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Factors that Affect Women's Intentions to Have Additional Children: *The Role of the State, Market, and Family*

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Abstract

This study examines married women's intentions to have additional children and found that the social sharing of childcare was not a significant factor. The data used for this analysis was the 2009 National Survey of Marriage and Fertility (NSMF), collected through interviews conducted between June 1 and July 17, 2009. Although previous studies have reported a close relationship between social childcare sharing and the fertility rate, this does not seem to be applicable to Korea due to its low degree of social sharing of childcare. Grandparental childcare sharing was also found to be insufficient in influencing additional fertility decisions. On the other hand, gender division of childcare was significantly related to family planning; the possibility of having additional children increased proportionally with the hours that both the father and mother put into childcare. In addition, variables reflecting the unique features of Korean society were significantly related to women's additional childbirth plans; this indicates that the problem of low fertility in Korea cannot be resolved by solely targeting either social support or gender division of childcare alone.

Keywords: childcare policy, additional childbirth plan, low fertility, family childcare, gendered division of care

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Introduction

The total fertility rate (TFR) in Korea, which had been steadily declining, seemed to rebound after hitting 1.08 in 2005. A year later, the TFR rose to 1.12, an increase of 0.04 points. The Korean government claimed that the 2005 pronatalist policy had begun to take effect. A local population officer reported that the government's pronatalist policy was the major contributor to the increase in childbirth (Shin 2007), and the Ministry of Health and Welfare distributed a press release promising a greater increase (Association of Daycare Centers in Korea 2007). However, contrary to their expectations, the rate fluctuated during the following years—1.25 in 2007, 1.19 in 2008, 1.15 in 2010, and 1.23 in 2011 (Statistics Korea 2013). This contrasts with European welfare states, which have demonstrated a significant upsurge in TFR (Jones 2011). Korea remains trapped among the countries with the lowest fertility rates, ranking 217th among 222 countries in 2011.

Although disputable, the government's 2005 pronatalist policy alone seemed insufficient in raising the already low fertility rate. The expectation that expanding state expenditures on pronatalist policy would increase the rate may have been too optimistic. The Korean government spent about US$5.1 billion on pronatalist programs between 2005 and 2010, equal to approximately 2.4% of its total budget. Similarly, France's massive investment to combat low fertility also failed to produce a satisfactory outcome. In 2003, France invested EUR 56.4 billion in a family and childcare policy that resulted in a subsequent increase of only 0.2 points in TFR (Héran 2005). As Lutz and his colleagues (2006) point out, an increase of budget alone is insufficient in escaping the low fertility trap.

Low fertility is intertwined with various factors and the exact cause is difficult to ascertain (Haan and Wrohlich 2009; Rindfuss, Guilkey, Morgan, and Kravdal 2007; Rindfuss, Guilkey, Morgan, Kravdal, and Guzzo 2010; Sleebos 2003). Industrialized countries attribute the low fertility rate to a failure in the socialization of childcare and low levels of gender equity (Folbre 1997). The responsibility of childcare that falls on women despite women's increased levels of education and labor market participation may

render childbirth an irrational choice. McDonald (2000, 1) explains the phenomenon as the result of incoherence between the levels of gender equity in different social institutions, arguing, "in countries with very low levels of fertility, high levels of gender equity are postulated in institutions that deal with people as individuals, while low levels of gender equity apply in institutions that deal with people as members of families." In fact, a stronger conflict between women's traditional roles (childcare, domestic work, etc.) and women's new role (breadwinner) may lead to a lower fertility rate (Brewster and Rindfuss 2000). This conflict does not necessarily prevent women from having children entirely. The low fertility rate is more closely associated with a reluctance to have additional children, rather than giving up on raising children altogether.

In this regard, Korea is no exception. Despite increased gender equity in higher education and the public sphere (i.e., the labor market), childcare responsibilities are mostly imposed on women. In order to combat the low fertility rate, one alternative is for the state, market, and family to share the responsibility of childcare. The state, market, and family can substitute and/or compensate for each other at different times. For instance, an increase in childcare by grandparents typically leads to a decrease in demand for public childcare. This can be seen in Spain, Portugal, and Greece, where there is a relatively low demand for public childcare (Esping-Andersen 1999) since families take on most responsibilities. Therefore, it is important to examine such factors together. Previous studies, however, have failed to examine the relationship between childcare and childbirth intentions within the framework of childcare sharing between the state, market, and family. Kim and Jeong (2006) have explored family childcare and childbirth intentions, while other researchers have focused on the relationship between public childcare and childbirth intentions (Ahn and Lee 2010). However, the association between the market and fertility intentions has received almost no attention.

It is also important to take into account the particular factors of Korean society that influence one's decision to have another child. Some scholars have pointed to the preference for sons as one of the significant reasons additional children are considered (D. Kim 2007). Education expense is

another influential factor regarding the decision to have additional children (Yeom 2013). Even if the state, market, and family share responsibility for childcare, the overwhelming burden of the cost of education, which is highly prioritized in Korean society, often serves as a deterrent.

Based on this discussion, the current study examines the shared responsibility of childcare and women's intentions to have additional children within the framework of the state, market, and family, as well as the influence of the distinctive characteristics of Korean society on the decision to have additional children. The study concludes by addressing possible policy implications for Korea's issue of low fertility.

Conceptual Background

Additional Childbirth Intentions

In this study, "additional childbirth intention" is defined as the intention of a married woman with at least one child to have an additional child within three years. However, intentions do not always translate to actual behavior, so the relationship between planning and action is much debated. In 2011, the *Vienna Yearbook of Population Research* devoted an entire volume to this issue. Although controversial, there is a consensus that fertility intention or planning is an optimal starting point when discussing fertility (Bachrach and Morgan 2011). Mitchell and Gray (2007) also maintain that intention is an important marker in understanding childbearing behavior.

Klobas (2011) highlighted the importance of *when* the intention is realized. From a policy perspective, under what socioeconomic circumstances could an additional childbirth plan be carried out? In other words, people put plans into practice according to specific conditions, such as those related to childcare. Individual experiences with childcare are likely to influence a family's future decision to have another child. The issue of low fertility goes beyond the question of whether or not to have a child. Rather, it is more closely related to the reluctance to have additional children. Most married households in Korea have at least one child, as shown

in the 2005 marriage and childbirth survey—only 8.8% of married women had no children (Lee et al. 2009, 379). Therefore, analyzing the simple binary regarding intention to have children or not would only give us limited policy implications regarding low fertility in Korea. In other words, an analysis of the intention to have additional children would provide more compelling implications.

The decision to have an additional child may be based in part on childcare experiences with the first child. If the responsibility for childcare with the first child was unequally distributed, with the greater responsibility imposed on the woman, an additional child would likely be seen as a burden, impeding the decision to have additional children. This argument is supported by C. Kim (2007), who claims that women become more sensible to the socioeconomic cost of childrearing after the birth of their first child. This implies that most people are less affected by expectations of childcare sharing when planning the birth of the first child. Examining factors related to additional childbirth intentions, therefore, can provide relevant information to direct policies related to low fertility more effectively.

Sharing of Childcare Responsibility

Previous studies have shown a close relationship between the low fertility rate and the less sharing of childcare responsibilities (McDonald 2000; Torr and Short 2004; Folbre 1997). In particular, insufficient public childcare has been identified as a significant factor associated with the low fertility rate in East Asian countries (Jones, Straughan, and Chan 2009). Without public childcare, child-rearing responsibilities are almost wholly imposed on women, despite the high level of gender equality in the labor market and educational attainment.

The sharing of childcare responsibilities can be divided into family care and social care. Family care includes the care provided by the father, mother, and grandparents. The rationale for distinguishing grandparents from parents is that they play a different role in regards to sharing the mother's childcare responsibilities. Whereas the father's childcare sharing weakens the gender division of labor in the family, the grandparents' in-

volvement does not necessarily affect the division of labor between father and mother.

Previous studies have shown a strong association between the division of childcare in the family and childbirth. An unfair distribution influences a woman's decision to have children (Torr and Short 2004). A study in Korea showed the direct relationship between shared childcare and additional childbirth—the more hours a husband invested in childcare, the more inclined his wife was to have additional children (Yoon 2005). The grandparents' assistance is also a significant factor in reducing women's childcare responsibilities. Kim and Jeong (2006) reported a positive relationship between grandparents' care and women's additional childbirth intentions. However, this relationship becomes ambiguous when we consider the role of the state and market. The grandparents' care may merely diminish the demand for the father's sharing in childcare, or the need for public and private childcare. If the grandparents' assistance replaces father or public childcare without relieving women of their childcare responsibilities, it may not necessarily increase a woman's intention to have additional children. In fact, grandparental childcare sharing witnessed in Southern European countries has been reported to merely decrease the demand for public childcare (Naldini and Jurado 2009). For grandparents' childcare assistance to have a positive influence on women's views towards childbirth, it has to sufficiently relieve women of part of their childcare burden.

Second, social childcare includes care provided by the state (public care) and the market (private care). Although both the state and the market may relieve the family of some childcare responsibilities, it is necessary to draw a distinction between the two, since service users may differ in their socioeconomic status. Care provided by the state is relatively universal, whereas care by the market is provided only to those who can afford it. In general, private care tends to exclude those with lower income (Esping-Andersen 1999).

Childcare sharing by the state can be divided into two types: the first involves assisting parents in caring for their children. Parental leave and the home care allowance provided to households that do not use childcare facilities are representative examples. The second type is transferring direct

childcare responsibilities to society through public childcare. On the other hand, a representative example of childcare sharing through the market is private childcare.

Many researchers have examined the relationship between the role of the state and the fertility rate. In general, the socialization of childcare has had a positive relationship with childbearing (Mason and Kuhlthau 1992). In particular, expanding the public childcare system is positively related to the fertility rate (Del Boca 2002; Castles 2003). On the other hand, the association between parental leave and the fertility rate is unclear at best. Some studies have indicated that there is little correlation between fertility and familialization policies (Gauthier and Hatzius 1997; Castles 2003; Yoon 2005), while other studies have reported that offering an adequate period of time for parental leave, as well as a higher income replacement rate, has a positive influence on fertility (Adserà 2004). In addition, cash benefits for childcare have been shown to positively affect childbirth (Gauthier and Hatzius 1997; Sleebos 2003).

On the other hand, the influence of private childcare alone on the fertility rate has received relatively little attention. Since private childcare relieves a woman of her childcare responsibilities to a certain extent, there may be an assumption of a positive relationship with fertility. However, the effect is limited due to the relatively high cost of private care. Among families in lower-income brackets, Ahn and Lee (2010) reported that there is actually a negative relationship between the cost of private childcare and the fertility rate. Esping-Andersen (1999, 57) also pointed out that lower-income families in the United States typically do not use private childcare services.

Characteristics of Korean Society: Preference for Boys and Expenses of Private Tutoring

Korea's childcare budget has increased dramatically—almost 21.4-fold during the past decade—from US$185 million in 2002 to US$4 billion in 2012 (ROK Ministry of Health and Welfare 2013). In the early 2000s, Korea began to expand maternity leave and introduced paternity leave, including a flat rate parental leave. However, the TFR remained around 1.2 during the same

period.

For Korea, two factors seem to stand out in relation to fertility: the preference for sons and private tutoring expenses. Korea is characterized by a strong preference for sons that influences family planning decisions (Larsen, Chung, and Gupta 1998, 317). Regardless of the number of children, one study has shown that the decision to have additional children is associated with the gender of existing children (D. Kim 2007). Another distinctive feature of Korean household spending is the high expenditure on private tutoring. Due to the belief that graduating from a competitive college guarantees one's future success, many families spend an excessive amount on private tutoring. Kim and Yang (2011) reported that private tutoring expenditure in Korea was four times higher than public education expenditure in 2010, comprising 4.8% of the average household income. Such high education expense is also known to affect the decision to have additional children.

This study expands our knowledge about the causes of low fertility by examining the factors related to additional childbirth intentions. The existing literature highlights the need to examine the relationship between childcare and fertility intentions in the framework of a social childcare system that includes the state, market, and family. Moreover, studies have indicated that the fertility issue cannot be discussed without considering the unique characteristics of Korean society. Thus, this study seeks to answer the following two questions within the framework of the state, market, and family: (1) Does the sharing of childcare in the household influence a married woman's intention to have additional children? (2) What is the relationship between particular characteristics of Korean society (i.e., preference for sons and the high expense of education) and the decision to have additional children?

Methods and Data

Data and Sample

The data used for this analysis was the 2009 National Survey of Marriage and Fertility (NSMF) created by the Korea Institute for Health and Social Affairs and the Ministry of Health and Welfare (MHW). The NSMF includes variables related to birth, marriage, and childrearing that are useful in analyzing additional childbirth plans. The original NSMF is composed of interviews conducted between June 1 and July 17, 2009. The interview questions focused on the demographics and socioeconomic activities of participants' households. The survey respondents were limited to households with women of childbearing age (between the ages of 20 and 44). A total of 2,919 households were selected for the analysis after excluding non-married single-income households and female-headed households.

Analytical Method

The purpose of the study was to analyze married women's additional fertility plans, with a specific focus on childcare sharing, and to understand the association between fertility plans and the childcare sharing system. Socioeconomic variables related to additional fertility plans were included for a better model fit. Multinomial logistic regression was used for analyzing the dependent variable, which had more than two categories.

Variables

1) Dependent Variable

The dependent variable, additional childbirth intentions, was divided into three categories: plan (PL), no plan (NP), and undecided (UND).[1] PL includ-

1. The "undecided" and "no plan" categories may include infertile women. According to a survey in 2000, 13.5% of Korean married women were estimated to be infertile (Hwang 2003).

ed those who planned to have additional children within three years. Those without a plan to have additional children were grouped as NP. Those who responded as undecided were categorized as UND. According to Ajzen (2010), those with a detailed plan are more likely to realize the plan than those with an indistinct plan. Therefore, respondents who indicated a desire to have an additional child sometime in the future were also categorized as undecided (UND).

2) Independent Variables

The independent variables can be divided into two categories: the sharing of childcare responsibilities and the particular characteristics of Korean society. The first, the sharing of childcare, was categorized into state care, market care, and family care. State care included public childcare, parental leave, and financial support (i.e., home childcare allowance for families not using childcare facilities). Parental leave included policies supporting families to care for children in the household. The use of parental leave was the major variable in this category. Receiving formal childcare-related financial support was defined as financial support. Previous studies have indicated that the social sharing of childcare is a major variable related to the decision to have additional children since it mitigates the work-family conflict (Rindfuss et al. 2010). Market care also relieves the childcare responsibilities of the family. Market care was defined as the use of private childcare.

Family care variables were divided into three categories according to the care provider: the grandparents, mother, and father. The care provided by the mother and father represents gender division in the household. Analyses from Finland, England, and Italy have shown that despite the high socialization of childcare, work-care balance is determined by an agreement between men and women within the household (Baldock and Hadlow 2004; Lewis and Campbell 2007). The division of childcare by gender, along with the socialization of childcare, is a core variable that supports women in balancing work and family. Gender division was measured by the weekly hours spent on childcare by each parent.

Care provided by the grandparents was measured by their support in domestic work or childcare. Since help with the housework or childcare supports the work-family balance (Miettien, Basten, and Rotkirch 2011), it thereby increases the possibility of additional childbirth. Although some researchers distinguish between housework and childcare, the two seem inseparable. For instance, washing clothes and preparing meals for children are both housework and childcare. Therefore, this study included helping with both housework and childcare as grandparental support.

The second category of independent variables includes two particular characteristics of Korean society that are related to fertility decisions: the preference for sons and the high household expenditure on private tutoring. In order to examine the effect of the preference for sons, the presence of a male child was used as a binary variable (1=yes, 0=no, reference group). Educational expenditure was used as a continuous variable.

3) Control Variables

Several control variables were included in this analysis. The number of children is closely related to additional fertility plans. It is generally assumed that the presence of a greater number of children would indicate a lower likelihood for additional childbirth intentions; however, this is related to personal preference, and the current number of children may not necessarily predict additional childbirth intentions. A related study indicated that some mothers with two children had an active intention to have additional children (C. Kim 2007, 111). Rather than examining the current number of children, this study considered the *difference* between the current number of children and the expected number of children. This inclusion was based on the notion that childbirth is not merely a matter of how many children are present, but rather an issue of the preferred number of children. The variable was categorized into three groups: fewer children than expected, the same number of children as expected, and more children than expected. The group with fewer children than expected was predicted to be more likely to have fertility intentions.

The male breadwinner model is another variable related to childbirth

plans. This model was divided into the male-earner model and the dual-earner model. Previous studies used labor market status or employment status to predict childbirth plans. However, since childbirth plans usually involve an agreement and negotiation between two people (Baldock and Hadlow 2004; Lewis and Campbell 2007), the breadwinner model was believed to better predict childbirth plans than employment status alone.

Another variable included was attitude regarding gender roles. Studies on gender role attitudes and plans for additional children showed them to be related, with women in favor of non-traditional gender roles being less likely to have children than those who reported themselves to be in favor of traditional gender roles (Kaufman 2000; Spéder and Kapitány 2009). Although some studies reported no significant association (H. Kim 2010; Miettinen, Basten, and Rotkirch 2011), gender role attitude is generally considered to be a variable affecting women's fertility decisions. Gender role attitude was measured through five questions, and respondents were categorized into three categories: traditional, moderate, and non-traditional. In addition, age, education level, and household income were included as demographic variables. For this analysis, household income was reconstructed into the family equivalence scale (adapted from OECD 2012).

Results

General Characteristics

General characteristics of the survey participants are summarized in Table 1. Those with no additional birth plans had the highest average age (37.5). Women with additional childbirth plans (PL) had a higher education level (53.8% had more than high school education) compared to those with no plan (NP) or the undecided (UND).

As expected, PL had the fewest number of children (1.2 compared to 1.9 and 1.6 for NP and UND, respectively). In PL, 76.2% reported fewer children than expected, two times more than NP, of which only 23.0%

Table 1. General Characteristics of Respondents (N=2,919)

		PL (Plan, n=285)		NP (No plan, n=2,353)		UND (Undecided, n=281)		Chi-square
		Mother	Father	Mother	Father	Mother	Father	
Age (years)		32.6	35.6	37.5	41.1	34.3	37.7	M: 4.17** F: 11.4**
Education (%)	Less than high	2.3	1.2	2.0	3.1	1.9	4.1	M: 28.9** F: 17.9*
	High school	43.9	34.9	56.2	42.2	43.9	33.6	
	More than high	53.8	63.9	41.8	54.6	54.2	62.3	
Number of children		1.24		1.93		1.56		25.1**
Have a son		59.3		79.6		69.8		68.1**
Gap (%)	More than exp.	4.7		15.9		10.0		410.4**
	Equal	19.2		61.1		37.7		
	Less than exp.	76.2		23.0		52.4		
Private tutoring expenditure[a]		146 (165,000)		424 (478,000)		277 (312,000)		5.5**
Livelihood (%)	Male single	73.8		61.3		60.2		17.8**
	Dual	26.2		38.7		39.8		
Gender role attitude (%)	Traditional	14.8		12.9		14.8		1.7
	Moderate	79.3		81.0		78.5		
	Non-traditional	6.0		6.2		6.7		
Family income[a]		2,739 (3,090,000)		2,990 (3,373,000)		2,840 (3,203,000)		1.16

[a] Currency in USD (KRW in parentheses).

*$p < .01$ **$p < .001$

responded so. About half (52.4%) of UND had fewer children than expected. About 16% of NP reported that they had more children than expected.[2]

NP showed the highest percentage of having a male child (79.6%) while PL reported the lowest (59.3%). Such findings indicate that the preference for sons still influences childbirth plans. NP reported the highest

2. This indicates that although the gap between the current and expected number of children may be an important factor in birth plans, additional childbirth is not always associated with realizing one's expected number of children.

education expenditure. Education expenses are related to the number of children, and NP had relatively more children, resulting in a higher level of expenses. However, private tutoring expenses increase the opportunity cost for women and may negatively affect additional birth intentions. The percentage of male breadwinner households was higher in UND and lower in PL. Regardless of their fertility plans, the attitude towards gender roles for most married women was moderate. Household income was similar among the three groups.

Sharing of Childcare: State, Market, and Family

The relationship between childcare sharing and planning for additional children is shown in Table 2. NP had the highest percentage of utilizing public and private childcare (4.6% and 17.3%, respectively). On the other hand, both public and private care use were lower in PL. Use of parental leave was higher (9.7%) in UND, and the receiving of financial support

Table 2. Sharing Responsibility for Childcare in Households (%) (N=2,919)

			PL (Plan)	NP (No plan)	UND (Un-decided)	Chi-square/
State	Public sharing	Public facilities	2.4	4.6	2.9	4.6
		Leave policies	7.5	6.1	9.7	6.0*
		Financial support	20.9	25.2	22.0	3.8
Market	Private sharing	Private facilities	11.5	17.3	15.3	6.6*
Family	Mother	Care time (hours per week)	56.6	42.4	46.4	1.3**
	Father	Care time (hours per week)	17.5	12.9	15.9	1.3*
	Grandparent	Care or chores (%)	28.6	18.1	23.5	21.1***

*$p < .05$ **$p < .01$ ***$p < .001$

was higher (25.2%) in NP than in other groups.

An analysis of gender division in childcare indicated that both mother and father's childcare hours were longer in the group that had additional childbirth plans. Among the three groups, both mother and father's weekly childcare hours were the shortest in NP. In PL, mother and father's childcare hours were 56.6 and 17.5 hours, respectively, versus 42.4 and 12.9 hours in NP. PL had longer care hours than the other two groups. The total number of childcare hours among fathers was similar across the three groups, possibly indicating that an additional birth plan is less related to the sharing of childcare between father and mother and more related to the total hours of childcare.

Analysis of grandparental childcare sharing showed that grandparents' support was highest in PL. The group with no additional birth plan reported the lowest grandparental support. In summary, PL resorted to their relatively higher level of access to grandparental and spousal caring, rather than to the utilization of public or market childcare.

Multinomial Logistic Regression Analysis Findings

Results from the multinomial logistic regression are summarized in Table 3. The dependent variable in this study, additional childbirth intentions, is a categorical variable with three nominal categories. Therefore, the two sets of coefficient and odds ratios were generated using "no plan" as the reference group: PL versus NP and UND versus NP. The overall model was significant ($\chi^2 = 837.2$, $df = 44$, $p < .001$).

Findings from the first model (PL versus NP) showed that state and market care were not significantly related to additional childbirth plans. This seems to indicate that married women do not believe that the current state and market system are sufficient to share the expected childcare responsibilities of additional birth. Grandparental support was also not a significant factor. This is inconsistent with Kim and Jeong's (2006) study, which reported a positive relationship between grandparental care and additional birth plans. This inconsistency can be attributed to the analytical method used. Whereas Kim and Jeong examined a simple bivariate

Table 3. Results from Multinomial Logistic Regression

		PL vs. NP (Plan vs. No plan)				UND vs. NP (Undecided vs. No plan)			
		Coefficient	Odds ratio	C.I. (95%)		Coefficient	Odds ratio	C. I. (95%)	
				Lower	Upper			Lower	Upper
State (ref.=no experience)	Public care	−0.070	0.932	0.358	2.431	−0.601	0.548	0.232	1.293
	Leave pol.	0.227	1.255	0.636	2.381	0.524	1.693	0.980	2.926
	Financial sup.	−0.062	0.931	0.647	2.435	−0.183	0.838	0.579	1.213
Market	Private care	−0.243	0.748	0.471	1.307	0.065	1.047	0.681	1.608
	(no experience)								
Family	Mother's care (hrs.)	0.006*	1.006	1.000	1.013	−0.004	0.996	0.990	1.002
	Father's (hrs.)	0.017*	1.017	1.003	1.032	0.018**	1.018	1.005	1.031
	Grandparent	0.209	1.233	0.867	1.752	0.017	1.024	0.739	1.418
	(no experience)								
Have a son (boy preference)	Have	−0.331*	0.718	0.524	0.984	−0.200	0.818	0.606	1.105
	(Have not)								
Private tutoring expense		−0.015***	0.985	0.979	0.992	−0.004	0.996	0.992	1.001
Mother's education	< high school	0.660	1.934	0.514	7.280	0.082	1.062	0.343	3.283
	> high school	−0.097	0.908	0.627	1.313	0.1333	1.138	0.815	1.602
	(high school)								
Father's education	< high school	−1.300	0.273	0.062	1.192	0.427	1.579	0.625	3.985
	> high school	0.175	1.191	0.807	1.756	0.190	1.209	0.846	1.728
	(high school)								
Father's age (years)		−0.013	0.987	0.954	1.022	−0.024	0.976	0.945	1.008
Mother's age (years)		−0.115***	0.892	0.852	0.933	−0.095***	0.910	0.873	0.948
Difference	> expectation	0.860*	2.362	1.217	4.585	0.341	1.406	0.863	2.290
	< expectation	1.623***	5.066	3.451	7.438	0.968***	2.662	1.938	3.656
	(equal)								
Number of children		−1.100***	0.333	0.231	0.479	−0.533***	0.587	0.436	0.791
Livelihood support	Dual	0.061	1.062	0.735	1.536	0.246	1.274	0.930	1.745
	(Single)								
Family income		0.000	1.000	0.998	1.002	−0.001	0.999	0.997	1.001
Gender role attitude	Traditional	0.112	1.119	0.725	1.726	0.241	1.201	0.765	1.887
	Non-traditional	−0.219	1.804	0.430	1.500	−0.026	0.975	0.568	1.672
	(Moderate)								
Intercept		3.238***				2.813***			
−2 log L		2,818.7							
Chi-square		837.2***							
DF		44							
N		2,919							

*$p < .05$ **$p < .01$ ***$p < .001$

relationship between the two, this study analyzed the relationship by controlling for other factors related to childbirth intentions. Although grandparental support is known to lessen a woman's childcare burden, it may not be sufficient to influence women's fertility decisions. In addition, grandparental help is generally considered an alternative to public or private childcare (Esping-Andersen 1999). In fact, according to the Korea Institute for Health and Social Affairs, the primary childcare option for working women is public or private childcare facilities, followed by care from grandparents (Lee et al. 2009).

On the other hand, the weakening gender division of labor in the household was a significant predictor of additional birth plans. Longer hours of care from the father (odds ratio = 1.017, $p < .05$) increased the possibility of having plans for additional children. Interestingly, longer hours of care by the mother was also positively related with intentions to have additional children (odds ratio = 1.006, $p < .05$). This seems to be contradictory, since an increase in the mother's childcare hours generally means a heavier burden on the woman, which is generally perceived to negatively influence fertility decisions. Most studies have focused on the father's care hours in regards to childbirth intentions without analyzing the mother's hours of childcare (König 2011; Duvander and Andersson 2003; Del Boca 2002), which makes it even more difficult to interpret these findings. The relationship between a mother's childcare hours and additional childbirth plans needs further examination through a more in-depth, qualitative analysis.

As predicted, the variables particular to Korean society were also significantly associated with intentions for additional children. Those who already had sons were less likely to have plans for additional children than those without sons (odds ratio = 0.718, $p < .05$). In addition, the expense of private tutoring was also negatively related with intentions to have additional children (odds ratio = 0.985, $p < .001$).

Among the control variables, a mother's advanced age and a higher number of children was associated with a lower probability of desire for another child. The groups with fewer children than expected and more children than expected were both more likely to plan for childbirth com-

pared to the reference group (those whose current number of children equaled their expected number of children) (odds ratio = 5.066, $p < .001$). It is natural that those with fewer than expected children would have plans to have additional children. Interestingly, those with more children than expected were also more likely to have plans for additional childbirth (odds ratio = 2.362, $p < .05$).[3]

The second model compared UND with NP. Results showed that state and market childcare factors had no significant influence on additional childbirth intentions. Similar to the first model, grandparental care was also not significant. Regarding the distribution of childcare by gender, a greater sharing of childcare responsibilities by the father was more likely to influence women to fall in the "undecided" group, rather than have no plans for additional children (odds ratio = 1.018, $p < .01$). Neither the presence of a son nor the expense of education was associated with additional childbirth intentions. A woman's age (odds ratio = 0.910, $p < .001$) and the number of existing children (odds ratio = 0.587, $p < .001$) were negatively related to being "undecided," indicating that factors such as being of older age and already having children were associated with having less plans for additional children. Having fewer children than expected, on the other hand, increased the possibility of considering additional childbirth (odds ratio = 2.662, $p < .001$).

In summary, the sharing of childcare by the state and the market was not influential in women's additional childbirth intentions. Childcare sharing by family members, however, was significant across the different groups compared. Both the mother and father's childcare hours were significantly associated with childbirth intentions, whereas grandparental childcare did not affect decisions to have additional children. Finally, the unique Korean characteristics of preference for sons and high educational expenses negatively influenced women's decisions to have additional children.

3. The reasons that people want additional children despite already having more children than expected are worth exploring. The subject, however, is beyond the scope of this study, and thus should be examined in a separate study.

Discussion

This study examined married women's additional childbirth intentions and found that the social sharing of childcare was not a significant factor. Although previous studies reported a close relationship between social childcare sharing and the fertility rate, this does not seem to be applicable to Korea, which has a low degree of social childcare. In fact, social expenditure as a percentage of family GDP in Korea was 1.01% in 2009, quite low compared to the United Kingdom (4.22%), France (3.98%), Sweden (3.75%), and Greece (1.43%) (OECD 2012). These findings indicate that Korea is not responding properly to the social responsibility of childcare. Grandparental childcare sharing was also found to be insufficient as a motivator of additional fertility decisions. Although many grandparents took care of children or helped with the housework, this did not significantly influence women to have additional children.

On the other hand, the gender division and sharing of childcare was significantly related to the decision to have another child. Both mother and father's greater weekly childcare hours increased the possibility of planning additional childbirth. Of greater interest is the fact that the hours a father invested in childcare was a significant factor in distinguishing the undecided from the group with no childbirth plan. In other words, the more hours that a father participated in childcare, the more likely that the couple would be in the undecided group, rather than the no additional childbirth plan group. The policy implication of these findings is that until there is sufficient social support for childcare, policies targeting the gendered division of childcare are necessary. Since a woman's fertility decision is closely associated with the sharing of childcare responsibilities, these policies could be an alternative option that may relieve women of part of the burden of childcare.

Interestingly, the variables reflecting the unique features of Korean society were significantly related to women's additional birth plans, indicating that the low fertility in Korea cannot be resolved by simply targeting social support or the gendered division of childcare alone. In a society driven by soaring competition and a high demand for success, childrearing

goes beyond the issue of childcare and involves the investment of all possible assets. Fertility decisions involve not only the issues related to the time required for childcare or work-family balance, but also the determination to invest all family resources. Even with the expansion of social care or the equal distribution of childcare by gender, childbirth can still be seen as a risky choice that involves a massive opportunity cost for both genders.

The limitations of this study include the use of cross-sectional analysis. Additional fertility decisions and how they are realized can be better understood through longitudinal studies. This study is limited in that policy implications were derived from additional childbirth intentions rather than actual behavior. Second, the study's findings should be interpreted with caution, since the undecided group may also include women who are infertile. This study is also limited in that the analysis did not exclude infertility as a factor.

In order for Korea to escape its low fertility phenomenon, social support, a more equal division of childcare, and policies that take Korea's unique characteristics into consideration are required. The unique circumstances created by the high cost of private tutoring cannot be resolved by merely decreasing the expense. Because the essence of the problem lies in the structure engendering excessive competition and upholding patriarchal values, it may only be resolved through the total reorganization of Korean society.

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