

# Comparisons of Emotional Intelligence, Mental Health and Ego-resilience Between Mothers of Children/Adolescents With and Without Disabilities

Masumi OMORI<sup>1)</sup>, Shin-ichi YOSHIOKA<sup>2)</sup>

<sup>1)</sup>*Department of Psychiatric and Mental Health Nursing, The University of Shimane Faculty of Nursing, Izumo, 693-8550, Japan*

<sup>2)</sup>*Department of Nursing Care Environment and Mental Health, Tottori University Faculty of Medicine, Yonago, 683-8503, Japan*

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This study compared emotional intelligence, mental health, and ego-resilience between the mothers of children or adolescents with (study group) and without (control group) mental, developmental, or behavioral disorders. A self-administered, anonymous questionnaire survey was conducted with 79 study group and 33 control group members. Emotional intelligence, mental health, and ego-resilience were measured using the 21-item Emotional Intelligence Quotient Scale (EQS), 12-item General Health Questionnaire (GHQ), and 14-item Ego Resiliency Scale (ERS), respectively. There were no significant differences in EQS or ERS scores between the study and control groups. In contrast, GHQ scores were markedly lower in the control group, indicating that their mental health status was more favorable than the study group. In the study group, a significant negative correlation between GHQ and ERS scores was observed. Such a correlation was also observed between GHQ and EQS scores related to <situation management skills>. These results suggest that the effective use of <situation management skills> as a domain of emotional intelligence, as well as ego-resilience, positively influences mental health.

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Key words: emotional intelligence, children/adolescents, mothers, disabilities

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Corresponding Author: Masumi Omori  
Department of Psychiatric and Mental Health Nursing, The University of Shimane Faculty of Nursing, 151 Nishihayasigicho, Izumo, Shimane 693-8550, Japan  
Tel: +81-853-25-9235  
Fax: +81-853-25-9236  
E-mail: m-omori@izm.u-shimane.ac.jp

## INTRODUCTION

In Japan, the population of children and adolescents (aged 18 or younger) is estimated at approximately 2,270,000. The number of individuals with intellectual disabilities or physical or mental disorders (“children/adolescents with disabilities”) is 380,000, according to a survey conducted by the Ministry of Health, Labour, and Welfare in 2008, indicating the issues of developmental disorders and the necessity of providing family support. In previous studies on care for the families of children/adolescents with disabilities, the process by which parents become able to accept their child’s disability and the presence of chronic distress were clarified [1, 2]. Irie noted the necessity of helping parents express their feelings and adopt appropriate actions to address dilemmas when providing family support for children/adolescents with disabilities [3]. From the viewpoint of family nursing, she also indicated the importance of nurturing family resilience to improve family members’ skills to independently resolve intrapersonal and family problems [4]. The promotion of emotional expressions has also been reported to be indispensable to address chronic distress in the parents of children/adolescents with disabilities, and nurture their family resilience [4]. Similarly, emotional intelligence has been shown to play an important role in maintaining mental health [5, 6]. In a study examining family members’ expressed emotions (EE), recurrence was more frequent among patients who resumed their lives with other family members showing critical or hostile attitudes toward them or emotionally involving them more intensely [7]. The application of emotional in-

telligence is likely to be effective to address diverse difficulties in parenting and manage stress. However, to date, the association between the skills needed to resolve difficulties in daily life and the emotional intelligence contributing to their development in mothers of children/adolescents with disabilities has rarely been examined. Therefore, in order to appropriately support such mothers, it may be necessary to compare them with those of children/adolescents without disabilities to clarify differences.

Regardless of the presence/absence of a disability, children and adolescents are in the process of ego development, and, therefore, frequently face dilemmas choosing between social norms and instinctive urges requiring control [8]. Along with the conflict between dependence and independence, they may also develop a sense of resistance to adults who care for them, making them unmanageable. During this period, the ability of child-caring adults to identify their own emotions and those of others is likely to contribute positively to the development of resilience necessary to address difficult parenting situations, consequently promoting their mental health.

Based on this premise, the present study compared emotional intelligence, mental health, and ego-resilience to address difficult situations between the mothers of children or adolescents with and without disabilities.

## SUBJECTS AND METHODS

### *Study period*

From August to November 2012.

### *Subjects*

The study involved a total of 112 mothers of children/adolescents with (study group: 79 mothers) and without (control group: 33 mothers) mental, developmental, or behavioral disorders treated in medical institutions, living in a city of the S area.

### *Methods*

A self-administered, anonymous questionnaire survey was conducted, using an original sheet and involving 3 medical institutions, in addition to the subjects. Prior to the survey, oral and written explanations of the study objectives and methods were

provided to the directors of the institutions to obtain their consent. To the control group members, the questionnaire sheet was individually distributed. A letter of request specifying the study objectives and methods was attached to each sheet, and a response voluntarily returned by mail was regarded as consent from the respondent.

### *Content of the questionnaire sheet*

#### **1. Basic respondent attributes and parenting difficulties**

The study items were as follows: the ages of the mother and child, occupational status, family structure, parenting difficulties, and availability of support for the mother.

#### **2. Emotional intelligence**

Emotional intelligence is defined as the ability to perceive one's own emotions and those of others, understand the semantic contents of individual emotions, and flexibly express them for intra- or interpersonal communication or situation management.

Emotional intelligence was examined using the Emotional Intelligence Quotient Scale (EQS) [9]. The EQS consists of 3 domains: <intrapersonal skills>, <interpersonal skills>, and <situation management skills>. Each domain is composed of 3 concepts as corresponding factors, and each factor is composed of 2 or 3 sub-factors: <intrapersonal skills>: self-insight, self-motivation, and self-control; <interpersonal skills>: empathy, altruism, and interpersonal control; and <situation management skills>: situation recognition, leadership, and situation control. In the present study, rating scales were used for a questionnaire sheet containing 21 questions, and higher scores were regarded as indicating higher levels of emotional intelligence.

#### **3. Mental health**

Mental health was evaluated using a Japanese version of the General Health Questionnaire (GHQ) developed by Goldberg [10], which consists of 12 items [11, 12]. In the present study, the cut-off was set at 3/4, and a score of 4 or higher was regarded as indicating a poor mental health status.

#### 4. Ego-resilience

Ego enables one to suppress or control instinctive desires in consideration of individual situations. In the present study, ego-resilience was defined as the ability to control one's desires and behavior to manage individual situations. Higher ego-resilience is regarded as a more favorable ability to cope with external or internal stressors more flexibly for stress management.

Ego-resilience was measured using a Japanese version of Block's scale (ER89) [13], created by Hata and Onodera [14] in 2007. This version, named the Ego Resilience Scale (ERS), consists of 14 items, with 4 answer choices to be rated on a 4-point scale, from "Definitely no (points: 1)" to "Definitely yes (4)". In the present study, higher scores were regarded as indicating higher levels of ego-resilience.

#### 5. Statistical analysis

Student's t-test was used to compare the ages of the mothers and children between the study and control groups, while the chi-square test was used to calculate the proportions of those corresponding to each attribute. The former was also used for comparison of the mean EQS, GHQ, and ERS scores. The correlations among these scores were examined using Spearman's correlation coefficients. Based on their mental health-related scores, study group members were classified into favorable and poor mental health groups to compare their EQS (intrapersonal, interpersonal, situation management, and total) and mean ERS scores using Student's t-test. Furthermore, to confirm the reliability of the EQS, GHQ, and ERS, Cronbach's  $\alpha$  was also calculated.

For data analysis, SPSS 19.0J for Windows was used (all data are shown as the mean  $\pm$  standard deviation). The significance level was set at 5%.

#### 6. Ethical considerations

As ethical considerations, a letter of request specifying the following items was attached to each questionnaire sheet: the study objectives and methods, participation based on individuals' free will and participants' right to refuse at any time, no adverse effect on treatment for those who refuse to cooperate, unsigned questionnaire sheets to protect privacy,

strict data management in a lockable place, prompt destruction of collected questionnaire sheets after analysis, publication of the results as a research paper after statistical processing, use of the information obtained through the study only for research purposes, ensuring anonymity by avoiding disclosing information that may allow the identification of individuals when publishing the results as a research paper or using other methods, and acknowledgement of a returned questionnaire sheet as consent from an individual to participate.

The questionnaire sheet was directly distributed to the subjects after explanations to the directors of the 3 hospitals treating the subjects' children/adolescents with disabilities to obtain their permission. It was designed to enable individual respondents to completely seal the envelope and directly return it by mail for strict management. This study was conducted with the approval of the Ethics Committee of the Faculty of Medicine, Tottori University.

## RESULTS

### *Respondent attributes and parenting difficulties*

Responses were obtained from 112 mothers, comprising 79 study and 33 control group members, at a valid response rate of 100%. Table 1 shows their basic attributes. The mothers' median age was 44 and 42 years old in the study and control groups, respectively. The children's median age was both 13 years old, respectively. The median duration of outpatient treatment was 3 years, ranging from less than 1 to 15 years. Regarding the presence/absence of other children, 64 study group members (81%) and 29 control group members (88%) answered "Present".

Regarding the occupational status of the study group, 62 (78%) were working and 17 (22%) were not. In the control group, 22 (67%) were working and 11 (33%) were not.

The family structure in the study group included 52 nuclear families (66%), 22 extended families (28%), and 5 other-type families (6%), indicating that approximately 70% were parenting their children in nuclear family households. Whereas, that of the control group included 19 nuclear families (58%), 13 extended families (39%), and one other-type family (3%) (Table 1).

Parenting difficulties were faced by more than 90% of mothers in both groups, and approximately 70% of the mothers answered some sort of support was available for childcare (Table 2).

Figure 1 shows difficult situations felt by mothers regarding childcare. “Nutritional management” means inappropriate dietary habit leading to low-nutrition or obesity, “Activities” means hyperactivity or hypoactivity (social withdrawal), “Bullying” means experience of getting bullied, “Communication” means inability to appropriately communicate with others, “Dangerous behavior” means risky actions of chil-

dren which may lead to injury, “Learning” means lack of ordinary learning ability at school.

Such difficulties in the study group included mental health issues: 38 subjects (48%), and family relationship-related issues: 8 subjects (10%), while learning- and communication-related issues were frequently observed in the control group (Figure 1). In both groups, the most frequently available supporters were other family members, showing 50 to 60%, followed by friends and none, in this order (Figure 2). There were no differences between the 2 groups in the level of difficulty or availability of support.

Table 1. Basic attributes

		Mother <sup>1)</sup> (n = 79)	Mother <sup>2)</sup> (n = 33)	p-value
Mother’s age (median years)		44	42	0.112
Child’s age (median years)		13	13	0.739
Presence of siblings	Yes	64 (81)	29 (88)	
	No	15 (19)	4 (12)	
Occupation	Yes	62 (78)	22 (67)	0.188
	No	17 (22)	11 (33)	
Family structure	Nuclear family	52 (66)	19 (58)	0.424
	Extended family	22 (28)	13 (39)	
	Single parent	5 (6)	1 (3)	
Duration of treatment (median years)		3		

Numbers in parentheses indicate percentages

1) Mother of child with disabilities 2) Mother of child without disabilities

Table 2. Experience of parenting difficulties and presence of occupation

	Experience of parenting difficulties					Total	p-value
	Often	Sometimes	Hardly ever	Never	No answer		
Mother <sup>1)</sup>	40 (51)	37 (47)	2 (2)	0 (0)	0 (0)	79	0.170
Mother <sup>2)</sup>	12 (36)	18 (55)	1 (3)	0 (0)	2 (6)	33	
Total	52 (46)	55 (49)	3 (3)	0 (0)	2 (2)	112	
	Presence of occupation					Total	p-value
	Often	Sometimes	Hardly ever	Never	No answer		
Mother <sup>1)</sup>	15 (20)	45 (57)	13 (16)	3 (4)	2 (3)	79	0.655
Mother <sup>2)</sup>	8 (24)	18 (55)	5 (15)	0 (0)	2 (6)	33	
Total	23 (21)	63 (56)	18 (16)	3 (3)	4 (4)	112	

Numbers in parentheses indicate percentages

1) Mother of child with disabilities 2) Mother of child without disabilities

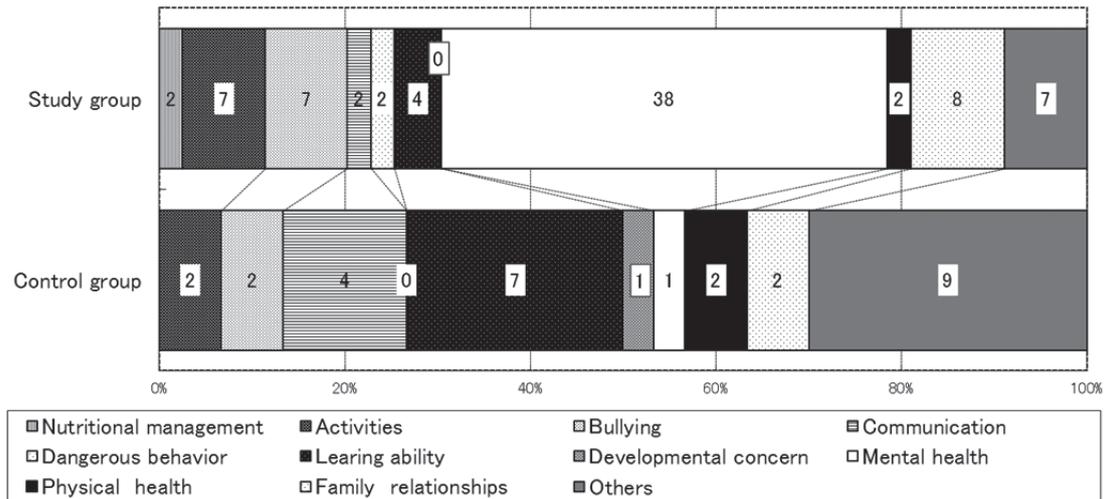


Fig. 1. Difficult situations experienced by mothers

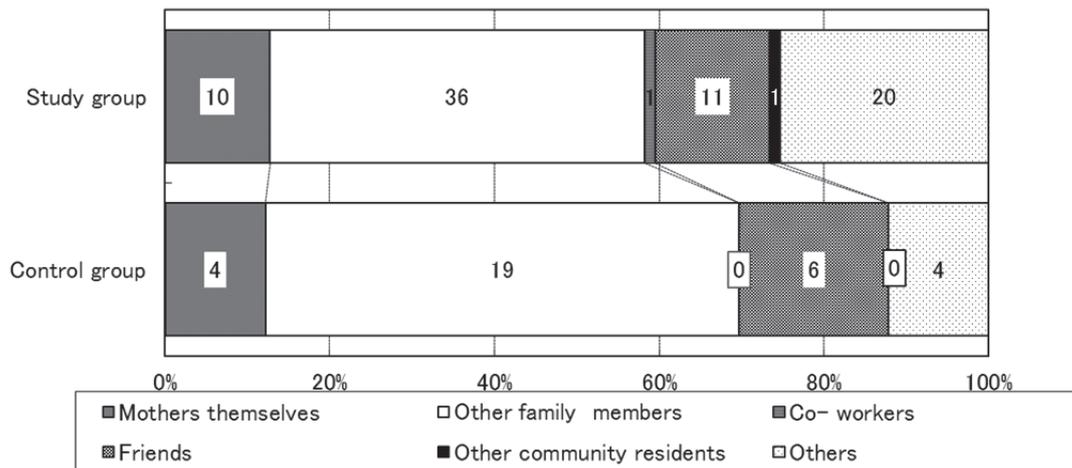


Fig. 2. Supporters needed by mothers

**Comparison of emotional intelligence, mental health, and ego-resilience**

Regarding the reliability of the study scales,  $\alpha$  coefficients for the 3 domains of the EQS were as follows: <intrapersonal skills>: 0.773, <interpersonal skills>: 0.754, and <situation management skills>: 0.786. Those for GHQ and ERS were 0.852 and 0.838, respectively.

Table 3 compares scores for the 3 domains of EQS and their factors, as well as GHQ and ERS scores, between the study and control groups. No significant differences were observed between them in emotional intelligence or ego-resilience. In con-

trast, GHQ markedly varied ( $p < 0.05$ ), confirming that the health status was more favorable in the control compared with study group.

**Correlations among emotional intelligence, mental health, and ego-resilience (Table 4)**

In both groups, the total EQS score was significantly correlated with ERS scores. On the other hand, while the study group showed significant correlations in all 3 domains of the EQS (intrapersonal skills:  $r = 0.509$ ,  $p < 0.01$ ; interpersonal skills:  $r = 0.453$ ,  $p < 0.01$ ; and situation management skills:  $r = 0.585$ ,  $p < 0.01$ ), the control group showed no

Table 3. Comparison with EQS, GHQ and ERS

	Mother <sup>1)</sup> (n = 79)	Mother <sup>2)</sup> (n = 33)	p-value
EQS			
Intrapersonal skills	14.7 ± 4.8	15.0 ± 4.0	0.686
Reflection	4.1 ± 1.6	4.3 ± 1.5	0.677
Motivation	4.5 ± 1.8	4.6 ± 1.6	0.637
Self-control	6.0 ± 2.3	6.1 ± 2.0	0.878
Interpersonal skills	14.5 ± 4.2	15.3 ± 3.9	0.295
Empathy	5.5 ± 1.6	5.8 ± 1.5	0.353
Consideration	4.8 ± 1.7	4.8 ± 1.7	0.632
Other-control	4.6 ± 1.19	4.2 ± 2.1	0.333
Situation management skills	11.7 ± 4.6	11.3 ± 4.2	0.618
Situation-Attention	2.8 ± 1.9	2.9 ± 1.6	0.892
Leadership	3.5 ± 1.5	4.5 ± 1.3	0.761
Situation- control	6.0 ± 2.4	5.6 ± 2.5	0.421
Total EQS score	40.9 ± 11.9	41.7 ± 10.0	0.719
GHQ	4.4 ± 3.3	3.1 ± 2.6	0.031*
ERS	2.1 ± 0.4	2.3 ± 0.4	0.113

\* : p < 0.05 (p-value was calculated using Student's t-test)

1) Mother of child with disabilities 2) Mother of child without disabilities

Table 4. Cross-correlation between the 3 scales (EQS, GHQ and ERS)

		EQS				GHQ	ERS
		Intra-personal	Inter-personal	Situational	EQS (total)		
EQS	Intra-personal skills						
	Inter-personal skills	0.533**					
	Situation management skills	0.586**	0.615**				
	Total EQS score	0.628**	0.521**	0.844**			
		0.292	0.817**	0.797**			
	GHQ	0.863**	0.861**	0.761**	-0.249		
		-0.152	-0.159	-0.221*	0.308*	0.264	
	ERS	0.509**	0.453**	0.585**	0.502**	-0.434**	
		0.189	0.508**	0.549**	0.509**	0.197	

Upper column : mother of child with disabilities Lower column : mother of child without disabilities

\* : p < 0.05, \*\* : p < 0.01

Abbreviations: EQS = emotional intelligence quotient scale, GHQ = general health questionnaire, ERS = ego resilience scale

Table 5. Correlation among the mental health status, EQS, and ERS scores

		Mental health Status		p-value <sup>1)</sup>
		Favorable (n = 39)	Poor (n = 40)	
EQS	Intrapersonal skills	15.2 ± 4.59	14.2 ± 5.10	0.360
	Interpersonal skills	15.3 ± 3.77	13.8 ± 4.64	0.112
	Situation management skills	12.5 ± 4.50	11.0 ± 4.80	0.159
	Total EQS score	43.0 ± 11.20	39.0 ± 12.38	0.135
ERS		2.4 ± 0.46	2.0 ± 0.46	0.001

1) p-value was calculated using Student's t-test

Abbreviations: EQS = emotional intelligence quotient scale, ERS = ego resilience scale

significant correlation in <intrapersonal skills>. Similarly, in the control group, no significant correlation was observed between GHQ and ERS scores. In contrast, in the study group, a significant negative correlation ( $r = -0.434$ ,  $p < 0.01$ ) was observed between them; namely, the mental health status was more favorable when the level of ego-resilience was higher. Such a significant negative correlation ( $r = -0.221$ ,  $p < 0.05$ ) was also observed between the GHQ and EQS only in <situation management skills> of the study group, revealing an association between the situation management skills of emotional intelligence and mental health.

#### ***Comparison of EQS and ERS scores between favorable and poor mental health groups***

Based on their GHQ scores, 39 (49%) and 40 (51%) study group members were classified into favorable and poor mental health groups, respectively. On comparison of the mean EQS and ERS scores between them, the latter was significantly higher in the favorable compared with poor mental health group ( $p < 0.001$ ), while there were no differences in EQS or GHQ scores (Table 5).

## **DISCUSSION**

Approximately 90% of both study and control group members had faced parenting difficulties. Although the details of such difficulties varied between them, as mental health-related issues were the most frequent among the former, while learning-related issues were the most frequent among the latter, there were no differences between them in emotional intelligence or ego-resilience. However, the former showed markedly higher GHQ scores, revealing their poor mental status. Based on this, it may be necessary to provide support for such mothers.

For example, peer support groups are necessary to provide opportunities for mothers to consult about their difficulties without hesitation, because the presence of a companion to talk with is effective to reduce mental stress and anxieties.

In the field of mental health, the promotion of patient and family resilience as a preventive nursing care approach is increasingly drawing attention [15]. The usefulness of intervention using narra-

tive records has also been noted [16]. In previous studies, resilience was shown to be associated with growth based on the experience of stress management [17], and the development of emotional intelligence was influenced by interactions between the acceptance of feedback from others and self-efficacy [18]. Therefore, further studies may be necessary to examine the influences of narratives, feedback from others, and self-efficacy on emotional intelligence and ego-resilience, in order to improve these areas. In the present study, while there was no correlation between mental health and emotional intelligence, ego-resilience was correlated with emotional intelligence, suggesting the possibility that the effective use of emotional intelligence would enable mothers to appropriately manage difficult situations. In this respect, appropriate methods to improve the quality of their narratives and feedback from others may be important, highlighting the necessity of developing detailed programs to nurture self-insight, in addition to the skills to understand others' feelings and manage situations.

In mothers parenting children/adolescents with disabilities, there were correlations between EQS and ERS scores and between ERS and GHQ scores, although mental health was not correlated with EQS scores. This indicates the usefulness of enhancing emotional intelligence as an approach to nurture resilience for situation management. In previous studies, expressing emotions was also shown to be important for the families of children/adolescents with disabilities, particularly in the early stages of the process of adaptation to the difficult situations. It was also noted that such expression helps families review their situations, leading to changes in their coping behavior [4]. Controlling anger and mental shock of families by assistance of medical professionals at the time of children's diagnosis may be a method to effectively use emotional intelligence. Such a method may also influence the parents' subsequent commitments to children and the process of accepting their disabilities, and help to appropriately manage difficult situations and maintain mental health.

On comparison of EQS, GHQ, and ERS scores between the study and control groups, the former showed markedly higher scores only in GHQ scores,

revealing their poor mental health status, but there were no significant differences in EQS or ERS scores between the groups. Based on this, the skills of the mothers of both groups appears similar in the levels of emotional intelligence and ego-resilience. Onodera [19] reported that mothers with higher levels of ego-resilience were more skilled to parent their children, and they showed marked mental stability. In the present study, study group members had the experience of caring for their children/adolescents with disabilities under outpatient treatment while coping with other household affairs. Their emotional intelligence- and ego-resilience-related scores were similar to those of the control group members, possibly due to the contribution of such experience to these areas. It should also be noted that there were no significant differences between the 2 groups in the mothers' or children's age, occupational status, or family structure. On the other hand, as the mothers of children/adolescents without disabilities similarly faced difficult situations in the process of parenting, we also need to consider methods to appropriately support them.

## CONCLUSION

The results of this study suggest that there were no significant differences between the study and control groups in emotional intelligence or ego-resilience. In addition, the control group showed a more favorable mental health status, and the mental health status was correlated only with <situation management skills> as a domain of emotional intelligence. In the study group, mental health-related scores showed a negative correlation with ego-resilience-related scores; namely, the mental status was more favorable when the level of ego-resilience was higher. Such a correlation was not observed in the control group. Furthermore, difficult situations varied among individuals in both groups, while as a positive correlation was observed between emotional intelligence and ego-resilience. Thus, professional support to enhance emotional intelligence and ego-resilience of mothers is considered important for promotion of mental health.

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## CONFLICT OF INTEREST

The authors had no conflict of interest to declare.

## REFERENCES

- 1) Drotar D, Baskiewicz A, Irvin N, Kennell J, Klaus M. The adaptation of parents to the birth of an infant with a congenital malformation: a hypothetical model. *Pediatrics* 1975;56(5):710-7.
- 2) Olshansky S. Chronic sorrow. a response to having a mentally defective child. *Soc Casework* 1962;43:190-3.
- 3) Irie Y. Chronic sorrow of families with intellectually disabled children and family support. *Bulletin of Faculty of Nursing, School of Medicine, Nara Medical University* 2006;2:48-57.
- 4) Irie Y, Tamura C. Development of a family intervention model to facilitate resilience in families of children with intellectual disabilities. *Jpn J Nurs Sci* 2011;31:34-45.
- 5) Salovey P, Mayer JD. Emotional intelligence. *Imagin Cogn Pers* 1990;9:185-211.
- 6) Mayer JD, Salovey P, Caruso DR. A further consideration of the issues of emotional intelligence. *Psychol Inq* 2004;15:249-55.
- 7) Leff J, Vaughn C. *Expressed emotion in families: its significance for mental illness*. Mino Y, Ushijima S, Trans-ed. Tokyo: Kongoshuppan Co., Ltd.; 1991:111-68.
- 8) Suga S. Adolescence. In: *Life Cycle*. Tokyo: Kanekoshobo, Co., Ltd.; 2002:124-39. System of clinical psychology Vol 3.
- 9) Otake K, Shimai S, Uchiyama K, *et al.* Development of emotional intelligence scale (EQS) and its examination of factorial validity and reliability. *Job Stress Res* 2001;8:153-61.

- 10) Goldberg DP, Hillier VF. A scaled version of the general health questionnaire. *Psychol Med* 1979;9:139-45.
- 11) Nakagawa Y, Daibo I. *The general health questionnaire (Japanese ver.)*. Tokyo: Nihon Bunka Kagakusha Co., Ltd.; 1985.
- 12) Niiro M, Mori T. Reliability and validity of the Japanese-version GHQ as a 12-item questionnaire sheet (GHQ-12) based on the results of surveys involving corporate workers. *Clinical Psychiatry* 2001;43:431-6.
- 13) Block J, Kremen AM. IQ and ego-resiliency: conceptual and empirical connections and separateness. *J Pers Soc Psychol* 1996;70:349-61.
- 14) Hata U, Onodera A. Development of a Japanese version of the ER (ego-resilience) 89. *Annual Meeting of the Japan Society of Development Psychology*. Tokyo: Society of Developmental Psychology; 2007:705.
- 15) Fujiwara C. Preventive nursing care for mental health: promoting resilience in both patients and their families. *Japanese Journal of Nursing Research* 2007;40:44-53.
- 16) Tokutsu S. Family resilience approach on the context of narrative family therapy and social casework. *Journal of Kansai University of Welfare Sciences* 1999;1:35-50.
- 17) Ishige M, Muto T. Psychological well-being, resilience, and social support expectancy junior high school students facing high school entrance examinations. *Jpn J Educ Psychol* 2005;53:356-67.
- 18) McEnrue MP, Groves KS, Shen W. Emotional intelligence development: leveraging individual characteristics. *Journal of Management Development* 2009;28:150-74.
- 19) Onodera A. Influence of ego-resilience on mothers child rearing. *Mejiro Journal of Psychology* 2008;4:25-34.