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The Effect of Parental Educational Background on Child Health: Focusing on Comparison between the Low-income and Non-low-income Groups

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ABSTRACT

In recent years, the issue of health inequality has emerged as an important social problem in Korean society. Recent empirical studies show that social structural factors have more impact on an individual's health than personal factors. Based on this point, this study examined how parental educational background affects child health. The study compared and analyzed the differences between low-income and non-low-income groups, in particular, based on whether they benefited from public welfare. This study conducted a simple frequency analysis, a descriptive statistical analysis, a correlation analysis, and a multiple regression analysis using the 5th's year data of the Seoul Panel Study of Children (SPSC). The analysis results show that low-income children were affected by their parents' educational background, while non-low-income children were not. Especially for low-income children, the higher a mother's educational background, the worse her child's self-rated health. This is due to the 'care deficit' created by the economic difficulties of low-income families, as mothers, the main caregivers, are forced to make a living, and by the patriarchal family culture in Korea that says, "Children are raised by their mothers." In order to solve these problems, this study argues that a gender-equal care culture

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should be established, while at the same time arguing that a delicate policy approach is needed. For example, this study argues that it is necessary to expand community-based social services for primary care (e.g. *Woori-dongne-kium* Centers launched by the Seoul Metropolitan Government) for low-income families that are in desperate need of support for primary care.

KEY WORDS

Health Inequality, Parental Educational Background, Mother's Educational Background, Children's Self-rated Health, Care Deficit

1 | INTRODUCTION

In Korean society, social inequality and divide are emerging as a critical social problem. For example, the so-called 'Spoon Class' (i.e. social classes likened to spoons), the idea that parents' socioeconomic status is passed down to their children, is becoming a common concept among people. Those born with 'golden spoons' have a stable and prosperous life thanks to the fact that they were born to parents of high socioeconomic status, while those born with 'mud spoons' have an opposite kind of life. This inequality is not just economic. The inequality arising from an economic one causes other inequalities in various areas of life, including education, lifestyle, and health (Kim Hi-jeong & Kim Yun-tae, 2020). In this regard, inequality in Korean society is virtually synonymous with deprivation and social exclusion.

There are many types of inequality that cause deprivation and social exclusion, but among them, health inequality is considered as a serious one. As we know, health is a prerequisite for the right to pursue happiness guaranteed by the Constitution. The others are virtually meaningless to those who cannot lead a healthy life. If health is not prerequisite for both the present life and the future life, the discussion itself cannot be established. More importantly, however, personal health is largely dependent on social structural factors. For example, even if the overall health status of a society improves, the personal health status among its people shows considerable differences, and these differences arise from the personal

socioeconomic status (Lee Mee-sook, 2005).

Nevertheless, the idea that 'health inequality is not serious in our country' is widespread in Korea, which is an illusion. This is because Korea, which has a high level of economic development, is a country with a good nutritional status among its citizens and advanced medical systems. Therefore, less social attention is directed toward the problem of health inequality, and social efforts and willingness to improve it are also weak. However, health inequality should not be overlooked easily as health concerns not only individuals but also the society as whole. It could be said that the lack of equal benefits and opportunities for all members of society in maintaining and promoting health is a limitation of basic rights.

Medically, personal genetic characteristics may be a main determinant of a personal's health. However, in social sciences, social environments or systems could be main factors that determine a person's health. In fact, those who have been exposed to hazardous environments for a long time or who have not been able to receive adequate social and institutional supports are often likely to see their health greatly threatened (Lee Jin-hui, 2016: 346). The main factors that determine a person's health are biological factors (genetics), lifestyle habits, and socioeconomic conditions. In the past, it was believed that health was determined by personal factors such as lifestyle habits and health behaviors. However, recent empirical studies have recently revealed that health tends to depend on social structural factors (e.g. poverty, socioeconomic divides, etc.). That is, in terms of the conditions necessary for maintaining and promoting health, the differences between individuals are due to income, educational background, and occupational status (Bae Sang-su, 2006).

Based on this point, this study examines the effect of parental educational background on child health. In particular, this study compares and analyzes the differences between low-income and non-low-income groups based on whether they have benefited from public welfare.

There are three reasons why this study was designed like this. First, preexisting studies failed to make efforts to identify the health inequality in terms of social structure. And even when there were such efforts, the focus was mainly on identifying the health inequality in relation to income. For example, they divided

the income quintiles and analyzed the differences between the poor and the non-poor groups. However, income has been regarded as an incomplete indicator for measuring health inequality because it is a variable with strong personal factors. So, the 'educational background' began to be recalled as an indicator for measuring health inequality. In Korean society, education is not only a matter of interest for all social strata, but also a social indicator that clearly shows the differences between social strata. For example, in Korea, education costs, when considering the total amount of household spending per month, are overwhelmingly higher than other spending items (Yonhap News, Apr. 27, 2020), and the education expenditure of high-income households is three times higher than that of the low-income households (Yonhap News, Mar. 12, 2018). Therefore, this study seeks to focus on the variable of educational background.

Second, it is necessary to pay attention to children as objects of health inequality. Some recent studies have shown that the child health inequality caused by social structural factors has a significant adverse effect on their health, both during and after their childhood (An Jin-sang & Kim Hee-jung, 2013: 206-207). Also, the issue of child health inequality is a very important issue in terms of norm and appropriateness. Children are an independent individuals with social rights, as well as future sovereigns and future principal actors in economic activities.

However, there is one thing to keep in mind when exploring the child health inequality: That children are 'dependent' and a 'person requiring protection'. So, when dealing with the child health, parental factors should never be overlooked. That is, parental factors (especially the parenting environments) should be included when analyzing the child health inequality. In fact, child health tends to depend on the parenting environments provided by parents. Nevertheless, preexisting studies tended to only mention only obesity, deviant behaviors (e.g. smoking and running away from home), and emotional/psychological conditions as factors that affect child health. That is, they did not show much interest in conducting a fundamental/structural analysis of child health. In this regard, this study seeks to focus on the 'self-rated health' of children. Since the self-rated health of children comprehensively measures a child's health in terms of physical, psychological and social aspects, it has an advantage of being able to effectively measure a child's parenting environments (i.e. parental factor) that have a decisive impact on the

child's health.

Third, it is necessary to compare the low-income family and the non-low-income family. That is, in examining the issue of child health inequality, it is necessary to make a comparison between the groups based on whether they receive public welfare. The development of public welfare, including social security, is a matter directly related to social rights, and most countries give the entitlement to public welfare to every citizen. In this regard, the public welfare system has a considerable impact on determining an individual's health status. In Korea, the tradition and practice of the residual welfare are strong, and the public welfare system is implemented mainly in the form of public assistance. That is, the public welfare system in Korea is operated mainly for low-income vulnerable people.[1] This means that a low-income family can receive various types of public support (e.g. support for livelihood, medical support, educational support, etc.) from the state or from local governments. In this context, in Korea, it could be seen that the benefits of public welfare, directly or indirectly, affect the children's health status. Thus, this study seeks to divide the research subjects into low-income and non-low-income groups based on whether they benefit from public welfare, and then examine what factors affect children's health in each case.

2 | THEORETICAL BACKGROUND

2.1 | Social Structural Factors Leading to the Child Health Inequality

2.1.1 | Socioeconomic Factors and Health Inequality

The social interest in the social structural factors of determining health grew bigger after a study showing that there had been no significant change in mortality rate despite the great development of medical treatment was published. According

1) Although Korea stipulates in its constitution that it aims for the institutional welfare, in reality it tends to be only nominal. When looking at the way the public welfare system works, it seems that it is actually adopting the residual welfare. For example, in selecting welfare recipients, it mainly targets the low-income vulnerable people, who are called 'livelihood dependents'.

to McKeown (1972), the decrease in mortality rate and the improvement of health status were not due to medical contributions, but to the improvement of social environments (e.g. nutritional improvement, spread of sanitary facilities, water and sewerage maintenance, improvement of living standards, etc.). That is, the factors related to social environments are 'social determinants of health', which have a significant effect on health (requoted from Cho Byong-hee, 2015: 27-28).

The problem is that society is never equal. It is well known that society is 'unequal.' Inequality presupposes 'discrimination' that originated from 'vertical differences' (Yoon Tae-ho & Kim Ji-hyun, 2006; Critical Sociological Association of Korea, 2019). 'Health inequality', which means social inequality in the field of health, refers to differences in health status caused by differences in socioeconomic capabilities (e.g. income, assets, social status, etc.). That is, health inequality is 'differences in health status between groups' or 'differences in health status within a group' caused by socioeconomic and sociopolitical inequality (Braveman, 2006; Corburn, 2005; Hwang Sun-jae, 2015; requoted from Lee Jin-hui, 2016: 348).

From the point of view of reproduction, health inequality appears to be 'intergenerational reproduction of unhealth (i.e. state of being unhealthy)'. In other words, children's unhealth stems from their parents' socioeconomic status. For example, children born to poor parents are more likely to be unhealthy than those who are not. Since children are socially dependent and require protection, their health status is bound to depend on their parenting environments—especially those provided by their parents. Preexisting studies have shown that the socioeconomic status of parents, the main caregivers, has a decisive impact on children's parenting environments. From this perspective, it is necessary to consider parental factors when trying to deal with issues regarding child health.

2.1.2 | Educational Background and Health Inequality

There are various ways of measuring socioeconomic status, and one typical example is social stratum. Social stratum, unlike social class, is a pluralistic concept. While social class is a monistic concept that divides the members of society according to their possession of economic resources (i.e. means of production), social stratum is a pluralistic concept that divides the members of society not just according to their economic resources but also according to their sociocultural

and sociopolitical resources (Critical Sociological Association of Korea, 2019). For example, the members are classified based on social status, income, educational background, and the like. Those with a high educational background, high occupational status, or high income are classified as the upper stratum. In reality, however, the status of each element of stratum may be different. An individual may have difficulty finding a job even with high educational background, or an individual with low educational background may own a large fortune. That is, each element of stratum reflects different aspects of social inequality, so each individual may have a different status.

Given that 'degreeocracy' is one of the characteristics of Korea, the educational background, among all the stratum elements, could be seen as an element that best represents the individual stratum. For example, distinguishing social stratum by income creates some difficulty in reflecting reality. Individual income structure is complex and opaque, and above all, people have a strong tendency not to disclose it to the outside. In the case of occupations, because of the unstable employment structure, they are insufficient to comprehensively show the pattern of inequality. However, educational background is a variable that could be measured from everyone. The variable of educational background could be answered more accurately than occupations or income. In addition, because of the social atmosphere of degreeocracy, it is relatively easy to capture the pattern of social inequality depending on educational background (Cho Byong-hee, 2015: 46-47).

Social inequality created by educational background could also result in differences when it comes to the risk of death according to educational background. Those with higher education—college or graduate school graduates—have a lower mortality rate than people with lower education—those who graduated from high school, middle school, or elementary school. For example, it appears that uneducated people are more than twice as likely to die as college graduates (Khang Young-ho & Kim Hye-ryun, 2006). Since uneducated people generally have a low occupational status in the labor market, they are more likely to be exposed to hazardous environments, and they do not have time and money to manage their health. As such, the differences in educational background cause not only the differences in socioeconomic status but also in the health inequality. What needs our attention here is that the health inequality depending on educational

background is passed down. That is, the inequality in parents' generation leads to the inequality in children's generation. Higher educational background simply does not mean a higher level of knowledge. Higher educational background means higher 'educational capital', and higher educational capital means higher chances of acquiring 'cultural capital' or 'social capital'. And this capital tends to be passed down to children's generation. Seen from this perspective, the family background, represented by the socioeconomic status of parents, has a huge impact on child health.

2.2 | Key Factors Determining Child Health

2.2.1 | Parenting Environments and Child Health

The most direct cause of the child health inequality could be parenting environments. The parenting environments are most affected by poverty. Poverty affects the parenting environments largely in two ways. One is the material part, and the other is the emotional and psychological part (Kwon Eun-sun & Ku In-hoe, 2010: 131).

First, poverty leads to undernutrition, poor access to medical care, and increased incidences of accidents and diseases in terms of child health. Among them, the problem of undernutrition in children is the most serious and its damage is great. Of course, the poor access to medical care or the increased incidences of accidents and diseases are not minor problems, but they are not daily events. People generally tend to cut back on food spending first when they face economic difficulties. This is because people think it is the easiest and most effective way. So, children from poor families cannot get enough of the essential nutrients they need to grow up. For example, the diet of poor households was found to be lacking in essential nutrition compared to that of non-poor households (Bang Kyung-sook et al., 2008).

Next, poor families are likely to have inadequate parenting due to unstable economic activities and stress, and as a result, it may be difficult for them to create a positive parenting environment. Parents with low income are likely to have irregular jobs or engage in unstable economic activities. So, in the case of poor families, the marital conflict or the depression in family is high due to

economic pressures (Hoghughi, 1998; Riley et al., 2009). In particular, marital conflict tends to lead to negative or inconsistent parenting, which have a negative impact on the child health (Aber et al., 1997). For example, negative and inconsistent parenting environments result in the lack of positive interactions between parents and children, leading to the lack of interest and response to the child health.

In short, poverty causes the deterioration of parenting environments and adversely affects the child health. In the case of poor families, children are easily exposed to accidents, malnutrition, and diseases, and they lack opportunities to receive proper health care from their parents. In particular, the lack of adequate parental supervision often leads to unhealthy eating habits (Dawson, 1991; Currie & Stabile, 2003; requoted from Kwon Eun-sun & Ku In-hoe, 2010: 131). Actually, the '2018 Child Comprehensive Survey' conducted by the Korea Institute for Health and Social Affairs shows that eating habits vary depending on income levels. The biggest gap was seen in the area of 'foods' among the 'deprivation index,' which measures the relative deprivation. On average, the proportion of the children who responded they could not have meals with meat or fish more than once a week was 2.87%, while that of children from poor households (i.e. households receiving the National Basic Livelihood Security Act) was 25.55%. And, the proportion of children who could not have fresh fruits more than once a week was 3.24% on average, while for the poor children the rate was 32.39% (Sisa IN, Feb. 10, 2020).

2.2.2 | Public Welfare and Child Health

There is a proposition that 'health is social.' This means that health is not just a personal matter. In other words, a personal health cannot be separated from the social environment created by public sectors. The recent Covid-19 pandemic has given a boost to this view. If the social environment is not good, individuals' efforts are meaningless no matter how best a person does for health care. For example, no one would have been able to lead a safe and healthy daily life without national efforts, such as government efforts to supply masks, briefings by prevention authorities through the media, and publicity of personal hygiene (Hankyoreh, Jun. 12, 2020).

A representative effort in the public sector to resolve health inequality in Korea

is the '3rd Comprehensive Plan for National Health Promotion (2011-2020)'. 'The 3rd Comprehensive Plan for National Health Promotion' is the first governmental plan to present the health equity as a policy goal. In 'the 3rd Comprehensive Plan for National Health Promotion', as its policy tasks, the government proposed the subdivision of sub-goals relating to health equity, the resolution of health inequality between regions, and the like (Choi Yong-joon et al., 2012).

It is necessary to look at the public welfare in order to properly understand the government's efforts to resolve the health inequality. Public welfare contains the government's routine, structural, and fundamental attempts to address the health inequality. Empirical studies have shown that public welfare (e.g. public health care, support for livelihood, etc.) has a positive effect on child health and has a certain correlation with the promotion of child health (Currie, 1995; Gertler, 2004; requoted from Kwon Eun-sun & Ku In-hoe, 2010: 135).

Korea is not an exception: It also seeks to promote child health through public welfare. However, there is something to keep in mind in the case of Korea. As Korea has a strong tradition of the residual welfare, the promotion of child health through public welfare is centered on the low-income vulnerable people. Thus, when dealing with the issue of child health inequality, whether an individual is receiving public welfare, such as public assistance, becomes a very important factor. For example, being a recipient of public assistance, such as the National Basic Livelihood Security Act, means being recognized as a low-income vulnerable person. This is because, in order for individuals to be eligible for institutional benefits, their income or assets must be below the poverty line set by the state.

This study aims to look at the issue of child health based on whether individuals benefit from public welfare or not. Specifically, this study seeks to distinguish between low-income and non-low-income groups based on whether they benefit from public welfare, and then examines how child health is affected by parental educational background, a factor representing the parental socioeconomic status that affects the creation of children's parenting environments.

2.3 | Measuring Instrument: Self-rated Health

In terms of physical, psychological, and social aspects, the main measure used

to comprehensively measure health is the 'self-rated health'[2]. The self-rated health is composed of questions asking how respondents subjectively evaluate their health status. The self-rated health is commonly used because it has the advantage of being able to comprehensively judge a person's health (Latham & Peek, 2012). Although some point out that self-rated health is somewhat less objective because respondents themselves evaluate their health status, the self-rated health is considered to have a comparative advantage over other measures in terms of the ease and validity of measurement (Park Seong-jun, 2018: 244).

The self-rated health is a frequently used measure of health status in the health research. As it is relatively simple to measure with it and the results can be compared internationally, it is highly preferred among researchers. And, it is highly utilized because its questionnaire is more reliable than those in other indicators (Kim Hyoung-yong, 2010; An Jin-sang & Kim Hee-jung, 2013: 208-209).

The self-rated health is being used as a tool to measure the 'multidimensional health environments' in relation to the child health. Recently, it was used as the measure to measure the 'self-rated health of children' in the 'Comprehensive Survey on Children's Status in 2019' organized by the Ministry of Health and Welfare. As such, more and more child health-related studies are paying attention to the measure of the self-rated health because of the limitations of preexisting studies. Preexisting studies mainly used biological factors in measuring the children's health status. For example, the children's health and nutritional status were determined according to their height and weight. And, they used the standardized height (Height for Age Z score) and the body mass index (BMI for Age score) (Kim Ye-sung & Park Soon-young, 2005). However, measuring the children's health status based on the growth and development variables is a mistake as it overlooks social structural factors. Therefore, it is necessary to fully utilize the self-rated health, which includes a certain part of lifestyle as well as physical, psychological, and social factors, for a comprehensive assessment of the children's health status (Breidablik et al., 2008; Latham & Peek, 2012).

2) In other studies, it is sometimes referred to as the 'subjective health perception'.

3 | RESEARCH METHOD

3.1 | Research Design

Based on what we have discussed so far, this study seeks to analyze how the parental educational background affects the child health. In particular, this study will divide the research subjects into low-income and non-low-income groups according to whether or not they receive public welfare, and then examine how the two groups differ. This study seeks to control the 'children's gender' variable and the 'family structure' variable (i.e. whether parents and children live together), which were identified as having an effect on the child health in preexisting studies. Then, this study will input the educational backgrounds of fathers and mothers as independent variables to see how they affects the children's self-rated health. The research model of this study is shown in Figure 1.

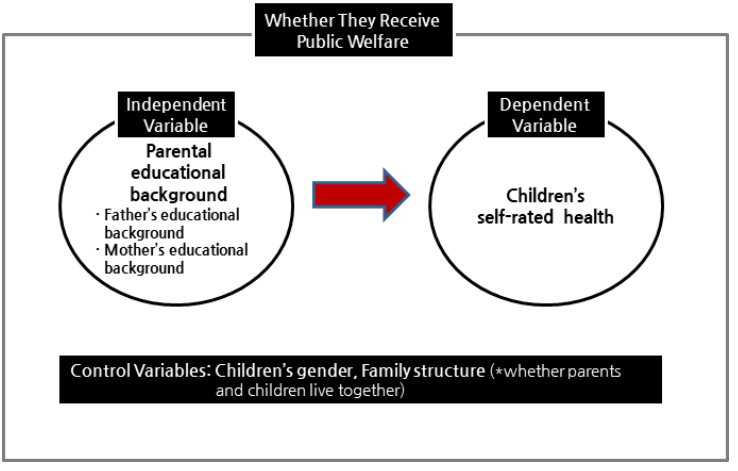

FIGURE 1. Research Model

3.2 | Analysis Data

This study used the 'Survey on Child Development and Welfare in Seoul' of

SPSC (Seoul Panel Study of Children) as analysis data. SPSC is conducted every other year, and this study used the latest data, the 5th year's. SPSC is a complete survey of the 4th graders at 11 elementary schools in Seoul, and their parents. As a longitudinal survey, SPSC is conducted once a year. The sampling method of SPSC is stratified sampling. The surveyed areas of SPSC are in the District K in Seoul, and SPSC stratified, among the elementary schools in the District K, the schools in low-income areas (8 schools, 1102 students) and the schools in non-low-income areas (3 schools, 683 students) (Kwon Eun-sun & Ku In-hoe, 2010: 133). SPSC includes the data not only on the children's self-rated health but also on the parental educational background and family environments, as well as the data on whether they receive public welfare (e.g. National Basic Livelihood Security Act).

3.3 | Concepts and Measurements of the Key Analysis Variables

3.3.1 | Self-rated Health of Children

SPSC uses the question 'What is your health status?' to measure the children's self-rated health. And, for the response, it uses a five-point scale, from 'very good', 'good', 'so-so', 'bad' to 'very bad'. Meanwhile, by reverse-coding, this study showed that the better the health status, the higher the number.

3.3.2 | Parental Educational Background

SPSC surveys the educational background of fathers and mothers separately. This study also analyzes by dividing the fathers' educational background and the mothers' educational background. This is to examine in more detail the parental factors that affect the child health. The answers to questions about parental educational background are 'below elementary school graduation', 'middle school graduation', 'high school graduation', 'college dropout', and 'college graduation or above'. This study analyzed it in three groups. 'Elementary school graduation' and 'middle school graduation' were grouped into one group, and 'college dropout' and 'college graduation or above' were also grouped into one group. And, 'high school graduation' was classified as an independent group.

3.3.3 | Whether They Receive Public Welfare

'Whether they receive public welfare' in this study refers to the question of whether or not they benefit from the National Basic Livelihood Security Act, other types of governmental support, free school meals, and the like. In the case of those not receiving the benefits of these welfare systems, it was treated as 0; in the case of those receiving the benefits of these systems, it was treated as 1 (dummy).

3.3.4 | Control Variables

For control variables, the study selected the variables that preexisting studies found to affect the children's health status. There are two control variables in this study. One is children's gender. Gender is a variable that affects all areas as well as the child health. For example, gender generates not only biological differences but it also causes differences in health according to gender roles. The other one is the family structure. The family structure is usually based on the form of cohabitation between parents and children, and is very closely related to the parenting environment. For example, single-parent families are likely to create a relatively unstable parenting environment, which could negatively affect the child health (Ministry of Gender Equality and Family, 2018; Kim Hyeon-suk, 2016: 115). In this study, if a child lives with a parent, it was set to 0; if the child lives with a guardian other than a parent or lives apart from either of their parents, it was set to 1.

3.4 | Analysis Method of Data

This study used the SPSS 22.0 program to perform the analysis in the following procedures. First, a simple frequency analysis and a descriptive statistical analysis were performed on the key variables to examine the demographic characteristics of the research subjects. It was calculated as frequency, percentage, mean, and standard deviation. Next, after classifying the research subjects based on whether they receive public welfare, it was analyzed through a t-test to see if the difference in the mean of key variables was statistically significant. Finally, this study examined how parental educational background affects the child health depending on whether

they receive public welfare. To this end, this study first controlled the variables that could affect the child health (e.g. children's gender, family structure), and then input the independent variables (i.e. father's and mother's educational background) to conduct a hierarchical multiple regression analysis.

4 | RESEARCH RESULTS

4.1 | General Characteristics of the Research Subjects

In order to examine the general characteristics of the research subjects, a frequency analysis of sociodemographic characteristics was conducted. The characteristics of the research subjects are as shown in Table 1. First, when looking at the children's gender, 52.7% (759 children) were boys and 47.3% (681 children) were girls. As for the family structure, 89.7% (1258 children) of them lived with their parents, while 10.3% of them did not.

Next, the educational background of parents was divided into that of fathers and that of mothers. As for at the distribution of the fathers' educational background, 1.5% of them graduated from elementary school or under, 4.0% from middle school, 34.9% from high school, 4.9% dropped out of college, and 54.8% graduated from college or higher. In the distribution of fathers' educational background, college graduates or higher accounted for the largest portion, followed by high school graduates. On the other hand, when looking at the distribution of mothers' educational background, 1.3% graduated from elementary school or under, 4.9% from middle school, 52.8% from high school, 4.0% dropped out of college, and 36.9% graduated from college or higher. In the distribution of mothers' educational background, high school graduates accounted for the largest portion, followed by college graduates or higher.

Finally, as for the question regarding whether they receive public welfare, 6.5% of children benefited from the National Basic Livelihood Security Act, 5.5% from other forms of governmental support, and 8.4% from free school meals. The mean response to the children's self-rated health was 4.13 points (out of 5 points).

Specifically, ‘good’ (44.1%), ‘very good’ (35.7%), ‘so-so’ (18.1%), ‘bad’ (1.9%), and ‘very bad’ (0.3%).

TABLE 1. General Characteristics of the Research Subjects

(*N*=1,432)

		Item	Frequency (%)	Mean(*SD*)
Children’s gender		Boys	759 (52.7)	
		Girls	681 (47.3)	
Family structure		Children living with parents	1258 (89.7)	
		Children not living with parents	144 (10.3)	
Parental educational background	Father’s educational background	Elementary school graduation or less	18 (1.5)	
		Middle school graduation	48 (4.0)	
		High school graduation	422 (34.9)	
		Drop out of college	59 (4.9)	
		College graduation or higher	663 (54.8)	
	Mother’s educational background	Elementary school graduation or less	16 (1.3)	
		Middle school graduation	59 (4.9)	
		High school graduation	635 (52.8)	
		Drop out of college	48 (4.0)	
		College graduation or higher	444 (36.9)	
Public welfare benefits		Nat’l Basic Livelihood Security Act	79 (6.5)	
		Other governmental supports	67 (5.5)	
		Free school meal	102 (8.4)	
Self-rated health		Very bad	4 (0.3)	4.13 (.79)
		Bad	27 (1.9)	
		So-so	259 (18.1)	
		Good	631 (44.1)	
		Very good	511 (35.7)	

4.2 | Correlation Between Key Variables

In order to analyze the correlation between key variables, the correlation

coefficient and the significance probability were analyzed. The result showed there was a statistically significant negative (-) correlation between fathers' educational background and family structure (r=-.060, p<.05). And, there was also a significant correlation between mothers' and fathers' educational backgrounds (r=.667, p<.01). Public welfare showed statistically significant correlations with fathers' educational background (r=-.141, p<.01) and mothers' educational background (r=-.101, p<.01). Meanwhile, the children's self-rated health, which is a dependent variable, showed significant negative (-) correlations with family structure (r=-.057, p<.05) and mothers' educational background (r=-.015, p<.05).

TABLE 2. Correlation between Key Variables

(N=1,432)

	Children's gender	Family structure	Father's educational background	Mother's educational background	Public welfare benefits	Self-rated health
Children's gender	1					
Family structure	.029	1				
Father's educational background	.033	-.060*	1			
Mother's educational background	-.002	-.049	.667**	1		
Public welfare benefits	-.055	-.008	-.141**	-.101**	1	
Self-rated health	-.037	-.057*	.008	-.015*	.011	1

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

4.3 | Analysis of the Mean Difference of Key Variables Based on Whether They Receive Public Welfare

This study examines the effect of parental educational background on children's self-rated health by dividing the research subjects based on whether they receive public welfare. To this end, this study examined whether the mean difference between the divided groups based on receiving public welfare was statistically significant.

The mean of the fathers' educational background, the first independent variable,

was 1.54 (*SD*=.60). Among them, the mean of the public welfare beneficiaries was 1.6 (*SD*=.56), and the mean of the public welfare non-beneficiaries was 1.2 (*SD*=.69). The fathers in the group of public welfare beneficiaries had a higher educational background than those in the group of public welfare non-beneficiaries. That is, it could be seen that there is a mean difference in fathers' educational background in terms of whether or not they receive public welfare. In this study, an independent sample t-test analysis was conducted to confirm whether this mean difference was statistically significant. According to the result, the mean difference between the two groups was found to be statistically significant (t=4.8, p<.001).

The mean of the mothers' educational background, the second independent variable, was 1.3 (*SD*=.59). Among them, the mean of the public welfare beneficiaries was 1.1 (*SD*=.67), and the mean of the public welfare non-beneficiaries was 1.3 (*SD*=.56). The mothers in the group of public welfare non-beneficiaries had slightly higher educational background than those in the group of public welfare beneficiaries. This result was opposite to the previously analyzed one regarding the fathers'

TABLE 3. Descriptive Analysis of Key Variables

(*N*=1,432)

Variables	Division	Frequency	Mean	*SD*	*t*
Father's educational background	Overall	1131	1.54	.60	4.8***
	Public welfare beneficiaries	46	1.6	.56	
	Public welfare non-beneficiaries	1085	1.2	.69	
Mother's educational background	Overall	1124	1.3	.59	-3.4***
	Public welfare beneficiaries	47	1.1	.67	
	Public welfare non-beneficiaries	1077	1.3	.56	
Self-rated health	Overall	1041	1.40	.22	.41
	Public welfare beneficiaries	45	1.42	.19	
	Public welfare non-beneficiaries	996	1.41	.21	

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

educational background. Meanwhile, the mean difference in mothers' educational background in terms of whether or not they receive public welfare was statistically significant. The result of an independent sample t-test analysis showed the mean difference between the two groups was statistically significant (t=-3.4, p<.001).

The mean difference in the children's self-rated health, the dependent variable, was also examined. The overall mean was 1.40 (SD=.22). The mean of the public welfare beneficiaries was 1.42 (SD=.19), and the mean of the public welfare non-beneficiaries was 1.41 (SD=.21). That is, the mean of self-rated health of the group of public welfare beneficiaries was slightly higher. However, it was found that the mean difference between the two groups was not statistically significant.

4.4 | The Effect of Parental Educational Background on Child Health: Comparison between the Low-income and Non-low-income Groups

4.4.1 | The Effect of Parental Educational Background on Child Health (Cases of Low-income Children): Stepwise Regression Analysis

A stepwise regression analysis was conducted to examine the factors that affect the child health in the group of public welfare beneficiaries (i.e. low-income group). The models in Table 4 are intended to identify the factors that affect the health of low-income children who receive public welfare benefits. To this end, various variables such as children's gender, family structure, fathers' educational background, and mothers' educational background were input in stages.

The Model 1 is a model in which children's gender and family structure, which are control variables, are input. The Model 2 is a model in which father's educational background, an independent variable, is input after inputting control variables. The Model 3 is a model in which mother's educational background, an independent variable, is input after inputting control variables. The Model 4 is a model that inputs all the variables to examine which variables affect the child health.

According to the result, in the Model 3, mothers' educational background (b=-.159, p<.05) was identified as a variable affecting the child health. In the Model

4, even though control variables (e.g. children's gender, family structure) were input and father's educational background was controlled, the mother's educational background (b=-.275, p<.05) had a significant effect on the child health. Specifically, in the case of low-income children who receive public welfare benefits, the higher a mother's educational background, the worse the child health. In low-income families, high-educated mothers are inevitably pressured to participate in economic activities, which could negatively affect the child health by creating a care deficit from the mother, main caregivers.

In summary, according to the result of analyzing the low-income children who receive public welfare benefits, the Model 4, in which all variables were input, was found to be statistically significant. The regression model of the Model 4 explained about 5.7% of the total variance (F=1.616, p<.05).

TABLE 4. The Effect of Parental Educational Background on Child Health in the Group Receiving Public Welfare Benefits

(N=112)

Variables	Children receiving public welfare benefits (Low-income children)							
	Model 1		Model 2		Model 3		Model 4	
	B (β)	t	B (β)	t	B (β)	t	B (β)	t
(Constants)	1.411	40.095	1.420	27.072	1.470	29.866	1.448	27.197
Children's gender (Boys)	-.033 (-.060)	-.636	-.033 (-.062)	-.647	-.032 (-.059)	-.640	-.037 (-.069)	-.732
Family structure (Both parents)	-.097 (-.112)	-1.179	-.098 (-.113)	-1.183	-.088 (-.100)	-1.077	-.072 (.083)	-.867
Father's educational background			-.009 (-.023)	-.243			.063 (.164)	1.271
Mother's educational background					-.064 (-.159)	-1.709*	-.109 (-.275)	-2.123*
R^2	.017		.017		.041		.057	
$\triangle R^2$			.001		.015		.040*	
F-test	.926		.632		1.577		1.616	

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

4.4.2 | The Effect of Parental Educational Background on Child Health (Cases of Non-low-income Children): Stepwise Regression Analysis

This study conducted a stepwise regression analysis to examine the factors affecting the child health in the group of public welfare non-beneficiaries (i.e. non-low-income group). The models in Table 5 are intended to identify the factors affecting the health of non-low-income children who did not receive public welfare benefits. To this end, like the models in Table 4, various variables such as children's gender, family structure, father's educational background, and mother's educational background were input in stages.

The result of the analysis showed that in the Model 5, of the two control variables, only the children's gender (b=-.068, p<.05) had an effect on the child health. In the Model 6, the children's gender (b=-.067, p<.05) have a significant effect on the child health. In addition, in the Model 7 (b=-.065, p<.05) and the Model 8

TABLE 5. The Effect of Parental Educational Background on Child Health in the Group Not Receiving Public Welfare Benefits

(N=1,024)

Variables	Children not receiving public welfare benefits (Non-low-income children)							
	Model 5		Model 6		Model 7		Model 8	
	B (β)	t	B (β)	t	B (β)	t	B (β)	t
(Constants)	1.422	147.348	1.426	66.308	.1.428	74.776	1.428	64.091
Children's gender (Boys)	-.028 (-.068)	-2.102*	-.028 (-.067)	-2.086*	-.027 (-.065)	-2.018*	-.028 (-.068)	-2.093*
Family structure (Both parents)	-.025 (-.037)	-1.134	-.025 (-.037)	-1.146	-.026 (-.037)	-1.155	-.026 (-.037)	-1.156
Father's educational background			-.003 (-.007)	-.221			.000 (.001)	.026
Mother's educational background					-.005 (-.014)	-.426	-.005 (-.013)	-.314
R^2	.006		.006		.006		.006	
$\triangle R^2$	.004		.003		.003		.002	
F-test	2.886*		1.939		1.868		1.477	

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

(b=-.068, p<.05), children's gender have a significant effect on the child health. Specifically, in the case of the children who do not receive public welfare benefits (i.e. non-low-income children), the girls' health status was found to be worse than that of the boys'. It could be seen that the results of preexisting studies that showed women had a higher morbidity rate, or the probability of disease occurring than men, are also true for children.

In summary, according to the result of analyzing the non-low-income children who do not receive public welfare benefits, the Model 5, in which the control variables (i.e. children's gender and family structure) were input, was found to be statistically significant. The regression model of Model 5 explained about 0.6% of the total variance (F=2.886, p<.05). These results suggest that in the non-low-income group, parental educational background did not affect the child health.

5 | CONCLUSION

Due to socioeconomic divides, health disparities and inequality are deepening. What is even a bigger problem is that these disparities and inequality are beginning to pass down generations. Children have the right to grow up healthy as future sovereigns and economic actors, but the right of low-income children is being violated because their parents' socioeconomic status is low. The socioeconomic status of parents is very important not only for the future of a child, but also for the immediate health maintenance of the child. In general, this is because the child health depends largely on the parenting environment that parents provide. This study focused on this point and analyzed how the parental educational background, which serves as a major source of socioeconomic status in Korea, affects the child health. In particular, this study divided the research subjects into two groups; the low-income group and the non-low-income group on the basis of whether they receive public welfare benefits, and analyzed the differences between the two groups.

The main findings of this study are as follows. First, in the case of low-income children who receive public welfare benefits, mothers' educational background,

among the parental educational backgrounds, had a significant effect on the child health. Particularly, it should be noted that the higher a mother's educational background, the worse the children's self-rated health. In general, for low-income families, mothers' participation in economic activities is not an option, but a necessity. Especially, high-educated mothers in low-income families face greater economic pressure. When this situation meets the patriarchal family culture in Korea, the red (warning) light turns on in terms of the maintenance of child health. This is because the conventional idea that "children are raised by mothers" is still prevalent in Korea, meaning if mothers, who are main caregivers, actively engage in economic activities, this may result in a 'care deficit' among low-income children. Empirical studies report that 'care deficit' worsens the child health by causing poor eating habits, nutritional imbalances, and emotional deficiencies.

Next, in the case of non-low-income children who do not receive public welfare benefits, the parental educational background did not affect the child health. For example, it was found that it is children's gender, which is a control variable that has a significant effect on the child health, not parental educational background, which is an independent variable. Specifically, the self-rated health of girls was worse than that of boys. These results could be seen as supporting the existing research findings that the health status varies depending on the temperament and social characteristics of gender. For example, the morbidity rate of girls is higher than that of boys because of their physical characteristics. In addition, the preexisting studies report that the incidence rate of accidents among boys is lower than that of girls. This is because caregivers tend to pay more attention to caring for active boys than to caring for girls.

In summary, the results of this study show that the health of low-income children is affected by parental educational background, while that of non-low-income children is not. These findings seem to be largely in line with our conventional idea, but if you look more closely into them, they are not. For example, it was found that only the mothers' educational background, not both parents', affects the child health. And, the higher a mother's educational background, the worse her children's self-rated health. As mentioned earlier, this could be attributed to the 'care deficit' created by the economic difficulties of low-income families and the patriarchal family culture in Korea.

To solve this problem, a delicate policy approach is required along with social efforts such as the establishment of a gender-equal care culture. In particular, it is necessary to implement and check the policy from the perspective of the consumer. For example, the existing policies related to child welfare are mainly centered on childcare, so public support for primary care has been very insufficient. The care deficit in primary care has been even greater in low-income families. This is because, unlike middle-class families, they lack economic resources to fill the care deficit through private education. Therefore, it is necessary to actively introduce and expand primary care services such as the '*Woori-dongne-kium* Centers', the community-based social services for primary care, launched by the Seoul Metropolitan Government.[3)]

Finally, there are two limitations of this study. First, this study's analysis of the child health inequality is limited to the parental educational background. This study is a limited study to validate the effect of parental educational background on child health inequality. Second, this study uses the educational background as a variable representing the socioeconomic status of parents. It is widely believed that the creation of parenting environments, which have a decisive impact on the child health, depends largely on the socioeconomic status of parents. Thus, in this study, the socioeconomic status of parents was actually selected as an independent variable, and this was manipulated into educational background. However, in reality, the socioeconomic status of parents is not determined solely by educational background. That is, educational background cannot be the only component comprising the socioeconomic status of parents. Rather, it is one of its key components.

3) The '*Woori-dongne-kium* Centers' (*Kium* Centers) is a project to resolve the issue of care deficit for elementary school students through the cooperation between Seoul Metropolitan Government and Seoul Autonomous Districts. It started with 4 in 2018 and as of August 2020, there are 25 of them. The *Kium* Centers provide universal and regular services regardless of income levels. It could be seen as a kind of 'regional children's centers in the universal welfare version.' The *Kium* Centers provide a variety of programs such as reading, art, and physical education, along with basic care such as coaching homework, checking private educational institute schedule, etc. (Interview with Dr. Dong-ok Kim, head of the Guro 5-dong *Kium* Center, on Aug. 3, 2020).

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국문초록

부모의 교육수준이 아동의 건강에 미치는 영향 : 저소득층과 비저소득층의 비교를 중심으로

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근자에 건강불평등 문제가 한국사회의 중요한 사회문제로 대두되고 있다. 건강이 개인적 요인보다는 사회구조적 요인에 의해 더 크게 좌우된다는 게 최근의 경험적 연구들의 보고이기 때문이다. 본 연구는 이 점에 착안해 부모의 교육수준(학력)이 아동의 건강에 미치는 영향을 탐색하였다. 특히, 공공복지 수혜 여부를 기준으로 저소득층과 비저소득층의 차이를 비교분석하였다. 본 연구는 서울아동패널조사(Seoul Panel Study of Children) 5차년도 자료를 사용하여 단순 빈도분석 및 기술통계 분석, 상관관계 분석, 다중 회귀분석 등을 실시하였다. 연구결과 저소득층 아동들은 부모의 학력이 아동의 건강에 영향을 미치는 것으로 나타났지만, 비저소득층 아동들은 그렇지 않은 것으로 나타났다. 특히, 저소득층 아동들의 경우 어머니의 학력이 높을수록 아동의 주관적 건강상태가 나빠지는 경향이 나타났다. 이는 주양육자인 어머니가 생계의 최전선으로 내몰릴 수밖에 없는 저소득층 가정의 경제상황과, '아이는 엄마가 키운다'는 한국의 가부장적 가족문화가 만들어낸 '돌봄 공백'이 그 이유라고 본다. 본 연구는 이같은 문제를 해결하기 위하여 양성평등적 돌봄 문화의 정립을 주장함과 동시에 섬세한 정책적 접근의 필요성을 주장한다. 예컨대 초등 돌봄에 대한 지원이 절실한 저소득층 가정을 위하여 지역사회 기반의 초등 돌봄 사회서비스(예컨대 서울시의 우리동네키움센터)의 도입 및 확대가 필요하다고 주장한다.

주제어: 건강불평등, 부모의 교육수준, 어머니의 학력, 아동의 주관적 건강상태, 돌봄 공백