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A study on the mediating effect of intellectual wellness in the relationship between physical and emotional wellness of caregivers of children with disabilities

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장애아동 주양육자의 물리적환경과 정서적 환경 관계에서 지적 웰니스의 매개 작용

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Abstract : The purpose of this study is to investigate the mediating effect on intellectual wellness between the physical and emotional wellness of the caregivers of children with disabilities and to provide the relevant data necessary for the response of the caregivers of disabled children. The study subjects were 177 caregivers of children with disabilities, and data were collected from June 2019 to November 2019. Data analysis was performed using the PROCESS macro. Independent sample t-test and one-way batch analyses were conducted to analyze the general characteristics and variables of the collected data. Through this, Scheffé's post-test was performed for variables with statistically significant differences. The relationship between variables was analyzed by Pearson correlation and hierarchical multiple accounting analyses. The results of the study indicate that the physical and intellectual wellness of the main caregivers of children with disabilities provide a direct effect on their emotional wellness as well, and that intellectual wellness provides a mediating effect between physical wellness and emotional wellness. It was found that the influence of the physical environment of children with disabilities is also important, but emotional wellness can be improved only when the main caregivers are provided with an appropriate and sufficient intellectual

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education. Therefore, the expansion of various educational programs for the main caregivers of children with disabilities could contribute to the improvement of their own overall wellness.

Keywords: mediating effect, caregivers, wellness, health, disability

요 약 : 본 연구의 목적은 장애아동 양육자의 물리적·정서적 웰니스 사이에서 지적 웰니스의 매개 효과를 조사하여 효율적인 관리 방안 제시에 필요한 기초자료를 제공하기 위함이다. 연구 대상자는 장애아동 양육자 177명이며, 자료수집은 2019년 06월부터 2019년 11월까지 하였다. 자료분석은 PROCESS macro를 이용하였다. 일반적인 특성과 변수간 분석은 Independent t-test 및 ANOVA를 통해 통계적으로 유의한 차이가 있는 변수에 대하여는 Scheffé 사후검증을 실시하였다. 변수간 관련성 분석은 Pearson 상관관계 및 위계 다중회귀분석을 하였다. 연구결과, 장애아동 주양육자의 물리적 웰니스와 지적 웰니스는 장애아동 양육자의 정서적 웰니스에 직접적인 영향을 미치며, 또한 물리적 웰니스와 정서적 웰니스 사이에서 지적 웰니스가 매개효과를 제공하고 있다. 이는 장애아동이 가진 물리적 환경의 영향도 중요하지만, 주양육자에게 적절하고 충분한 지적 교육이 동반되어야 정서적 웰니스 증진이 이루어질 수 있다는 것을 발견하였다. 따라서 다양한 교육 프로그램의 확대는 장애아동 양육자의 웰니스 증진에 기여할 수 있을 것이다.

키워드 : 매개 효과, 양육자, 웰니스, 건강, 장애

1. Introduction

1.1. Research background and necessity

The environment in which we live can present many difficulties in our daily lives such as various infectious diseases. Such difficulties are compounded for the physically disabled, who already may face difficulty in circumstances which were otherwise ideal. In particular, recently, a new infectious disease, COVID-19, has emerged, and many efforts are being made to control it. The COVID-19 environment is creating a feeling of psychological anxiety as well as economic burdens and alienation from social support for families caring for vulnerable or disabled children[1][2]. Therefore, it is necessary to continuously induce interest in the home and environment of children with disabilities, and to conduct research related to this.

As of the end of 2019, the number of registered disabled persons in Korea was 26,618,000, accounting for 5.1% of the total population, of which children (individuals under the age of 18, as specified by the Disabled Welfare Act [3]) with disabilities accounted for about 2.8% of the total registered disabled population [4].

According to the family system theory, the family is not simply a combination of individuals, but a group that constitutes an entire dynamic system in which individuals affect one another [5]. The family plays the most important role in helping the growth and development of children with disabilities, and members of the family become encouragers, facilitators, and providers of appropriate feedback as well as being the first teachers of children with disabilities [6]. The perspective of looking at children with disabilities should take into account the abilities that they have rather than those they are lacking.

In other words, we should not focus on the differences caused by disabilities, but rather focus on what developmental and behavioral characteristics disabled children have with to those of non-disabled children. Since family members of children with disabilities know best about their particular needs, in most cases, the main caregiver, who is usually a

family member, has the responsibility to provide direct assistance to children with disabilities to learn daily activities as they grow up [6].However, stress, conflict, the burden of parenting, and prolonged treatment periods due to long-term difficult parenting along with the unexpected birth of a child with a disability lead to changes in the functioning of the family system [7]. As a result, both parents and family members experience special and persistent psychological and social hardships.

In recent years, as the burden on families with children with disabilities is increasing[8],social support systems are being prepared. However, there are many difficulties along such a family's path to a dynamic and holistic healthy state; one that is closely related to one-other's physical, mental, emotional, social and intellectual levels [5].

Caregivers often neglect to manage their own health while raising and treating children and siblings with disabilities. Parenting stress [9] increases when parents feel that they are being judged for not fulfilling their parenting roles properly, or when they feel frustrated and skeptical, as well as a feeling of burden and discomfort for the parental role and it influences negative social problem such as to neglect or abuse a child with a disability. On the other hand, some of the families of children with disabilities experience a higher sense of family solidarity compared to non-disabled children's families because of the process of accepting and overcoming the disabilities of their family members [10].

Wellness is a process of integrating an individual's physical, mental, and spiritual health to maintain a harmonious and balanced life and to maximize the quality of an individual's life. Therefore, caregivers of children with disabilities should strive to appropriately cope with the health and development of not only children with disabilities but also family members by promoting their own wellness in the process of performing their roles as caregivers. In addition, health programs or family support system programs that are operated for children with disabilities should include not only caregivers who care for children with disabilities, but also all family members.

The main caregivers of children with disabilities must overcome stress and grow on their own by using more environmental resources and information, and overcome adversity amid unexpected stressful situations caused by childbirth. It is meaningful to investigate whether the level of physical, mental, emotional, social and intellectual wellness, which are closely related factors in the environment of caring for children with disabilities, positively affects the health promotion of the main caregivers. According to the results of previous studies [6] analyzing the factors influencing the wellness of caregivers of children with disabilities, stress was found to have an important influence on the wellness of caregivers. However, studies on the mediation between the different types of wellness under such circumstances have not yet been attempted. Therefore, in this study, through the wellness lifestyle tool, the mediating effect of physical and emotional wellness for the caregivers of children with disabilities was identified. Based on these results, we intend to contribute to the development of various health promotion programs for practical health promotion of caregivers.

1.2. Research purpose

The purpose of this study is to investigate the mediating effect of intellectual wellness between physical wellness and emotional wellness of caregivers of children with disabilities.

1.3. Research hypotheses and models

The hypotheses verified in this study are as follows.

Hypothesis #1: Physical wellness and emotional wellness have a positive correlation.

Hypothesis #2: In the relationship between physical wellness and emotional wellness, intellectual wellness provides a mediating effect.

The research model is meaningful in providing empirical data that can be used to improve the environment of caregivers of children with disabilities through discovering whether intellectual wellness has a mediating effect between physical wellness and emotional wellness.

1.4. Definition of terms

Physical wellness, emotional wellness, and intellectual wellness used in this study were defined as follows. *Physical wellness* in this study refers to the physical condition to perform work and the social health condition to interact with surroundings. Physical wellness and *social wellness* were used as sub-elements of physical wellness. *Physical wellness* (the sub-element) refers to the body's functional ability to perform work and tasks. Social wellness was defined as social health, which means physical health and the ability of people (family, friends, co-workers, neighbors) to interact successfully with the surrounding environment(Figure 1).

Emotional wellness refers to the belief in being able to manage stress and manage emotions. Mental wellness and emotional wellness were adopted as sub- elements of emotional wellness. Mental wellness refers to the emotional state that leads human life, and is the ability to control stress and express emotions appropriately and comfortably. *Emotional wellness*(the sub-element) refers to the ability to keep the mind stable through emotional health.

In addition, intellectual wellness refers to the ability to learn and use information effectively for personal, family, and professional development(Table 1).

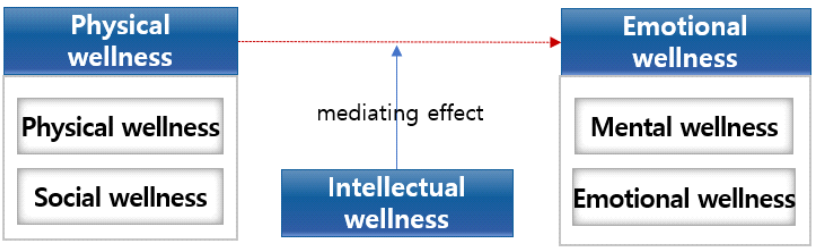

Fig. 1. Research Model

Table 1. Definition of terms

Division		Contents
Physical wellness	Physical wellness	Refers to the body's functional ability to perform work and tasks
	Social wellness	Social health; physical health and the ability to successfully interact with people (family, friends, co-workers, neighbors) and their surroundings
Emotional wellness	Mental wellness	Refers to the emotional state that leads human life, and the ability to control stress and express emotions appropriately and comfortably
	Emotional wellness	Emotional health. and belief in some kind of power that unites human beings
Intellectual wellness		Refers to the ability to learn and use information effectively for personal family and professional development

2. Research method

2.1. Research design

The purpose of this study is to establish and verify hypothetical models in order to reveal the medium effect of the intellectual wellness between the physical and emotional environments of primary caregivers of children with disabilities.

2.2. Research subject and data collection method

Subjects in this study were the primary caregivers who raise children with disabilities under the age of 18, and after explaining the purpose and method of the study, they were selected as those who could understand and answer a questionnaire. The data collection method was a self-reported questionnaire. Written consent to participate in the study was received, and the questionnaires were subsequently distributed and filled out. The completed questionnaire was collected immediately after the survey was completed on site. The subjects were guaranteed autonomy and were explained that they are able to withdraw from the study at any time. The data collection period was from June 2019 to November 2019, and the number of subjects was calculated using the G*Power 3.1.9 program. The minimum sample size was calculated based on the significance level α =.05, power $(1-\beta)$=0.95, and effect size=0.15. 200 copies of the questionnaire were distributed in consideration of the non-recovery of data and an inappropriate response rate of about 20%. The recovery rate was 90%, which was 183 copies, and the total number of questionnaires used in the final analysis was 177 copies, excluding the any incomplete questionnaires.

2.3 Research tools

2.3.1. Wellness tools

In this study, wellness is a test for changes in wellness life-style. In this regard, the measurement tools developed by Anspaugh et al. [11], were applied, which Kim [12] augmented to suit a South Korean context.

The data collection method used in this study was the structured questionnaire. The contents of the questionnaire consisted of 10 questions on the general characteristics of the subject and 55 questions on *wellness lifestyle*, a tool for measuring wellness. Thus, the total number of questions was 65.

With a total of 55 wellness lifestyle questions, each question was calculated on a 5-point scale, with 5 being 'very much so' and 1 being 'not at all'. The higher the average of the total score, the higher the level of wellness. At the time of development, the reliability test result was Cronbach's α=.760, and in this study Cronbach's α=.945. The following is a comparison of Cronbach's values for each question (Table 2).

2.4. Data Analysis Method

The collected data of this study were analyzed using SPSS (version 26.0) and PROCESS macros. To analyze the demographic characteristics of the subjects' physical wellness, emotional wellness, and intellectual

Table 2. Cronbach's value of Wellness tools

Division	Number of questions	Cronbach's value at the time of development	Cronbach's value of this study
Physical wellness	17	.728	.862
Social wellness	10	.788	.859
Mental wellness	9	.713	.896
Emotional wellness	10	.809	.810
Intellectual wellness	9	.763	.894

wellness, the independent sample t-test and one-way batch analyses were used. As a result, the groups with statistically significant differences were subjected to the Scheffé's post-test method. In addition, Pearson correlation and hierarchical multi-accounting analyses were performed to analyze the relationship between subjects' variables.

3. Research Results

3.1. General characteristics of the subjects

There was a total of 177 subjects in this study: 168 mothers (94.92%), 4 fathers (2.26%), and 5 others (grandparents, etc.), who were all surveyed as the main caregivers of children with disabilities. The genders of children with disabilities were 120 males (67.80%) and 57 females (32.20%).

The time of detection of disability was 15 subjects(28.81%) after birth, 59 subjects(33.3%) at 12-24 months, 38 subjects(21.47%) at 24-30 months, 25 subjects(14.12%) at after 36 months, and 4 subjects(2.26%) who were unsure.

As for the amount of monthly education expenses used by children, 11 subjects spent less than 100,000 won (6.21%), 16 subjects spent 100,000-200,000 won (9.04%), 24 subjects spent 200,000-300,000 won (13.56%),36 subjects spent 300,000-400,000 won (20.34%) %), and 90 people (50.85%) spent over 400,000 won per month according to the survey.

The age of the caregivers surveyed were 4 (2.26%) under 30 years of age, 13 (7.34%) aged 31-35, 51 (28.61%) aged 36-40, 65 (36.72%) aged 41-45, 35 (19.77%) aged 46-50, and 9 (5.08%) aged 51 or older.

In the case of monthly household's overall income for children with disabilities, 5 people (2.82%) reported less than 1.5 million won, 27 (15.25%) reported 1.5-2.5 million won, 46 (25.99%) reported 2.5-3.5 million won, 45 people (25.425) reported 3.5-4.5 million won, and 54 subjects (30.51%) reported 4.5 million won or more in monthly income.

Looking at the status of developmental delay of children with disabilities supported by the subjects, the normal range is 11 (6.21), borderline 18 (10.17%), developmental delay 135 (76.27%), and those uncertain were 13 (7.34%) (Table 3).

3.2. Correlation between physical and emotional wellness and intellectual wellness

As a result of examining the correlation between the three variables adopted in this study, the correlation was significant at the 0.01 level and was investigated as follows. The highest correlation was the relationship between physical and intellectual wellness, which was 0.708.The correlation between physical and emotional wellness was 0.696, and the one between intellectual and emotional wellness was 0.665. All the examined correlations were 0.400 or more, and the correlation between each factor was evaluated to be meaningful(Figure 2).

3.3. Analysis of the impact of physical and intellectual wellness on emotional wellness

Hypothesis #1 is that physical wellness and intellectual wellness provide a positive effect on securing emotional wellness. To verify this, three factors (physical wellness, emotional wellness, and intellectual wellness) were investigated through regression analysis. Durbin-Watson variables between each factor were 1.871 (physical wellness -> emotional wellness), 1.751 (intellectual wellness -> emotional wellness), and 1.788 (physical wellness -> intellectual wellness), which are close to 2, providing meaning to the analysis. Also, the probability of significance was 0.000, which was less than $p<.001$. In the collinearity statistic, the likelihood is 1.000. This indicates that both influences are statistically significant (Figure 3).

Table 3. General characteristics of the subjects (N=177)

Division		n	%	Physical wellness			Emotional wellness			Intellectual wellness		
				M±SD	t/F	*p*	M±SD	t/F	*p*	M±SD	t/F	*p*
Caregivers type	Father	4	2.26	2.85±0.31	1.47	.234	3.24±0.66	0.11	.899	3.08±0.67	2.33	.101
	Mother	168	94.92	3.03±0.59			3.35±0.56			3.56±0.63		
	Etc	5	2.82	2.60±0.38			3.27±0.64			3.11±0.33		
Gender of disabled child	male	120	67.80	3.07±0.60	1.88	.062	3.42±0.57	2.591	.01*	3.58±0.61	1.52	.132
	female	57	32.20	2.90±0.54			3.19±0.52			3.43±0.66		
When a child's growth difficulties are discovered	After birth	51	28.81	2.83±0.50	2.19	.720	3.14±0.54	4.391	.002**	3.42±0.65	1.30	.391
	12-24 months	59	33.33	3.09±0.55			3.14±0.50			3.58±0.56		
	24-36 months	38	21.47	3.06±0.51			3.42±0.54			3.56±0.65		
	After 36 months	25	14.12	3.17±0.69			3.67±0.57			3.67± 0.60		
	Etc	4	2.26	2.78±1.03			3.44±0.89			3.25± 1.16		
Education expenses for children with disabilities	100,000 won or less	11	6.21	2.82±0.46	0.69	.601	3.25±0.57	0.18	.951	3.17±0.78	2.49	.450
	100,000-200,000 won	16	9.04	2.92±0.71			3.28±0.65			3.25±0.60		
	200,000-300,000 won	24	13.56	3.04±0.60			3.36±0.33			3.62±0.46		
	300,000-400,000 won	36	20.34	2.96±0.58			3.38±0.64			3.49±0.70		
	400,000 won or more	90	50.85	3.07±0.57			3.35±0.57			3.63±0.60		
Caregiver age	Under 30	4	2.26	2.64±0.53	0.97	.436	3.65±0.86	1.57	.170	3.56±0.98	.041	.842
	31-35 years old	13	7.34	2.93±0.65			3.10±0.46			3.44±0.89		
	36-40 years old	51	28.81	2.92±0.62			3.31±0.60			3.54±0.63		
	41-45 years old	65	36.72	3.05±0.55			3.30±0.52			3.50±0.59		
	46-50 years old	35	19.77	3.13±0.55			3.44±0.55			3.66±0.56		
	51 years old or older	9	5.08	3.12±0.59			3.65±0.57			3.53±0.65		
Monthly income	Less than 1.5 million won	5	2.82	2.89±0.46	1.85	.122	3.54±0.61	2.25	.660	3.02±0.32	3.80	.660
	1.5-2.5 million won	27	15.25	2.81±0.61			3.11±0.46			3.30±0.71		
	2.5-3.5 million won	46	25.99	2.95±0.62			3.26±0.64			3.43±0.61		
	3.5-4.5 million won	45	25.42	3.07±0.56			3.44±0.50			3.62±0.66		
	4.5 million won	54	30.51	3.13±0.54			3.42±0.55			3.72±0.51		
Developmental test level	Normal-Average	11	6.21	3.00±0.71	0.19	.996	3.32±0.82	1.69	.172	3.39±0.60	0.24	.871
	Boundary	18	10.17	3.04±0.90			3.62±0.74			3.49±0.99		
	Developmental delay	135	76.27	3.04±0.50			3.30±0.49			3.55±0.57		
	Not sure	13	7.34	3.03±0.70			3.37±0.67			3.50±0.63		

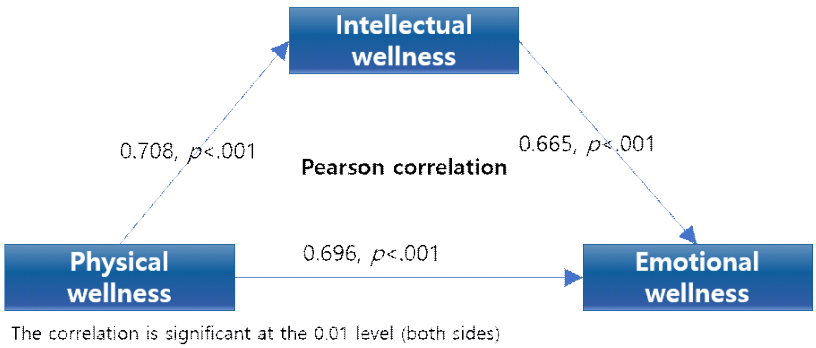

Fig. 2. Pearson correlation between each factor

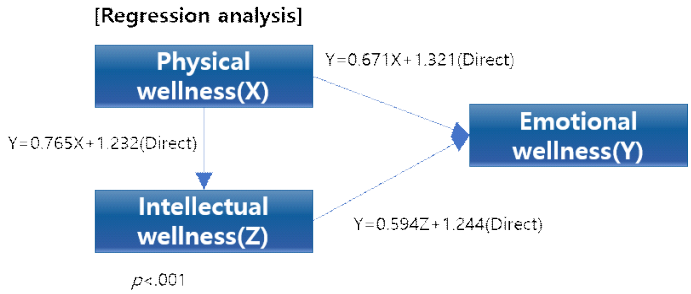

Fig. 3. Regression analysis result between each factor

Table 4 Physical wellness and emotional wellness model summary and coefficients

Model summary				
R	R-square	Modified R-square	Standard error of the estimate	Durbin-Watson
0.696*	0.484	0.481	0.40501	1.871

*. Predictor: (constant),Physical wellness, Dependent variable: Emotional wellness

Coefficient							
Division	Unnormalization factor		Standardized path coefficient	t	Significance probability	Collinearity statistics	
	B	Standard error	beta			tolerance	VIF
(constant)	1.321	0.161		8.20	0.000		
Physical wellness	0.671	0.053	0.696	12.78	0.000	1.000	1.000

Table 5 Intellectual wellness and emotional wellness model summary and coefficients

Model summary				
R	R-square	Modified R-square	Standard error of the estimate	Durbin-Watson
0.665*	0.442	0.439	0.41998	1.751

*. Predictor: (constant), Intellectual wellness, Dependent variable: Emotional wellness

Coefficient							
Division	Unnormalization factor		Standardized path coefficient	t	Significance probability	Collinearity statistics	
	B	Standard error	beta			tolerance	VIF
(constant)	1.244	0.181		6.87	0.000		
Intellectual wellness	0.594	0.050	0.665	11.78	0.000	1.000	1.000

Table 6 Physical wellness and intellectual wellness model summary and coefficients

Model summary				
R	R-square	Modified R-square	Standard error of the estimate	Durbin-Watson
.708a	0.501	0.498	0.446127	1.788

*. Predictor: (constant), Physical wellness, Dependent variable: Intellectual wellness

Coefficient							
Division	Unnormalization factor		Standardized path coefficient	t	Significance probability	Collinearity statistics	
	B	Standard error	beta			tolerance	VIF
(constant)	1.232	.177		6.95	.000		
Physical wellness	.765	.058	.708	13.22	.000	1.000	1.000

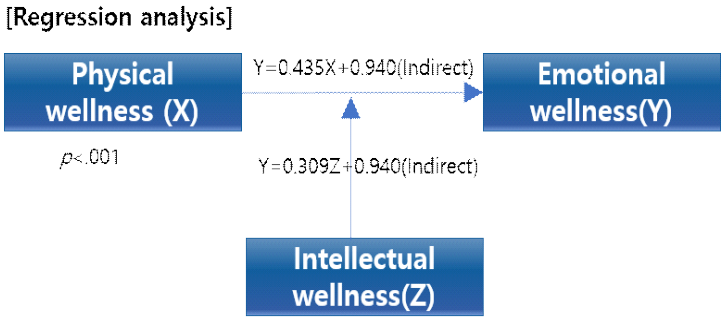

Fig. 4. Regression analysis result between each factor

3.4 Analysis of the mediating effect of intellectual wellness in the relationship between physical wellness and emotional wellness

In order to test hypothesis #2 (intellectual wellness provides a partial mediating effect between physical wellness and emotional wellness), the mediating effect between each factor was investigated through regression analysis. Looking at the results of regression analysis to analyze the effects of physical wellness, emotional wellness, and intellectual wellness, R squared was 0.544 and Durbin-Watson was 1.867, which is close to 2, which has statistical significance. Looking at the regression coefficient, the significance probability was 0.001 or less, and emotional wellness (Y) was shown by the following formula.

Y=0.435X+0.940, X=physical wellness variable, Y=0.309Z+0.940, Z=intellectual wellness variable

This result shows that emotional wellness is positively affected by the slope of 0.435 (regression coefficient) and 0.309 (regression coefficient) of intellectual wellness on physical wellness variables. Therefore, it is possible to confirm the partial mediating effect of intellectual wellness between physical wellness and emotional wellness(Figure 4).

As a result of the group survey, the case where intellectual wellness has a partial mediating effect on physical wellness (independent variable) and emotional wellness (dependent variable) is the developmental delay group and the mother caregiver group.

In the developmental delay group, physical wellness and intellectual wellness provided an influence of 0.365 and 0.324, respectively. In the case of the group with the mother as the main caregiver, physical wellness and intellectual wellness provide 0.470 and 0.278

Table. 7 Emotional wellness model summary and coefficients

Model summary				
R	R-square	Modified R-square	Standard error of the estimate	Durbin-Watson
.738*	0.544	0.539	0.38196	1.867

*. Predictor: (constant), Physical wellness, Intellectual wellness, Dependent variable: Emotional wellness

Coefficient							
Division	Un-normalization factor		Standardized path coefficient	t	Significance probability	Collinearity statistics	
	B	Standard error	beta			tolerance	VIF
(constant)	0.940	0.172		5.48	0.000		
Physical wellness	0.435	0.070	0.451	6.03	0.000	0.499	2.005
Intellectual wellness	0.309	0.065	0.346	4.76	0.000	0.499	2.005

Table. 8 Group analysis

Group	Factor	Impact on Emotional wellness(Y)	F	Significance probability
Developmental delay group in developmental test (n=132)	Physical wellness	Y=0.365X+1.053, X=Physical wellness	57.21	0.000
	Intellectual wellness	Y=0.324Z+1.053,Z=Intellectual wellness		
Group of mothers among main caregivers (n=167)	Physical wellness	Y=0.470X+0.932, X=Physical wellness	104.21	0.000
	Intellectual wellness	Y=0.278Z+1.0932, Z=Intellectual wellness		

effects, respectively. There are slight differences between the two groups, but physical wellness versus intellectual wellness has more influence on emotional wellness.

4. Discussion

The family members of the disabled, especially mothers, experience various and continuous difficulties starting from the birth and throughout the growth process of their children [13]. To make things worse, among members of families of the disabled that are classified as socially vulnerable, 7 out of 10 are reporting psychological difficulties due to the increased caretaking burden during the COVID-19 pandemic situation. In addition, the developmentally disabled have experienced intensified degrees of decrease and detachment from social relationships because of the increased amount of time spent at home due to the COVID-19 [14].

Currently, the central government is paying more attention to various vulnerable groups, and continuous investment is being made in this regard. This study was conducted to provide empirical data on what kinds of support should be provided for the main caregivers in the home environments of children with disabilities. In the case of children with disabilities, boys had higher physical, intellectual, and emotional wellness than girls. This could be due to the psychological influence that boys think positively about their growth environment. In addition, it is presumed that Korean fathers think more positively in terms of emotional wellness factors than their mothers.

As a result of another survey at the time of discovery of the development of disability, it was found that the main caregiver had more emotional stability when the disability was discovered after 36 months. It is presumed that the main caregiver has applied a psychology that expects that if the disability

treatment effect or the disability is found after 36 months in response, the possibility for successful treatment is higher than that of 36 months before. In general, after passing through the infant and childhood periods, the possibility of successful treatment is more positively considered.

When looking at the gender of the subjects in the emotional wellness factor, the male average was 3.416 and the female average was 3.186, which was found to be meaningful at the significance level $p<.05$. It is estimated that men are more positive about emotional wellness factors than women. It is assumed that female main caregivers of children with disabilities may be more vulnerable to emotional instability compared to male caregivers, which may be related to environmental difficulties in caring for children with disabilities (ex. mobility assistance) and psychological factors regarding assumed responsibility for birthing a child with disabilities.

According to the time of discovery of the child's disability, the emotional influence of the main caregivers was found to be meaningful at the significance level $p<.01$. If found before 24 months, the average is 3.129 and those found after 36 months are 3.672. This shows that the primary caregiver's sense of stability is more positive when the child's disability is found after 36 months than before 24 months.

Before 36 months, children with disabilities are in their early childhood period, and most children's organs are developed. It is assumed that if a disability is found after 36 months, it is after that period of rapid growth, and that the main caregiver has applied a psychology that expects that the child to have a higher chance of successful treatment.

According to this study, physical wellness and intellectual wellness directly influence the emotional wellness of the primary caregivers of children with disabilities. And it was found that intellectual wellness provided a mediating effect between physical wellness and emotional wellness. That is, when examining the hypothesis test result, it was found that the physical wellness of the main caregivers of children with disabilities was excellent, and that emotional wellness had a positive effect when intellectual wellness was increased.

In addition, the fact that intellectual wellness provides a partial mediating effect between physical wellness and emotional wellness means that it can help positive emotional wellness of the main caregivers of children with disabilities through the provision of intellectual information. The intellectual information of the main caregivers plays a very important role in securing the emotional stability of the main caregivers who have experience in caring for children with disabilities.

According to recent research, the types of burden in regards to taking care of children with disabilities were ranked by intensity in this order, from greatest to least: emotional burden, economic burden, physical burden, and social burden. This is in contrast to the results of the survey regarding the same topic conducted in 2006, in which the order was as follows: economic burden, physical burden, emotional burden, and social burden [15].

Therefore, it can be confirmed that the emotional burden of raising children with disabilities increased significantly compared to the past. It was found that the emotional wellness of the main caregivers of children with disabilities can be enhanced only when appropriate and sufficient intellectual education is provided to them.

The results of regression analysis between each factor showed that physical wellness had an influence of 0.765 on intellectual wellness, the influence of physical wellness and emotional wellness was 0.671, and the influence of intellectual wellness and emotional wellness was higher than 0.594. It is evaluated that if physical wellness is in good condition, interest in various diseases and willingness to learn are strong. And if the physical wellness of the primary caregiver of children with

disabilities is excellent, it has a more positive effect on emotional stability. Therefore, the richer the information related to the management of children with disabilities through intellectual wellness, the more likely it will be to secure emotional stability of the main caregivers.

Therefore, in addition to providing direct rehabilitation treatment programs for children with disabilities, it is now necessary to provide various programs that can improve the intellectual wellness of the main caregivers as well. Although it is important to try to obtain information directly related to individuals, it is necessary to create an environment in which education can be received through systematic expansion of related programs at the government level.

5. Conclusion and Suggestions

The purpose of this study is to investigate the mediating effect of intellectual wellness between physical wellness and emotional wellness of caregivers of children with disabilities.

The effects of physical wellness, emotional wellness, and intellectual wellness, which are the three factors suggested in the study, were investigated.

Physical wellness in this study refers to the physical condition to perform work and work and the social health condition to interact with the surroundings. Physical wellness and social wellness were used as sub-elements of physical wellness. Physical wellness refers to the body's functional ability to perform work and tasks. Social wellness was defined as social health, which means physical health and the ability of people (family, friends, co-workers, neighbors) to interact successfully with the surrounding environment. Emotional wellness refers to the belief in being able to manage stress and manage emotions. As the sub-factor of emotional wellness, mental and emotional wellness were adopted. Mental wellness refers to the emotional state that leads human life, and is the ability to control stress and express emotions appropriately and comfortably. In addition, intellectual wellness refers to the ability to learn and use information effectively for personal family and professional development.

As a result of analyzing hypothesis #1, not only physical wellness and emotional wellness have a positive (+) correlation, but intellectual wellness has a positive correlation in promoting emotional wellness.

Looking at the analysis of Hypothesis #2, intellectual wellness was found to provide a partial mediating effect in the relationship between physical wellness and emotional wellness. In other words, in the relationship between physical wellness and emotional wellness, intellectual wellness provides a mediating effect. In order to increase the acquisition of positive emotional wellness, intellectual wellness as well as physical wellness support should be provided.

Recognizing the importance of the emotional wellness of the main caregivers of children with disabilities, and to promote them, appropriate and sufficient intellectual education should be accompanied by those who are subject to raising the disabled children. Therefore, the richer the information related to the management of children with disabilities through intellectual wellness is, the more likely it will be to secure the emotional stability of the main caregivers of children with disabilities.

Therefore, in addition to providing direct rehabilitation treatment programs for children with disabilities, it is now necessary to provide a variety of programs that can improve the intellectual wellness of the primary caregivers of children with disabilities. Although it is important to make efforts for individuals to acquire directly related information, it is necessary to create an environment in which various education programs can be selected

Table 9. Research conclusion

Division		Implication
Hypothesis #1	Physical wellness and emotional wellness have a positive correlation.	If the physical wellness possessed by the caregiver of the handicapped is excellent, it has a positive impact on emotional wellness. In addition, the richer the information related to the management of children with disabilities through intellectual wellness, the more likely it will be to secure the emotional stability of the primary caregivers of children with disabilities.
Hypothesis #2	Intellectual wellness provides a mediating effect regarding the relationship between physical and emotional wellness	Physical wellness provides an influence of 0.43, and intellectual wellness provides an influence of 0.309 on emotional wellness. In other words, in the relationship between physical wellness and emotional wellness, intellectual wellness provides a mediating effect. In order to increase the acquisition of positive emotional wellness, intellectual wellness as well as physical wellness support should be provided.

through systematic expansion of related programs at the government level(Table 9).

This study conducted a survey through a group of primary caregivers raising children with disabilities, and there is a limiting factor in the survey due to the participation of subjects in a specific region, not a national group analysis. Therefore, it is necessary to expand the applied data and analyze it after future collection.

The expected effect of this study is that it can be used as a base material for more efficient support through a variety of perspectives when approaching the current issue of children with disabilities. Therefore, it will be helpful to create a positive environment for raising children with disabilities when not only education centered on children with disabilities, but also expansion of education programs through government-led support for the main caregivers of children with disabilities.

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