

Latent Means Analysis of Parenting Competency, Parenting stress, Resilience, Social support according to the disability types among disabled women

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여성장애인의 장애유형별 자녀양육역량, 양육스트레스, 회복탄력성, 사회적 지지에 대한 잠재평균분석

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Abstract This study aimed to examine disabled women to determine whether differences existed in parenting stress, resilience, social support, and parenting competency based on the disability type using an latent means analysis. The research data was sampled from 167 mentally disabled women and 132 physically disabled women. Parenting stress and social support had higher latent means in the mentally disabled women. Parenting competence and resilience had higher latent means in the physically disabled women. The results of this study suggested that differentiated, practical intervention approaches should be implemented for each disability type.

Key Words : Disabled women, Parenting competency, Parenting stress, Resilience, Social support, Latent means analysis

요 약 본 연구의 목적은 잠재평균분석을 활용하여 여성장애인의 자녀양육역량, 양육스트레스, 회복탄력성, 사회적 지지 수준이 장애유형(정신장애, 신체장애)에 따라 차이가 있는지 탐색하는 것이다. 이를 위해 여성장애인의 장애유형에 따라 정신장애 167명, 신체장애 132명으로 구분하고 설문조사를 실시하였다. 연구 결과, 양육스트레스와 사회적 지지 수준은 정신장애 여성에서 더 높게, 자녀양육역량과 회복탄력성은 신체장애 여성에서 더 높게 나타났다. 이러한 결과를 바탕으로 장애유형에 따라 차별화된 실천적·정책적 개입전략을 제시하였다.

주제어 : 장애여성, 자녀양육역량, 양육스트레스, 회복탄력성, 사회적지지, 잠재평균분석

1. Introduction

It is reported that the parenting experiences of disabled women has a powerful effect in overcoming psychological disabilities, and despite social stigma and economic difficulties due to physical limitations and

disablism, disabled women rediscover the value of their existence and gain positive outlooks through parenting experiences [1,2]. Overcoming the limitations disabled women face is a task that cannot be temporarily resolved, and the importance of parenting service support, such as pregnancy, childbirth, and caring

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among disabled women has recently increased in Korea [3,4]. According to the 「2017 National Survey on the Disabled in Korea」, 59.6% of disabled women become pregnant under the disabled conditions, and 62.8% of disabled women with a birth experience are in need of services related to maternal experiences. Also, 44.5% of disabled women with a birth experience are reported to be in need of support services related to parenting after childbirth [5,6]. Among physical disabilities, women with crippled disorders, visual impairment, and brain lesions have significant difficulties in the use of various facilities needed outside of the home for child development, and have the most difficulties in parenting due to limited experiences in education and social activities for children. Women with mental disorders were shown to have notably low parenting competency and relationship-forming competence with children due to repeated hospitalization and psychological&emotional symptoms [7-9]. Therefore, there is a need to thoroughly carry out empirical research that analyzes influencing variables for strengthening parenting competency among disabled women that leads to effective social welfare practices.

Preceding research has revealed that there are various influencing factors on the parenting competency among disabled women; those include factors related to psychological factors such as parenting stress and resilience [10,11], familial relationship factors such as spouse support, relationship with children, and family communication, and social factors such as surrounding help, and professional support [10, 12-14]. This study focuses on parenting stress, resilience, and social support. Also, internal and external studies on parenting competency up until now have not taken into account differences based on disability types among disabled women, and therefore this study will analyze differences in the primary factors related to the parenting process based on characteristics for each disability type among disabled women, and will propose differentiated, practical interventions for each disability type.

Parenting competency is defined as the "act or process of role performance as a parent[15]". It is reported that disabled women experience difficulties in their relationships with children, but feel pride about becoming a parent while performing the role of a nourisher, and have positive experiences through internal growth [16, 17]. Although not an identical scale, Sung's study [13] showed that parenting competency of mentally disabled women were lower than intermediate-level, and Grue & Laerum's study [10] demonstrated that physically disabled women exceeded an intermediate-level of parenting competency. One can anticipate through these studies that parenting competency levels differ based on disability type.

Parenting stress felt by disabled women acts as a negative factor in the parenting process, and has been mentioned as a factor that reduces caring satisfaction [1,14]. It has been reported that for disabled women with high parenting stress, parenting competency and positive parenting behavior decrease, causing the interactions in the mother-child relationship to atrophy [18]. we examine comparisons between disability types, there are studies which state that parenting stress is higher among mentally disabled women than physically disabled women [1,15], but several studies report that stress in the parenting process is high regardless of disability type [10, 18]. This shows that follow-up study is necessary on differences in parenting stress based on disability type.

Resilience refers to the "ability to recover from adversity to become stronger and enriched one's resources[19]". Several overseas studies report that parenting stress, and family relationships in disabled women interact with resilience, and in this process, resilience regulates negative influences and improves parenting competency [20-22]. Preceding studies until now have utilized resilience in analyzing the correlation between the influencing factors of parenting competency in mentally disabled women, but there are few studies that examine this in physically disabled

women. So, there is a need for further study that expands disability types and examines what differences exist based on these types.

Social support refers to all forms of positive resources that can be obtained through social relationships, and includes information, physical help, and emotional support from others [23, 24]. Social support should be emphasized as an important factor that promotes responses to stressful situations from a buffer functional aspect of reinforcing parenting competency [15, 24], but there are not sufficient studies that compare differences between disability types. Although not an identical scale, Kim [2] and Sung [13] reported that social support among mentally disabled women slightly exceeded intermediate levels, and Im's [25] study on physically disabled women showed that social support was just below the intermediate level. Therefore, further research is required on whether differences in social support occur between disability types.

The aim of this study is to be employed as a policy tool for classifying support systems based on disability types in disabled women. This study is academically meaningful in that it attempted a differentiated approach that accounts for characteristics of disability types, which were not examined in the existing studies, by comparing differences in parenting competency, parenting stress, resilience, and social support based on disability type.

2. Research Method

2.1 Participants

The present study was carried out after receiving approval from the IRB of N University. The subjects of this study included mentally disabled women with a psychotic or mood disorder, and physically disabled women with visual impairment or brain lesions, who had one or more children between 5 and 15 years old. The reason for limiting the age of children to between 5 and 15 years old is that the mother's role is accentuated in supporting social activities such as the

child's school life and peer relationships during those duration. In terms of mental disability, subjects were not hospitalized at the time of the study.

Purposive sampling was done from institutions that cooperated with a questionnaire including psychiatric hospitals, community mental health centers for mentally disabled women, and rehabilitation facilities and associations of disabled women for physically disabled women. A total of 320 questionnaires were collected from January to April of 2017, and a total of 299 were used in the analysis, which is excluding 21 questionnaires that contained undependable responses. 132 subjects with a physical disability and 167 subjects with a mental disability were used in the final analysis. The average age of mothers was 41.04 years and the average age of children was 11.97 years.

2.2 Measures

2.2.1 Parenting Competency

Parenting competency was measured using the Parenting Sense of Competence Scale (PSOC), which developed by Johnston & Mash [26] and validated by Sung [13]. In the research, out of the seventeen items from the original study, eleven items that had communality values higher than 0.4 in exploratory factor analysis and squared multiple correlation values higher than 0.4 in the confirmatory factor analysis [27] were used to measure parenting competency. The respondents were asked to rate the items on a five-point Likert scale, ranging from 1 to 5, with higher scores indicating greater parenting competency. The scale's reliability was Cronbach's $\alpha = 0.804$.

2.2.2 Parenting stress

Parenting stress was measured using the Parenting Stress Scale, which developed by Abidin [28] and validated by Sin [29]. In the research, out of the twenty items from the original study, sixteen items that satisfied the criteria of factor analyses [27] were used to measure parenting stress. The respondents were asked to rate the items on a five-point Likert scale, ranging from 1

to 5, with higher scores indicating greater parenting stress. The scale's reliability was Cronbach's $\alpha = 0.852$.

2.2.3 Resilience

Resilience was measured using the Korean version of the Connor-Davidson Resilience Scale, which consists of 25 items[30]. We applied 12 items that satisfied the criteria of factor analyses[27]. The items were categorized as three sub-factors: hardiness, optimism, and patience. Respondents were asked to rate the items on a five-point Likert scale, ranging from 1 to 5, with higher scores indicating greater resilience. The reliability of the scale was Cronbach's $\alpha = 0.896$.

2.2.4 Social Support

Social support was measured using the Social Support Scale, which validated by Kim[2]. In the research, out of the eleven items from the original study, eight items that satisfied the criteria of factor analyses[27] were used to measure social support. The respondents were asked to rate the items on a five-point Likert scale, ranging from 1 to 5, with higher scores indicating greater social support. The scale's reliability was Cronbach's $\alpha = 0.909$.

2.3 Statistical Analysis

To analyze the data for this research, SPSS 20.0 and AMOS 20.0 were used. Exploratory and confirmatory factor analyses were conducted. To measure the scales' reliability, Cronbach's α values were consequently produced. Descriptive statistics, such as frequencies, means, standard deviations, and normality analyses, were also derived. To assess the goodness of fit, indices such as χ^2 , comparative fit index (CFI), Tucker Lewis index (TLI), and Root mean square error of approximation (RMSEA) were used[31]. Moreover, latent mean analysis(LMA) using controlled latent variables without measurement errors was conducted. To validate the relative effect of the latent mean, Cohen's effect size was used.

3. Results

3.1 Descriptive Statistics

In structural equation modeling(SEM), if measurement variables do not have normal distributions, the assumptions of multivariate normal distributions are not met. The wrong estimates produced prevent proper statistical testing. Considering the conditions of normal distribution (skewness lower than 2, kurtosis lower than 7) in SEM[32], the chosen variables were proven to meet the basic requirement levels.

Table 1. Descriptive Statistics

Categories		Mean (S.D.)	Skewness	Kurtosis
Parenting stress	child temperament	2.95 (.730)	.230	-.183
	relationship with child	3.28 (.862)	.357	-.228
	Learning expectation	3.46 (.933)	.190	-.884
Resilience	hardiness	3.16 (.767)	.102	.223
	optimism	2.98 (.946)	.185	-.167
	patience	3.02 (.866)	-.207	.536
Social support	support 1	3.01 (.960)	-.361	-.726
	support 2	2.77 (1.042)	-.439	-.543
	support 3	3.13 (.997)	-.256	-.549
	support 4	3.18 (.903)	-.372	-.664
	support 5	2.69 (1.051)	-.345	-.673
	support 6	2.93 (.882)	-.508	-.592
	support 7	2.98 (.911)	-.399	-.586
	support 8	2.97 (1.006)	-.336	-.488
Parenting competency	satisfaction	2.95 (.923)	-.473	.139
	efficacy	2.86 (.871)	-.385	.324

3.2 Comparative Analyses based on LMA

LMA has an advantage of taking measurement errors into account between each variable compared with ANOVA, which directly compares the variables. To perform LMA, the configural, metrics, and scalar invariances of the model were validated[33].

3.2.1 Invariance Analysis

The first validation is for configural invariance. For this, the baseline model, in which the correlations between the latent variables were accepted and had flexible parameter estimation, was chosen and analyzed. In comparative model, configural invariance was validated at a significant level. Table 2

The second step is the validation of metrics invariance. We compared the χ^2 value and degree of freedom to identify if the metrics invariance, which puts invariance restrictions on factor coefficients, and the configural invariance, which puts any invariance restrictions, had a significant difference. If the differences in χ^2 value are not statistically significant, or indices of TLI, CFI, and RMSEA do not worsen compared with the comparative model, then the assumptions of metrics invariance are met. In the comparative analysis model, the conditions of metrics invariance were all met[33].

The third step is the validation of scalar invariance. In scalar invariance, invariance restrictions are placed on the intercepts of each measurement variable. In the comparative analysis model, the conditions of scalar invariance were all met[33]. Table 2

Table 2. Goodness-of-fit Index

Category	χ^2	p	df	CFI	TLI	RMSEA
configural invariance	336.291	.000	196	.942	.958	.053
metric invariance	347.128	.000	208	.949	.966	.049
scalar invariance	353.879	.000	220	.954	.970	.046
factor variance invariance	359.607	.000	224	.954	.971	.046

3.2.2 LMA

As the mean value of factors cannot be directly compared in LMA, the latent mean of a reference group should be fixed to 0 to predict the latent means of other groups[33]. Table 3

Moreover, Cohen’s effect sizes (d) were calculated to evaluate the degree of mean differences of the latent

variables[34]. According to Cohen’s criteria, if d is lower than .2, the difference is considered small; if d is equal to .5, the difference is moderate; and if d is more than .8, the difference is considered large.

In the comparative model, while the mentally disabled women’s parenting stress and social support were higher than those of physically disabled women, their resilience and parenting competency turned out to be low. The effect sizes indicated that parenting stress and social support were small, resilience was moderate, and parenting competency was high.

Table 3. Latent Means Analysis

Category	Latent means		C.R. (p)	Standard error	Cohen’s d
	Physical disability group (132)	Mental disability group (167)			
Parenting stress	0	.248 **	2.356 (.008)	.734	.337
Resilience	0	-.316 **	-2.813 (.006)	.635	.486
Social support	0	.202 *	1.994 (.023)	.487	.253
Parenting competency	0	-.392 **	-3.745 (.005)	.241	.751

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

4. Conclusion and Discussion

Using an LMA, this study examined disabled women to determine whether differences existed in parenting stress, resilience, social support, and parenting competency based on disability type. The results are as follows.

First, parenting stress had a higher latent means in the mentally disabled women group compared to the physically disabled women group. This supports the results of preceding studies [1, 15], and thus parenting stress should be treated as an important factor for mentally disabled women. This result suggests that intervention is needed to reduce the parenting stress of mentally disabled women.

Second, resilience in the physically disabled women group had a higher latent means than in the mentally disabled women group. Until now, there has been an

absence of studies that verify resilience levels of physically disabled women. This study is the first to have analyzed this. The results of this study are also consistent with preceding studies [20-22] that emphasize the importance of resilience, and suggest that intervention in resilience is increasingly important in order to improve parenting competency in the mentally disabled women group in particular.

Third, social support had a higher latent means in the mentally disabled women group than in the physically disabled women group. This study was the first to analyze differences in social support with an identical scale based on disability type among disabled women, and as emphasized by preceding studies [23,25], the results suggest that the degree of help from surrounding people and an official support system should be revitalized to improve parenting competency in physically disabled women.

Fourth, parenting competence had a higher latent means in the physically disabled women group than in the mentally disabled women group. This is a newly deduced result in contrast to preceding studies which suggests that when putting intervention into action for strengthening parenting competency, systematic analysis is needed on the causes of large differences in parenting competency levels based on disability types among mothers, and that focused mediation measures are increasingly needed for strengthening parenting competency in mentally disabled women in particular.

On the above results, this study will propose a practical approach that differentiates parenting competency support systems based on disability type in disabled women.

First, measures for reducing parenting stress in mentally disabled women should be initiated in interventions. Regarding mental disabilities, it has been reported that parenting stress is aggravated as the frequent relapses and hospitalizations continue, and thus couples counseling and family counseling should be carried out in tandem. And direct practice of parent education for fostering interactions with children and

parent-role training based on the child's personality or temperament are needed.

Second, a resilience fostering strategy that strengthens hardiness, optimism, and patience in mentally disabled women should be initiated. Preceding studies have stressed the importance of mental health management and social participation activities for increasing resilience [13,22], and direct practice is needed to provide continual medication monitoring and case management. Measures that foster participation in social activities, and creates opportunities to receive information on parenting are needed.

Third, we need to search for measures that promote mutual exchange between physically disabled women and initiate social support networks to avoid social isolation. It is necessary to strengthen a support system for the disabled and improve service structures so that sufficient support takes place for physically disabled women. Also, policy support should take place without deviation to initiate self-help groups and parenting support in rehabilitation facilities where physically disabled women have relatively more interactions with one another.

Fourth, differences in parenting competency were the largest between two groups, and thus various practical intervention is needed for the programs that strengthen parenting competency in mentally disabled women. To this end, we should implement family education for improving family functions, and should reinforce the strengths as nurturing providers instead of the frustration and helplessness. Also, policy support should take place so that disabled women can perform the role of advocator in exercising influence over the creation of programs and quality of life improvements through an association of disabled women within the community.

This study was limited to a certain area, it has external validity limitations to generalize the results to a national level. In future research, the study area should be expanded, and the types of disability could be diversified.

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