0.23)	

Educational assortative mating (Ref. homogamy)				
Hypergamy	-0.347*	0.71	-0.346+	0.71
	(0.17)		(0.18)	
Hypogamy	-0.565	0.57	-0.556	0.57
	(0.37)		(0.37)	
Employment status at the time of 1st marriage (Ref. no employment)				
Regular employment	-0.242+	0.78	-0.230+	0.79
	(0.14)		(0.14)	
Temporary employment	-0.541	0.58	-0.543	0.58
	(0.33)		(0.33)	
Self-employment	-0.176	0.84	-0.228	0.80
	(0.31)		(0.31)	
Family background at the age of 15 years				
Residential areas (Ref. metropolitan areas)				
Medium and small cities			-0.015	0.99
			(0.18)	
Rural areas			0.027	1.03
			(0.16)	
Parents' educational level (Ref. middle school or below)				
High school			-0.267	0.77
			(0.19)	
College or above			0.493+	1.64
			(0.29)	
Financial Situation			0.072	1.07
			(0.06)	
Family structure (lived with both parents)			-0.314+	0.73
			(0.17)	
Constant	-2.471***	-2.498***	-2.730***	
	(0.52)	(0.52)	(0.60)	

Note. Standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Ref.: reference category, OR: odds ratios, Coef: coefficients

Discussion and Conclusion

Although the chance of having a premarital pregnancy in Korea has increased over the last few decades due to increases in age at marriage and non-marital sex, the vast majority of births still occur within marriage (KOSTAT 2022b). This suggests that more couples may be choosing to wed after experiencing a premarital pregnancy (Kim and Lee 2018; B. Lee 2017) because the strong link between marriage and childbirth remains. However, to confirm this link, it is necessary to examine not only marriage before childbirth but also marriage after childbirth, as the timing of marriage after premarital conception is affected by women's personal and social context at the time of their pregnancy. As such, this study examined the social factors influencing premarital conception leading to marriage while considering the timing of marriage after premarital conception. The findings can be summarized as follows.

First, marriage due to premarital conception occurs both before and soon after childbirth, and birth cohort variations exist in the timing of marriage. Similar to previous studies (Kim and Lee 2018; B. Lee 2017), bridal pregnancies were found to be more likely among younger cohort women. However, if marriage soon after childbirth is considered, older cohort women were more likely to marry, owing to premarital conception, immediately after childbirth than before. This may imply that women from older cohorts may be more inclined to adhere to social norms prevalent at that time in Korea's relatively "tight" society by choosing to marry even after giving birth to a child.

This may be also because unlike older cohort women, younger cohort women may recognize their unplanned pregnancy at an early stage due to increased access to effective sex education, allowing them enough time to "legitimize" their premarital conception through marriage. Korean schools emphasized abstinence-only sex education until the '80s, and the Ministry of Education started the use of sex education guidance materials to train teachers and endeavored to develop sex education appropriate for primary and secondary school levels beginning in 1984 (Oh 2007). In addition, because of the very low birth rates and increasingly liberal attitudes toward premarital sex in recent years (Hwang and Chung 2012), there may be changes in Korea's social atmosphere that are more tolerant of premarital conception when it comes to getting married. This implies that younger cohort women may feel less pressures to hide their premarital pregnancies. However, women in older cohorts may have found it difficult to reveal their premarital

pregnancies due to traditional social norms at that time (Han and Park 1996; Kwon et al. 1996). For that reason, these women may have chosen to have the baby first and marry later if they were not able to hide their condition at the wedding ceremony.

Second, women's socioeconomic status and family characteristics have enduring effects on the possibility of having a premarital conception leading to marriage. Compared to women who conceived after marriage, women with bridal pregnancies or those who married soon after childbirth were less likely to have a four-year college degree, be employed in a regular job, and/or marry men with a similar level of education to themselves. This implies that women with a four-year college degree and/or regular job may have stronger motivations to avoid premarital pregnancy, since sudden childbirth in the early stages of their career increases the possibility of them having to leave the labor market. Indeed, Japanese women with bridal pregnancies are more likely to quit their jobs after marriage than are women who conceive after marriage (Iwasawa and Kamata 2014). In addition, men with higher educational levels than their wives tend to have fewer instances of premarital pregnancy and are less likely to marry after childbirth when a premarital pregnancy occurs. This indicates that the socioeconomic status of not only the woman but that of the man as well influences the chance of premarital pregnancy and the timing of marriage.

Lastly, women with bridal pregnancies were more likely to come from a disadvantaged family background, which includes lower levels of parental education and a financially poorer environment, compared to those who conceive after marriage. This finding indicates that premarital conception leading to marriage also follows a "diverging destinies" framework, similar to other family formation behaviors. Moreover, this may suggest that even children raised by married parents may differ in terms of the degree of resources available to them, depending on the timing of pregnancy and marriage.

This study has several limitations that are worth noting. First, bridal pregnancies have been indirectly inferred based on information related to dates of marriage and first childbirth, which is a limitation, commonly observed in previous studies in Korea and Japan (Iwasawa and Kamata 2014; Kim and Lee 2018; B. Lee 2017; Raymo and Iwasawa 2008). In addition, the data only provide the month and year of a woman's first childbirth and first marriage, so this study did not use the week information, which could provide more accuracy in determining the period of conception. Second, the data is quantitative, so there are no direct questions to identify circumstances of premarital pregnancies (i.e., motivations, intentness, planning, and so on)

at the time of pregnancy. Future studies should address this limitation, with one suggestion being to conduct in-depth interviews with women who have conceived before marriage, leading to marriage. Third, this study has identified the social factors of the premarital conception leading to marriage. However, it is also important to examine the consequences of premarital conception leading to marriage, including divorce, marital quality, and health. By examining the consequences of premarital conception, future research can extend the diverging destinies framework from a two generational model to a three generational model.

In recent years, discussions in Korea related to childbirth have been centered around the issue of low birth rates, as the total fertility rate has fallen below the 1.0 mark since 2018 (KIHASA 2021). Due to this exclusive focus on certain aspects of childbirth, little attention has been paid to changes in the personal and social contexts surrounding childbirth. To address this limitation, this study examined the social determinants of premarital pregnancy leading to marriage, categorized based on the timing of marriage. The findings revealed that marriage soon after childbirth occurred more frequently than expected, especially among older cohort women. This demonstrates the persistent observation of the strong link between marriage and childbirth, leading to the behaviors of getting married not only before childbirth but also after childbirth to legitimate non-marital pregnancy. This study also highlights that women from socially disadvantaged backgrounds are more likely to have premarital conceptions leading to marriage instead of following traditional family formation. These findings confirm that family formation behaviors in Korea may work as a mechanism that exaggerates social inequality, similar to observation in the West.

(*Submitted*: May 9, 2023; *Revised*: August 9, 2023; *Accepted*: September 14, 2023)

References

Bachu, Amara. 1999. *Trends in Premarital Childbearing: 1930 to 1994* (No. 197). US Department of Commerce, Economics and Statistics Administration, US Census Bureau.

Baldwin, Matthew and Thomas Mussweiler. 2018. "The Culture of Social Comparison." *Proceedings of the National Academy of Sciences* 115(39): E9067- E9074.

Ellwood, David and Christopher Jencks. 2004. "The Uneven Spread of Single-parent Families: What Do We Know? Where Do We Look for Answers." In *Social Enequality*, edited by K. Neckerman (1st ed., pp. 3-78). New York: Russell Sage

Foundation.
England, Paula, Emily F. Shafer, and Lawrence L. Wu. 2012. "Premarital Conceptions, Postconception ('shotgun') Marriages, and Premarital First Births: Education Gradients in U.S. Cohorts of White and Black Women born 1925-1959." *Demographic Research* 27: 153-166.
Finer, Lawrence B. and Stanley K. Henshaw. 2006. "Disparities in Rates of Unintended Pregnancy in the United States, 1994 and 2001." *Perspectives on Sexual and Reproductive Health* 38(2): 90-96.
Frost, Jennifer J. and Jacqueline E. Darroch. 2008. "Factors Associated with Contraceptive Choice and Inconsistent Method Use, United States, 2004." *Perspectives on Sexual and Reproductive Health* 40(2): 94-104.
Gelfand, Melfand J., Jana L. Raver, Lisa Hisae Nishii, Lisa M. Leslie, Janetta Lun, Beng Chong Lim, Lili Duan, et. al. 2011. "Differences between Tight and Loose Cultures: A 33-nation Study." *Science* 332(6033): 1100-1104.
Han, Sung-Hyun and Min-hyang Park. 1996. (In Korean) "Jungsogyumo saeopjang mihon geulloyeoseongui seonghaengtaee gwanhan yeongu [The Study on the Sexual Behavior of Unmarried Female Workers in the Small and Medium Scale Industries]." *Hanguginguhak* [Korea Journal of Population Studies] 19(2): 175-205.
Himsel, Amy J. and Wendy A. Goldberg. 2003. "Social Comparisons and Satisfaction with the Division of Housework: Implications for Men's and Women's Role Strain." *Journal of Family Issues* 24(7): 843-866.
Hofferth, Sandra L. and Frances Goldscheider. 2010. "Family Structure and the Transition to Early Parenthood." *Demography* 47(2): 415-437.
Hwang, Shin Woo and Chae Weon Chung. 2012. "Contraception Behaviors in Unmarried Men and Women: A Descriptive Aualitative Approach." *Perspectives in Nursing Science* 9(2): 71-82.
Iwasawa, Miho and Kenji Kamata. 2014. "Marriage Preceded by Pregnancy and Women Æs Employment." *Japan Labor Review* 11(4): 21-51.
Korea Institute for Health and Social Affairs (KIHASA). 2010. *Policy Issues on Abortion in Korea*. Retreived from https://www.kihasa.re.kr/publish/report/view?type=researchandseq=27290
_____. 2021. *The 2021 National Family and Fertility Survey*. Retreived from https://repository.kihasa.re.kr/handle/201002/40281
Kim, Hyun Sik. 2016. "Sexual Debut and Mental Health among South Korean Adolescents." *The Journal of Sex Research* 53(3): 313-320.
Kim, Keuntae. 2017a. "The Changing Role of Employment Status in Marriage Formation among Young Korean Adults." *Demographic Research* 36: 145-172.
_____. 2017b. "Trends and Determinants of Premarital Conception: Love in Korea." *International Journal of Japanese Sociology* 26(1): 23-38.
Kim, Songhee. 2016. (In Korean) "Honjeonimsini du beonjjae imsingwa chulsane michineun yeonghyang" [The Effect of Premarital Conception on the Spacing of

Subsequent Pregnancy and Birth in Korea]. *Yeoseongyeongu* [The Women's Studies] 91(2): 157-189.

Kim, Yujin and Jinwoo Lee. 2018. "Bridal Pregnancy and Women's Educational Attainment in South Korea, 1970-2009." *The History of the Family* 23(3): 426-445.

Korean Longitudinal Survey of Women and Families (KLoWF) 2020. *Korean Longitudinal Survey of Women and Families (KLoWF) User's Guide*. Retreived from https://klowf.kwdi.re.kr/portal/data/dataInfoPage.do?pageSize=10andpageIndex=1andbbsId=ETCDATAandsearchItem=allandsearchText=andarticleSeq=526

Statistics Korea (KOSTAT). 2022a. *Marriage and Divorce Statistics in 2021*. Retreived from trend20220321_5.pdf (kiri.or.kr)

Statistics Korea (KOSTAT). 2022b. *Birth Statistics in 2021*. Retreived from https://kostat.go.kr/boardDownload.es?bid=204andlist_no=419974andseq=3

Kwon, Tae Whan, Kwang-Hee Jun, and Sung Nam Cho. 1996. (In Korean) "Mihonyeoseongui seong, piim, geurigo ingongyusan suchulgongdanjiyeogui saryeyeongu" [Sexuality, Contraception, and Induced Abortion among Adolescents and Young Adults in the Export Processing Zones of Korea]. *Hanguginguhak* [Korea Journal of Population Studies] 19(1): 93-122.

Lee, Byung-Ho. 2017. (In Korean) "Honjeonimsin chulsanui chuse, 2001-2015 seonghongwajeong byeonhwae daehan hamui" [The Trends of Premarital Conception and Shotgun Marriage in South Korea, 2001-2015] *Hanguginguhak* [Korea Journal of Population Studies] 40(3): 107-129.

Lee, Jeoung Sil. 2018. (In Korean) "Siseolgeoju yangyungmihonmo salmui gyeongheome gwanhanyeongu" [A Study on Life Experiences of Unmarried Mothers Residing in Shelter]. *Hangukkontencheuhakoenonmunji* [The Journal of the Korea Contents Association] 18(10): 657-668.

McLanahan, Sara. 2004. "Diverging Destinies: How Children Are Faring Under the Second Demographic Transition." *Demography* 41(4): 607-627.

McLanahan, Sara and Gary Sandefur. 2009. *Growing Up with a Single Parent: What Hurts, What Helps*. Cambridge, MA: Harvard University Press.

Michas, Frédéric. 2022. *Percentage of Births to Unmarried Women in the United States from 1980 to 2020*. Retreived from https://www.statista.com/statistics/276025/us-percentage-of-births-to-unmarried-women/#statisticContainer

Oh, Young-Hee. 2007. "Study on Sexuality Education for Future Healthy Generations." *Health and Welfare Policy Forum* 2(124): 37-54.

Osterman, Michelle J.K., Brady E. Hamilton, Joyce A. Martin, Anne K. Driscoll, and Claudia P. Valenzuela. 2023. Births: Final Data for 2021. *National Vital Statistics* Reports 72(1). Retreived from https://www.cdc.gov/nchs/data/nvsr/nvsr72/nvsr72-01.pdf

Park, Hyunjoon and Jeroen Smits. 2005. "Educational Assortative Mating in South Korea: Trends 1930-1998." *Research in Social Stratification and Mobility* 23: 103-

127.
Park, Sinae and Hye-gyun Park. 2021. (In Korean) "Jeochulsansidae, gihonyeoseong haeseokagi" [Interpreting Married Women in the Age of Low Fertility] *Tonggyepeulleoseu* [KOSTAT Plus] 4.
Plotnick, Robert D. 1992. "The Effects of Attitudes on Teenage Premarital Pregnancy and its Resolution." *American Sociological Review* 56(6): 800-811.
Raymo, James M. and Miho Iwasawa. 2008. "Bridal Pregnancy and Spouse Pairing Patterns in Japan." *Journal of Marriage and Family* 70(4): 847-860.
Raymo, James M. and Hyunjoon Park. 2021. "Social Stratification and Family Change in Japan and Korea." *Asian Population Studies* 17(3): 221-224.
Raymo, James M., Hyunjoon Park, Yu Xie, and Wei-jun Jean Yeung. 2015. "Marriage and Family in East Asia: Continuity and Change." *Annual Review of Sociology* 41: 471-492.
South, Scott J. 1999. "Historical Changes and Life Course Variation in the Determinants of Premarital Childbearing." *Journal of Marriage and the Family* 61(3): 752-763.
Uchikoshi, Fumiya and Ryohei Mogi. 2018. "Order Matters: The Effect of Premarital Pregnancy on Second Childbearing in Japan." *Demographic Research* 39: 1305-1330.
Uz, Irem. 2015. "The Index of Cultural Tightness and Looseness among 68 Countries." *Journal of Cross-Cultural Psychology* 46(3): 319-335.

Yujin Kim is associate professor of sociology at Kangwon National University in South Korea. Her research interests include family relationships, gender and social status differences in health over the life course, transition to adulthood, and demography of aging. Her research has been published in various journals, including *Journal of Marriage and Family*, *International Journal of Aging and Human Development*, *Gerontology*, *Psychiatric Investigation*, *Advances in Life Course Research*, *The History of Family*, *Population Research and Policy Review*, *International Journal of Environmental Research and Public Health*, *Korean Journal of Sociology*, and *Journal of Asian Sociology* [*E-mail*: yjkim3@kangwon.ac.kr].