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보건학석사학위논문

# **Analysis of Factors Influencing Fertility of Women with Disabilities**

여성장애인의 출산력에 영향을 미치는 요인

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## **Abstract**

### **Analysis of Factors Influencing Fertility of Women with Disabilities**

**Objectives:** This paper is written with the purpose of revealing the influencing factors that affects the disabled women's procreativeness. From the past researches we concluded what causes women with disabilities to decide to become mothers while being subjected to three discriminatory factors: disability, female and poverty (Moin, et al., 2009). In my research I will focus more on detailed disability and social support variables that has not been concerned as essential variables from the previous studies. I focus on the socio-demographic, economic, health and disability, and social support factors that affect fertility (in this paper I refer 'fertility' as the average number of children).

**Methods:** This study was conducted by using the survey data from People with Disability in Korea 2014, co-conducted by the Ministry of Health and Welfare and Korean Institute for Health and Social Affairs (KIHASA). The dependent variable was the average number of children of a woman with disability. Independent variables from the micro dataset consisted of health and disability variables, social support variables, socio-demographic variables, and economic variables. A multiple regression analyses was conducted with all the above variables. All statistical analyses were conducted using the IBM SPSS 22.0, using the 0.05 criterion of significance.

**Results:** The verification of regression coefficient showed that age, education level,

marital status, income level, mental disability, type of disability of the spouse, and material support had statistical significance on fertility rate ( $p < .05$ ). The most noticeable outcome was the disability type variable and material support variable. The type of disability of both husband and wife had different affects to fertility. The material support was the affective factor on fertility; not only among the social support variables but among all variables that were used for analysis.

**Conclusions:** This study aimed to examine the factors that determine the fertility of women with disabilities. The result of the analysis focused primarily on health and disability factors as well as social support factors. The result indicated that disability type had a statistically significant effect that has not been mentioned in previous researches. And Material support was the most effective factor on fertility. It is highly likely that the findings of this study will serve as a reference for prospective researches concerning fertility of women with disabilities and also contribute to the implementation of more effective government policies for women with disabilities.

**Keywords:** Fertility, Women with disability, Disability type, Social Support, Korea

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# **1. Introduction**

## **1.1 Background**

The prerogative of bearing a child is an exclusive delight that only women can enjoy. No matter how industrialized the world became, us human beings find the nature of birth extremely amusing. It is our natural desire to form a family with the one you love and raise children together. Nonetheless there exists a group of women who are not completely free of enjoying such happiness; the women with disability. These women have always been neglected at the bottom of the society and have frequently faced numerous hindrances in starting a family like others.

Throughout the 19<sup>th</sup> and 20<sup>th</sup> century women's rights have been asserted throughout the globe and as a result women of these days are enjoying numerous things which had not been available to the females of the past (Lee, 2005) . When it finally seems we have reached the period where we could take a break from the vigorous social and political fights, we realize the people with disabilities and particularly women with disabilities have not yet had the chance to claim their rights. Women with disabilities are one of the most vulnerable social groups and hence the discrimination they face in daily lives is nothing like what we occasionally experience. And when it comes to the matter of motherhood the circumstances are harsh (Oh and Paik, 2003).

Social discrimination of this kind placed upon disabled women is ubiquitous around us and is a critical factor of the low birthrates among them. According to previous studies the levels of desires to bear and raise children are not any different between the women with disabilities and the women without disabilities. However because the social conception imposed upon women with disabilities depicts it unrealistic for them to rear children, their natural desires to become pregnant are

constantly thwarted (Oh and Paik, 2003).

Although there seems to be a lot of problems our society is facing regarding this issue, there are only a few studies focusing on women with disabilities. And there is less number of published papers focusing on the fertility and motherhood rights of these women. Oh and Paik conducted a survey on 2003 with their own data collected through a private institute. And other studies were qualitative studies analyzing some interviewees from a certain community. It has been only 10years since women with disability became an official part in the National People with Disabilities panel data. And the questionnaire provided in this panel data is still far beyond the needs to implicate new government policies for the parenting process of women with disability. Since Korea is now inflicted with the problem of low fertility, the Korean government has been conducting National Survey of Fertility and Family Health data every 4 years. Although this is the largest survey dealing with fertility, there are no questionnaires focusing on women with disabilities. Given these two largest data sets, there is little chance to get intuitive information about the mothering of women with disabilities in Korea.

Our societies, in this case Korea, are fraught with obstacles for women with disabilities to have children in their lives. With all the information provided above, it is my objective to determine the influencing factors of this problem and promote public attention by delving into this minority group and provide resources for further research.

## 1.2 Objectives

This paper is written with the purpose of revealing the influencing factors that affects the disabled women's procreateness. The possibility of them resolving to become mothers and to undergo the journey of pregnancy and delivery can be understood not only as the result of their personal health conditions but also the result of interactions between the economic issues and values within the surrounding societies. From the past researches we concluded what causes women with disabilities to decide to become mothers while being subjected to three discriminatory factors: disability, female and poverty (Moin, et al., 2009). In my research I will focus more on detailed variables that has not been concerned as essential variables from previous studies. I focus on the socio-demographic, economic, health and disability, and social support factors that affect fertility (in this paper I refer 'fertility' as the average number of live birth one bear). These assessments will act as baseline data as well as a stepping stone in reinforcing social welfare programs and government policies aimed at encouraging and supporting the most disadvantaged groups of people in our society, Korea.

## **2. Literature Review and Hypotheses**

### **2.1 Literature Review**

#### **2.1.1 Health and disability factors**

According to Mother's health condition, induced abortion experience, spontaneous abortion experience, contraception experience availability, disability level, hospital visiting frequency, etc. all influence fertility of women (Yoo & Ohem, 2007). Mother's health condition shows association not only with the delivering behavior but also with the child nurturing processes. Thus mother's health condition can be an important factor which influences fertility (Oh & Paik, 2003). These kinds of difficulties can be overcome when there are appropriate governmental policies and aids; however when proper methods are not available in solving these barriers, it can be a crucial factor in adversely affecting fertility. In this context, disability and health condition that these women carry are essential factors that should be considered when it comes to fertility.

Different types of disabilities faced different types of difficulties when it comes to the period from bearing a child to the nurturing stage (Redshaw, et al., 2013). Women with intellectual disabilities were more violated with their decisions in bear children and were more frequently forced for contraception or abortion from others including, husband, family and other caregivers (Dukes & McGuire, 2009). Physically disabled women were most concerned with the accessibility to hospitals which specialize in women with disabilities. Because these women are in need of more complexed help from the doctors, they had to visit the hospitals that are far away from their residences (Oh & Paik 2003). Women with physical disabilities had difficulties during and after bearing children, whereas women with mental disabilities had difficulties as early as

when planning to have a baby.

The tendency of women with disability marrying men with disability is not low. And therefore there are substantial amount of couples who are both people with disability. This is another environment that should be considered as an affecting factor on disability fertility because the burden of disability gets doubled (Lee & Sohn, 2008). Previous studies on the couples where both the husbands and wives suffer from mental disabilities showed that there exists high stress for both parties when nurturing a child (Jeon, 2008). Which means the type of the disability the husband possess can be an affecting factor of the fertility of women with disabilities.

Health issues and stresses from overworking have also been shown to be influential in low birthrates among women with disabilities (Hong, 2016). The state of the women's normal health can have an impact in making decisions of planning a child and of delivering the baby in good conditions (Kong, 2006; Hong, 2016). But because the women with disabilities are usually inflicted with unstable health conditions, without appropriate sex education and medical attentions they are once again prone to be deterred from planning a family (Cho, 2016). Oh and Paik found out that their awareness and capability in using contraception and pregnancy controls learned through sexual educations affected the fertility of women with disabilities. Not only that, the conditions of these women have the possibility to put them at risk by jeopardizing the life of the fetus which is why more public attention needs to be drawn on this matter. And yet social concerns toward the health care of women with disabilities are at a low and health care systems for mothers are mostly limited to women without disabilities.

There are risks that the medical service party should jeopardize when they treat women with disabilities. The risks are caused by the conditions of the disability when a

disabled woman delivers a baby and in case the situations turn harsh extra care is needed. However many medical facilities tend to avoid treating women with disability because they are more concerned about the disadvantages they may end up with were the patient's condition go wrong. Not all disabled women have higher risks when delivering a baby due to their conditions. However, doctors and hospitals are reluctant to care these patients just to stay away from any repercussions that would cause them more burdens (Cho, 2016). Therefore not only are the hospitals and national policies on shortage but also the well-educated faculties that are competent in treating these women are on shortage.

What is worse, it has been shown through former studies that women with disabilities find the hospitals with professional staffs who are familiar with their disabilities much more helpful (Oh and Paik, 2003). Because of their illnesses the women with disabilities are more concerned about the unpredictable situations that may occur upon themselves and on their children in the process of giving birth. This is why the level of knowledges the medical personnel hold, pertinent to the women's illnesses, is a significant part in women with disabilities in order for them to feel comfort during their pregnancies and deliveries. However the number and the general supply of hospitals and medical experts specialized in such areas are markedly insufficient (Seo et al., 2016). And this once again alienates disabled women from the society.

Women with disabilities are concerned with the same issues as other women without disabilities. Their fertility rate is also influenced by value conditions, socio-economic reasons, etc. Thus what should really be considered is ones' body conditions and health conditions and the interactions these factors have with the environments they reside in. Especially the body condition, level of disability, availability of infant care system provided by the surrounding community can be the determining factors while

other socio-economic factors also exist.

### **2.1.2 Social support factors**

A mother cannot wholly be held responsible for the processes which entails the birth of a child. From the very start of one's pregnancy, the woman's family and the neighboring community should also take active parts in the journey (Redshaw et al., 2013). From the 1970s, social support became an uprising variable applied to analyze the influence on fertility rate (Sung, 1993). And it is known that social support puts a substantial influence on the role of mother and the motherhood behavior toward their children (Bronfenbrenner, 1979). Social support is love, care, information, tangible support that one receives from others through a social connection that gives positive effect (Lim & Lee, 2010). Mothers who experience material, mental support has a positive tendency on nurturing a child (Crinic et al. 1983), also the role of the spouse to support gave more intimacy to the mother with their children (Unger & Wandersman, 1988). This brings an assertion that the social support from the surrounding and from the spouse gave positive effect to the mother's nurturing behavior (Moon, 2003).

It is highlighted that the spouse's social support puts the highest effect on mother's nurturing; more than any other social network support that can be given. Social support from husband and other family members has stronger influence on nurturing behavior than the disability type itself. The social support coming from the spouse varies under the spouse's health and disability conditions. If the spouse is a person with disability, there exists an intimacy as a kindred person with disability and result in providing more emotional support than a spouse without disability (Lim & Lee, 2010).

There are three types of social support that affects fertility: emotional,

informational, tangible support. There are studies that use social support as a variable but there are not many studies undertaken with dividing the social support into subgroups. Material support is usually the financial support, service support, etc. Emotional support is perceived as the support that one receives from other people. Informational support includes information given from others or organizations such as information about specialized medical facilities for women with disabilities (Choi & Ko, 2007).

How to measure social support is still debatable. However Crinic and colleges (1983) have concluded that when speaking of social support not only the quantity but also the quality of social support should be considered. And by asserting the importance in the perception of social support, they claimed that the satisfactions derived from intimate social support have more positive effect on mother's nurturing than the general amount of social support given.

The Korean government have been focusing on managing the health of women in their child bearing ages. And in regard to women with disabilities, the program is focused on providing financial aids to cover their medical expenses. This is because it is shown that during their pregnancies and deliveries women with disabilities are more likely to end up with additional expenses when compared to those without (Cho, 2016). Accordingly the Korean government initiated a program which subsidizes the women with disabilities by assisting their expenses pertaining to the birth of their child up to a 1 million Korean won. This amount is insufficient even for women without disabilities; hence it is unquestionable the women with disabilities who needs special care from medical and prenatal institutions because of their conditions perceive the amount of the subsidy insufficient. Nevertheless, the fall in the birthrate among women with

disabilities in conjunction with the lack of adequate publicities of the program induced the applicant turnout to be quite trifling (Seo et al., 2016). This is why the availability of the social disability subsidies is an important variable as a material support. Because when a woman receives the national disability subsidy, there can be fewer burdens in regards of the economic condition and it could promote more child birth among women with disabilities (Kim, 2003).

The society dissuades disabled women from being pregnant in the name of their concern for the health of these women and their babies (Kim, 2003). But because the people's unease is not entirely groundless it is nearly impossible for the disabled women to utterly disregard these comments. Public assistance is imperative in order for disabled women to have children; however current social support programs available to the disabled women are inadequate (Cho, 2016).

Disruption hypothesis can explain the social support factors because disability can solely act as a stressor that postpone or reduce the likelihood of bearing a child.

### **2.1.3 Socio-demographic factors**

Minority status theory means that women who are positioned in a specific minority condition tend to postpone or hesitate to bear a child. In this case, disability could be a reason for women to hesitate or bear less number of children. Disability can be the sole reason for low number of children one would bear, or it could bring other side effects such as low socio-economic status (SES). Because they want to achieve higher SES before they bear a child it may lead to their delay and hesitation in child bearing (Lee, 2005).

The socio-demographic factors related to fertility are age, level of education,

vocation, etc. and women without disability tend to show that higher level of education and lower level of religion leads to low number of children (Kim, 1991). There is an inverse relationship between wife/ husband education level and fertility. However, when the wife's level of education is not the same with that of the husband, fertility is more closely associated with the wife's education level. Oh and Paik asserted that the socio-economic factors of disabled women are similar with those of women without disabilities (Oh & Paik, 2003).

#### **2.1.4 Economic factors**

Throughout recent years the employment rate in Korea has plummeted. Consequently being married and raising a child has become a fanciful life for young adults and this hardship strikes women with disabilities much harder (Kong, 2006; Cho,2016). As a disabled woman it is not only extremely hard to procure employments but it is also difficult to maintain their positions after having children. Without having settled systematic welfare policies such as maternity leaves in workplaces, working mothers in Korea usually return to workplaces without having sufficient rests and are coerced to hire babysitters (Cho, 2016). Because the firmness of a company's welfare policy tend to be proportional to the size of the company and since it is nearly impossible for disabled women to outrival so many highly skilled competitors and enter a larger company within the atmosphere of discrimination, ironically the people who should be enjoying the most benefits end up enjoying the least. Such phenomena lead them to reconsider having children in their lives (Chung, 2010).

Economic factors include income, husband's income, vocation, husband's vocation, etc. The association between income and fertility shows that when income increases, fertility also increases. The income determines how much money can be spent

on nurturing a child. It also affects the services one can receive during their delivery process (Becker, 1976). On the other hand, there are studies showing that people with high income pursue quality rather than quantity of children. They tend to focus on the quality of life with smaller number of children rather than having large number of children (Oh & Paik 2003). Also, according to Cancian and Meyer (1998) the welfare benefits that the mothers receive can influence fertility, which leads to a tendency where the availability of material supports are likely to increase the possibility of mothers bearing children. According to Oh and Paik's 2003 research, the economic factors of women with disabilities were similar with those of the women without.

## **2.2 hypotheses**

The main hypothesis in this study is that disability factors are associated with the average number of children and this can be followed by three sub-hypotheses (1) Women with physical disability have higher fertility than women with mental disability. (2) Women with disability who has a husband with a disability have lower fertility than women with disability who has a husband without a disability. (3) When the husband has a disability, the wife of a husband with physical disability has a higher fertility than the wife of a husband with mental disability.

Since the social support factor is an important factor the hypothesis comes as follows: (4) among the three types of social support (material support, informational support, and mental support) material support has the strongest association with fertility.

## **3. Method**

### **3.1 Data and Sample**

This study was conducted by using the survey data from People with Disability in Korea 2014. It was co-conducted by the Ministry of Health and Welfare and Korean Institute for Health and Social Affairs (KIHASA).

The 2014 survey of disabled persons used the 2010 census survey enumeration district. In the 2014 survey, 38,560 out of 48,344 household from 200 enumeration districts were surveyed. Household samples were extracted from the total population of all households in the enumeration district and all of the household members were asked about their disability statuses. This method is more desirable in identifying the rate of occurrences of the disabled populations, the various characteristics of people with disabilities, and their specific needs for welfare. 6,824 persons with disabilities completed the survey. The number of disabled people was estimated to be 2,646,064, with an estimated 5.43 persons per 100 people

The questionnaire was directly asked to the disabled person as the respondent. However, unlike other surveys, there are certain disability types that contain difficulties in communication. In this case, the member of the household (mainly spouse or parents) of the disabled person responded for them.

Out of this population, a certain criteria were excluded from the initial dataset: male, age under 18, and above 49. The remaining represents the biologically productive women with disabilities who have an experience of bearing a child. This result brought a sample size of n=819. More information can be found at the website (<https://www.kihasa.re.kr/>).

## **3.2 Variables and Measures**

### **3.2.1. Fertility variable**

Fertility is used as the dependent variable. The lack of data provided by the Korean government brought difficulties in measuring other various measures such as TFR. For this reason it is broadly accepted that fertility is measured by the frequency of actual number of children given by one person (Kramer, 1987). The number of children was asked to the respondent during the interview which only includes the number of children they acknowledged as their own children.

### **3.2.2 Health and disability Variables**

Health and disability variables are distinctive variables for women with disabilities unlike socio-demographic and economic variables. The first to be considered is the type of the disability. The type and rank of the disability is a government verified fact that is given to the disabled person based on certain criteria of proof. The disability characteristics that are contained in this data are legitimized contents that are qualified as official facts. This is because there are different needs and obstacle for different types of disabilities. I have divided the types of disability into two categories: mental and physical disability. The disability type of the husband was also considered. This variable is measured in three characteristics: no disability, mental disability, and physical disability. The cause of disability could also be an important factor for fertility. Congenital and acquired disabilities bring different types of emotions and minds (Kan, et al., 2012). The level of disability was considered. There are 6 levels of disabilities; level 1 is ranked as the highest and rank 6 indicates the mildest form of disability. Along with the type of disability the rank of disability is also government proven characteristics. The husband's disability rank is also considered and it is also

categorized into 6 levels. Husband's role is found to have an effect on fertility thus there could be an association with the husband's disability level.

The rank of the disability is a national rank which is given by the government when they register for their disability pension. It is distinguished by their health record issued by medical centers and one could contain several disability types and ranks.

The husbands' disabilities were acknowledged by the wives' responses. Because the survey was conducted on household units, if the husband was also disabled, himself was also considered a respondent. Thus as far as the husband was a person with disability, the type and rank of the his disability was clear.

### **3.2.3 Social support Variables**

Social support variables are divided into three supports: emotional support, informational support, and material support. In the case of emotional support, it contained questions such as their relationship with the family members, their satisfaction level in marriage life, and life satisfaction scale. For informational support, it contained questions that can be answered as either no information provided by others, from the internet or information from family or information from other institutes. For material support the questions were whether they were receiving financial subsidies for nurturing children, or financial support for delivery hospitals and other medical services, or financial support for house chores and other postpartum helps.

### **3.2.4 Socio-demographic Variables**

Since there exists a tendency where more health and disability difficulties occur while bearing children as one grows older, I have searched for the ages of the mothers for socio-demographic variables.

Education level is also used as a variable because the education period can determine one's pregnancy. Marital status is an important variable because the role of the husband and the family is significant when it comes to planning a family. The role of the spouse affects all the other variables such as economic levels and social supports.

### **3.2.5 Economic Variables**

For economic variables, the amount of income is an important variable. Income level is affected by many other socio-demographic variables thus it must be considered. The availability of social disability subsidy is also an important variable. Occupation status of the women also affects the fertility. I have categorized occupation status into three parts: employed, unemployed, and unpaid employed.

### **3.3 Statistical Analysis**

The first part of the analysis was a frequency analysis in order to describe the characteristics of the data. Following the descriptive analysis of the data, Skewness and Kurtosis were calculated to test the normal curve frequency distribution. To analyze the factors that affect fertility, multiple regression analyses were conducted with all the variables. All statistical analyses were conducted using the IBM SPSS 22.0, using the 0.05 criterion of significance.

**Table1. Dependent and Independent variables**

Variables		Contents	
<b>Dependent</b>	Number of children	Average number of live birth	
<b>Independent</b>	Socio-demographic	Age	#
		Education	Below elementary, middles school, high school, university above
		Marital status	With spouse/ without spouse
	Economic	Income	# million
		National disability subsidies	Yes / No
		Employment status	unemployed/ employed/ unpaid employed
	Health/ Disability	Type of disability	physical disability/ mental disability
		Spouse's disability status	None/ physical disability/ mental disability
		Cause of disability	congenital/ acquired
		Level of disability	1.2.3.4.5.6
		Spouse's level of disability	1.2.3.4.5.6
	Social support	Emotional support	relationship with family members/ satisfaction level for marriage life/ life satisfaction
		Informational support	no information provided by others or earned from the internet/ information from spouse and family/ information from other institutes
		Material support	Material support for child nurturing/ material support for labor and delivery/ material support for postpartum and house-chores.

## 4. Results

### 4.1 General characteristics

In this study, fertility is defined as the number of children. Thus before analyzing the factors influencing the fertility, I have measured the mean and standard deviation of fertility, and calculated the skewness and kurtosis to figure out the availability of normal distribution to precede the number of children as the dependent variable.

As a result, the mean of fertility was 1.60 and both skewness (0.00) and kurtosis (0.43) calculated were lower than 2 which means the distribution of fertility resembles a normal distribution. Thus fertility seems to be suitable to compute parametric statistics such as analysis of variance and regression analysis.

Regarding the age, age group 19-29 composed 1.9% with mean, age group 30-39 composed 22.3% with, and age group 40-49 composed 75.8%. Regarding education levels, high school graduate was the highest (50.4%), college or above graduate (36.3%), middle school (9.6%), below elementary (3.6%). The proportion of women with a spouse (79.8%) was higher than women without a spouse (20.2%).

The economic characteristics of the data samples regarding the income amount, 7.1% earned under 1 million won, 21.2% earned 1 – 2 million won, 26.0% earned 2 – 3 million won, 26.0% 3 – 4 million won, 11.9% 4 – 5 won, and 13.3% earned more than 5 million won. Working status was grouped into three categories: unemployed (32.4%), employed (48.7%), unpaid working (18.9%). Regarding national disability insurance, 81.3% replied that they do not receive the subsidies and only 18.7% is receiving them.

The proportion of physically disabled women (86.7%) was higher than the

mentally disabled women (16.7%). Women with a disabled husband only occupied a small proportion of 7.8%. Spouses with physical disabilities were 5.4% which was higher than spouses with mental disabilities. The cause of the disabilities was mostly acquired disabilities (88.6%) and 6.4% were congenital disabilities. The percentage of the disability rank showed: rank 1 (5.7%), rank 2 (9.9%), rank 3 (17.3%), rank 4 (13.1%), rank 5 (19.1%), and rank 6 (34.9%).

Among the three types of social support, emotional support was measured by 4 levels: high (26.3%), mid-high (28.1%), mid-low (17.3%), low (28.3%). When they were asked about the experience of informational support, 39.4% replied that they have experienced it before. And when asked about tangible/ material support, 6.1% responded that they had received them throughout their motherhood.

**Table 2. General characteristics and descriptive statistics**

<b>Variables</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Mean</b>	<b>SD</b>	<b>F</b>	<b>p</b>
<b>Age</b>	19-29	16	1.9	0.68	0.80	11.717***	<.001
	30-39	183	22.3	1.45	0.97		
	40-49	621	75.8	1.66	0.91		
<b>Education</b>	Below Elementary	30	3.6	1.67	1.26	2.699*	.045
	Middle school	79	9.6	1.64	0.93		
	High school	413	50.4	1.67	0.93		
	University and above	298	36.3	1.47	0.90		
<b>Marital Status</b>	With spouse	653	79.8	1.65	0.92	3.090**	.002
	Without spouse	166	20.2	1.40	0.96		
<b>Income</b>	Under 1 million won	58	7.1	1.27	1.12	2.932	.012
	1-2 million won	174	21.2	1.62	0.96		
	2-3 million won	213	26.0	1.54	0.99		
	3-4 million won	168	20.5	1.60	0.89		

	4-5 million won	97	11.9	1.83	0.73		
	Above 5 million won	109	13.3	1.63	0.85		
<b>National Disability Insurance</b>	Not receiving	666	81.3	1.48	1.07	-1.556	.121
	receiving	153	18.7	1.62	0.90		
<b>Working status</b>	Unemployed	265	32.4	1.51	1.04	1.639	.195
	Employed	399	48.7	1.64	0.89		
	Unpaid employed	155	18.9	1.63	0.83		
<b>Physical disability</b>	N	109	13.3	1.61	0.90	1.172	.244
	Y	710	86.7	1.48	1.11		
<b>Mental disability</b>	N	683	83.3	1.41	1.12	-2.258	.025
	Y	137	16.7	1.63	0.89		
<b>Spouse's disability type</b>	None	756	92.3	1.63	0.90	8.655***	.000
	Physical	44	5.4	1.10	1.12		
	Mental	20	2.4	1.21	1.37		
<b>Congenital disability</b>	N	767	93.6	1.48	1.10	-0.829	.411
	Y	52	6.4	1.60	0.92		
<b>Acquired disability</b>	N	93	11.4	1.60	0.91	0.552	.582
	Y	726	88.6	1.54	1.09		
<b>Rank</b>	1	46	5.7	1.34	1.03	2.503*	.029
	2	81	9.9	1.55	1.25		
	3	142	17.3	1.71	0.88		
	4	107	13.1	1.44	0.89		
	5	157	19.1	1.53	0.93		
	6	286	34.9	1.69	0.83		
<b>Emotional support</b>	Low	232	28.3	1.62	0.99	0.831	.477
	Mid-low	141	17.3	1.56	0.88		
	Mid-high	230	28.1	1.53	0.92		
	High	216	26.3	1.66	0.92		
<b>Informational support</b>	Not received	496	60.6	1.61	0.99	0.315	.753
	Received	323	39.4	1.59	0.89		
<b>Tangible/material support</b>	Not received	769	93.9	2.27	0.85	5.353	.000
	received	50	6.1	1.55	0.92		

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

## 4.2. Factors Influencing Fertility of Women with Disabilities

To analyze the factors influencing fertility of women with disabilities, a multiple regression analysis was conducted. The regression model was statistically significant ( $F=7.166$ ,  $p<.001$ ), R square was .132 which means that independent variables could represent the fertility by approximately 11.5%. Multicollinearity verification was conducted to the independent variables, as a result the variance inflation factor (VIF) value were all below 10 which means there were no multicollinearity problem.

The verification of regression coefficient showed that age, education level, marital status, income level, mental disability, type of disability of the spouse, and material support had statistical significance on fertility rate ( $p<.05$ ). As age gets higher, fertility was also high ( $\beta=.143$ ,  $p<.001$ ). As education level increased, the average number of children decreased ( $\beta=-.131$ ,  $p<.01$ ). Women with a spouse had a higher fertility than women who did not have a spouse ( $\beta=.103$ ,  $p<.01$ ). Women with high monthly income tend to have higher fertility ( $\beta=.111$ ,  $p<.01$ ). Women with mental disability had lower fertility ( $\beta=-.184$ ,  $p<.05$ ). Women with a spouse without a disability had higher fertility than those with a spouse with disability ( $\beta=.122$ ,  $p<.01$ ). The disability type of the spouse showed that a spouse with a physical disability had lower fertility than those who did not have physical disability ( $\beta=-.145$ ,  $p<.001$ ). Also women who have a spouse with mental disability had lower fertility than women with a spouse without mental disability ( $\beta=-.077$ ,  $p<.05$ ). Women who received material support had higher fertility than women who did not receive material support ( $\beta=.244$ ,  $p<.001$ ).

When comparing the influence intensity among the variables by standardized regression coefficient, material support showed the highest standardized regression

coefficient ( $\beta=.244$ ), which means the material support was the most influencing factor on fertility.

**Table 3. Factors influencing fertility of women with disabilities**

<b>Dependent variable</b>	<b>Independent variables</b>	<b>B</b>	<b>S.E.</b>	<b><math>\beta</math></b>	<b>t</b>	<b>p</b>	
Number of children	(constant)	1.259	.410		3.070	.002	
	age	.277	.069	.143	4.023***	.000	
	Education	-.162	.047	-.131	-3.423**	.001	
	Marital status	.240	.087	.103	2.750**	.006	
	Income	.071	.026	.111	2.696**	.007	
	National disability subsidy	-.069	.103	-.029	-0.673	.501	
	working status (unemployed = ref)						
	Employed	.087	.081	.047	1.070	.285	
	Unpaid employed	.020	.100	.009	0.202	.840	
	Physical disability	-.418	.216	-.152	-1.932	.054	
	Mental disability	-.461	.208	-.184	-2.211*	.027	
	Spouse disability (none)	.233	.059	.122	2.323**	.001	
	Spouse physical disability	-.601	.165	-.145	-3.652***	.000	
	Spouse mental disability	-.467	.215	-.077	-2.174*	.030	
	Congenital	.187	.192	.049	0.976	.329	
	Acquired	.072	.153	.024	0.470	.639	
	Level of disability	-.010	.024	-.017	-0.414	.679	

	Emotional support	.002	.053	.002	0.044	.965
	Information support	.032	.067	.017	0.483	.630
	Material support	.950	.139	.244	6.819***	.000
<b><math>F=7.166(p&lt;.001)</math>, <math>R^2=.132</math>, <math>adj R^2=.114</math></b>						

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

## **5. Discussion**

### **5.1 Implication**

To briefly elaborate the findings, age, marital status, income, spouse disability status, material support were the variables that showed positive association with the number of children. In other words, with these variables the number of children has increased. On the other hand, education, mental disability, spouse physical disability, spouse mental disability showed negative association, meaning with these variables the number of children decreased.

According to the findings of several analyses, women with higher socio-demographic and economic status have higher fertility. The table provided by this study show that women with higher monthly income had more children on average. The multivariate result shows that as their age grow the number of the children they bear increases. The marital status showed difference on the number of children women bore. Women with husband had higher fertility than women without a spouse. And also from the literature review, results from this data set showed statistical significance on difference by education level. However the national disability subsidy did not show a distinctive difference on the number of children being born; rather the group who did not receive national disability subsidies had higher number of children than the group who did receive subsidies. This implicates that the government's financial support is highly inadequate than the amount of support these women who bore children needed.

According to the result, groups with different types of disabilities had different number of children. Because there are women with both mental and physical disabilities, in this analysis I have categorized in two sections: women with or without physical disability and women with or without mental disability. Both types of disability

showed difference from each component group. The statistically significant group was women with mental disability. These women had lower number of children than the group without mental disability. Which supports the first hypothesis, women with physical disability has higher fertility than women with mental disability.

The role of the spouse has a significant impact on the fertility. It turned out that the women who had a spouse without disability had higher fertility than the women who had a spouse with disability. Women who are married to men without disability have more children on average than women who are married to men with disability. This supports the second hypothesis that women with disability who has a disabled husband have lower fertility than women who has a non-disabled husband.

The type of disability was applied to the spouse's disability condition and it turned out that the wives of physically disabled men had fewer children than the wives of mentally disabled men. This is an interesting point because in the case of mother, the disability type which negatively affects the number of children is mental disability. However when considering the type of disability of the spouse, physical disability inflict more negative effect on the number of the children being born. The type of disability brought different effects to the husband and wife. This rejects my third hypothesis that when the husband has a disability, the wife of a husband with physical disability have a higher fertility than the wife of a mentally disabled husband. According to my data, woman with a physically disabled husband have lower fertility than woman with a mentally disabled husband.

From previous studies it had been known that groups of people with different levels of disabilities bear different numbers of children on average. However, there was no statistical significance on the level of disability and the number of children born. It

was known that if the intensity of their disability is strong they bear fewer children on average than women with lower level disability (disability with weaker intensity) . But my result shows that the type of the disability has association with fertility rather than the level of disability.

Social support acts as an essential part for minority groups and for women with disability to bear children, the social support from one's surrounding is crucial. There were three variables for social support: emotional support, material support, and informational support. From the information provided by previous studies it seemed that material support was the most essential and helpful social support. This is because material support can be linked to economic statuses which correlates to the statistically significant finding that women with higher income have more children on average. On my data, women who experienced material support had the highest number of children compared to the other two groups.

According to the multiple regression analysis, the age, education level, marital status, income level, mental disability, type of disability of the spouse, and material support are the variables that are statistically significant. The strongest association was found on material support and the number of children. Material support can be simply seen as money, financial support, etc. This supports my last hypothesis that among the three types of social support, material support affects fertility. However there is more meaning to that. Material support includes the facilities and the hospitals specialized in disabled women which these women can use from pre-natal step to post-partum. Material support can be related to the marital status. Women with a husband will possibility have higher income as a whole, and the material support her husband gives can be a big support and effective factor on the number of children one would bear. Material support is a single variable that has the highest effect on fertility but the

meaning this single variable connotes is much more.

Oh and Paik asserted that the socio-demographic factors and economic factors of women with disability are relevant and that the other factors should be focused on to analyze the factors affecting fertility of women with disabilities. Women with disabilities with lower education level or higher income had higher number of children and this was consistent with women without disabilities. This assertion can be supported with my findings also. Showing that women with higher education tend to have fewer children and women with high monthly income had more children. Minority status theory can be used to explain the familiarity of women with and without disability.

The most noticeable factor in this study is the type of disability that affects fertility. This was not seen in any other previous studies. Most studies focused on disability as a whole and have concluded that the level of disability brings an association with fertility. However from my table it can be interpreted that it is important to consider the type of the disability of both husband and wife and it is also important to consider the people who are both mentally and physically disabled. However my findings show that unlike the previous studies which asserts the association between disability level and fertility, there was no significant relationship between the disability level and fertility in this research.

Another distinctive outcome of this research is that I have used “material support” as an independent variable. There is little study connecting the social support and fertility. And even there the social support studies about women with disabilities did not sub categorize social support into three parts. The purpose of this paper is to give insight to public policies to improve and support fertility by acknowledging the affecting factors women of the previous years experienced. Thus it is important to know

which kind of social support gives the most impact to fertility. According to my result, material support was the key factor, not only among the three social factors but also within all the variables.

## 2.2 Limitations

There are quite a few limitations in this study. First, the data I have selected to use, the National People with Disabilities Survey, is not created under the objective of women and their motherhood circumstances. Thus only a small portion of this data set focuses on women and fewer questions ask about their ability and perception and other questions that can infer fertility matters. There is very limited resource to study the fertility of women with disabilities in Korea. Since 2011 it became possible to earn data of women with disability distinguished from men. The following survey which was conducted on 2014 had improved the quality of data of women with disabilities but it is still very limited for in-depth studies of fertility and other motherhood rights. Because this is the only data that covers the disabled population of Korea, I chose this data to use in my research albeit I knew the limitations. With more specific questionnaires that could delve into the circumstances where these women are set in it will help to produce a more in-depth study. The number of children were measured through questioning the respondents how many children she carries. So it is not possible to determine whether the respondents bore all of the children or not. There existed some ambiguities if there were no stillbirth, miscarriage, abortion, etc.

The Korean literature reviews were mostly based on qualitative studies composed of women's interviews operated in small groups. There were difficulties in applying hypotheses obtained by small size samples. Different cultures bring different consequences when it comes to disability. Australia and Poland had numerous papers focusing on different needs based on different types of disabilities. However there has not yet been any paper concerning the type of disability in Korean research. This paper will be a stepping stone for more researches toward the type of disability in a more minute level.

This data set contained a few questions about social support. Social support cannot be clear-cut into categories. Thus in some questionnaires there were ambiguous variables which contained redundant meanings. In future surveys, there should be a section focusing on the social support these women receive and these women seek for. This paper has its meaning to delve into social support as an effecting factor on fertility of women with disabilities. Because of the shortage of data, only a brief conclusion could be made: that women who were given material support had more children than the others. Having more specific social supports will help the policy makers to focus on figuring out which social support is associated with fertility, mostly material support, and focus more on the specific advantages that they can provide to the people who request it.

As I have mentioned above, there is no microdata study conducted in terms of fertility of women with disabilities. Thus the implication this paper has on the fertility and motherhood rights of women with disability is still considerable. Also there are some papers using the 2014 National People with Disabilities in Korea data but none of them focuses on the women and maternal side of it. From this paper I have discovered that there should be more microdata analysis research papers focusing on fertility issues. With more information regarding the specific number of children born each year, it would be able to calculate the fertility rate indifferent fashion then it could've shown the difference of fertility rate of women with disabilities by time. Although there are limitations caused by lack of provided data, I believe this paper provides an insight of the factors which affect the fertility of women with disabilities.

## 6. Conclusion

This research had four hypotheses and according to the findings, the first hypothesis is supported that women with physical disability have higher fertility than women with mental disability. The second hypothesis can also be supported that women with disability who have husband with disability have lower fertility than women with disability who have husband without a disability. However the third hypothesis was rejected; When the husband has a disability, the woman with a physically disabled husband had lower fertility rather than having a higher fertility when compared to the women with a mentally disabled husbands. Lastly, the fourth hypothesis was supported that among the three types of social support (material support, informational support, and mental support) material support has the strongest association with fertility.

The purpose of this study was to examine the factors which affects the fertility of women with disabilities in Korea. The study is especially focused on disability and health factors and social support factors that would affect fertility. Much of the previous studies focused on the general socio-demographic and economic factors of women with disabilities. Those previous studies brought a conclusion that socio-demographic and economic factors had similar effects on the fertility of women without disabilities as the women with disabilities, and that is the reason why there should be more specific variables to analyze the factors affecting fertility (Oh & Paik, 2003).

Even with limitations, this study was significant in that it provided a general insight of what factors affects the fertility of women with disabilities. Fertility represents motherhood, the basic human rights of women. This most basic right has been violated in our society and little research has been conducted over the matter with lack of interests. Now the social attention on human rights of disabled people is growing

and the social condition surrounding the people with disability is improving.

The next step is to put more effort on the quality of life of women with disabilities and motherhood rights. The findings in this paper about the more specific factors that affects fertility gives a headlight that there is a need to delve into each disability characteristics. The most noticeable outcome of this paper is that the type of disability brings difference on the number of children a woman bears. The spouse's disability also influences fertility. Women married to men without disabilities had the highest number of children and women with spouse with physical disabilities had lower fertility. Also among the social supports given to this minority group, findings of this paper showed that material support has the most association with the number of children one could bear. My finding is consistent with the general fertility factors found on women with disabilities thus this will strengthen the existing factors. The result of this paper will help enhance the motherhood rights of women with disabilities and give better insight in pointing direction to which the governmental policies should focus on in order to provide adequate help.

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# 여성장애인의 출산력에 영향을 미치는 요인

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**연구배경:** 한국에서 장애인의 인권을 존중해주기 시작한지는 그리 오래되지 않았다. 그 중 여성장애인의 인권, 다시 말해 임신 출산 양육까지 모성권에 대한 관심은 아직도 미비하다. 정부에서 출산지원금을 제공하고 있지만 그것만으로는 부족하다는 것이 출산을 경험한 여성장애인들의 의견이다. 여성장애인의 출산력 영향요인에 관한 연구는 그리 많지 않다. 주로 질적 연구 혹은 작은 규모의 양적 연구가 대부분이다. 그렇기 때문에 전국적 규모의 패널 데이터로 어떠한 영향요인이 있는지 알아본 연구는 전무하다. 따라서 본 연구에서는 여성장애인들의 출산력에 영향을 미치는 요인을 알아보고자 한다.

**연구방법:** 본 연구에서는 보건복지부와 보건사회연구원에서 4년마다 진행되는 전국 장애인실태조사 2014년도 자료를 활용하였다. 본 연구의 독립 변수는 건강 및 장애 변수, 사회적 지지변수, 사회-인구학적 변수, 그리고 경제적 변수이고, 종속 변수인 출산력은 여성장애인이 출산한 자녀수로 측정하였다. 분석은 IBM SPSS 22.0을 사용하여 다중 회귀 분석을 실시하였다.

**연구결과:** 출산력에 미치는 영향으로 연령, 학력, 결혼상태, 소득수준, 본인의 정신적 장애 유무, 배우자의 장애유무, 배우자의 장애유형, 그리고 물질적 지지는 자녀수에 유의한 영향을 미치는 것으로 나타났다. 장애요인과 사회적지지 요인이 가장

돈보였다. 장애요인중 장애의 유형은 본인의 경우와 배우자의 경우일 때 둘 다 유의미한 영향을 미치는 것으로 나타났다. 사회적 지지 중에서는 물질적 지지가 출산력에 가장 영향을 미친다.

**결론:** 본 연구는 여성장애인의 출산력에 기존의 연구에서는 인구사회학적 요인, 경제적 요인 혹은 장애등급의 중요성을 강조하는 것이 대부분이었다. 하지만 본 연구는 장애요인과 사회적지지 요인에 중점을 두었다. 본 연구의 결과에 의하면 개인과 배우자의 장애유형은 출산력에 영향을 미치는 요인이라는 것이 드러났다. 또한 사회적 지지를 하나의 변수로 보지 않고 세분화 시켜 물질적 지지가 가장 영향을 미치는 요인이라는 것이 나타났다. 본 연구의 결과는 앞으로 정부에서 여성 장애인 관련 출산정책을 세울 때 근거를 제공하는데 의의가 있다.

주요어: 여성장애인, 출산력, 장애인, 장애유형, 사회적 지지

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