

# The Effects of Hope, Emotional Intelligence, and Stress on the Self-esteem of Rural Elementary School Students in Korea: The Mediating Effect of Social Support

Chang Seek Lee<sup>1</sup> and Yeoun Kyung Hwang<sup>2\*</sup>

<sup>1</sup>Department of Child and Adolescent Welfare, Hanseo University, Korea; lee1246@hanmail.net

<sup>2</sup>Department of Lifelong Education, Hanseo University, Korea; 01020707980@hanmail.net

## Abstract

**Background/Objectives:** This study aimed to verify the structural relationships between hope, emotional intelligence, stress, social support, and self-esteem of 240 elementary school students located in rural areas in S city, T county, and Y county of C province. **Methods/Statistical analysis:** Data were analyzed using frequency, reliability, correlation analysis, structural equation modeling, and Sobel's test. **Findings:** First, a significant positive correlation was found among self-esteem, hope, social support, and emotional intelligence, whereas a negative correlation was found between self-esteem and stress. Second, hope in rural elementary school students showed a statistically significant positive effect on social support; self-esteem and emotional intelligence showed a positive effect on social support; social support had a statistically significant positive effect on self-esteem; and stress showed a negative effect on social support and self-esteem. Third, social support had an indirect effect on the relationship between hope and self-esteem, and between stress and self-esteem, so social support was identified as an indirect mediator. **Application/ Improvement:** This study will be used to increase self-esteem through social; support for children.

**Keywords:** Emotional Intelligence, Hope, Self-Esteem, Social Support, Stress, Rural Elementary School Students

## 1. Introduction

Self-esteem is a person's subjective evaluation of his or her own worth and reflects a positive or negative judgment of him or herself<sup>1</sup>. Self-esteem is a subjective evaluation involving the extent of self-respect. Positive self-esteem can cause a person to perceive him or herself as good, respectable, or worthy<sup>2</sup>. Self-esteem is especially important in the young. Children and adolescents who have high self-esteem tend to be very socially active, and exhibit successful social activity including positive self-expression<sup>3</sup>, whereas children who have low self-esteem tend to be skeptical about themselves and view themselves as worthless<sup>4</sup>. Self-esteem is closely related to hopeful thinking, and hopeful people seek diverse ways to achieve their

goals in life<sup>5</sup>. Notably, it is reported that hopefulness in adolescents entails believing in a positive future for themselves and others, enabling them to maintain peaceful states of mind and lead productive lives<sup>6</sup>.

On the other hand, stress in elementary school students leads to emotional maladjustment and poor physical health, which are potential risk factors for other negative outcomes in their futures<sup>7</sup>. Furthermore, stress is related to hope; earlier findings have shown that hopeful people recover more quickly from stressful events<sup>8</sup>.

Another factor related to hope in adolescents is social support, which can be divided into structural social support, referring to basic interpersonal networks, and functional social support, related to the quality of interpersonal relationships<sup>9</sup>. It is necessary to investigate the

\*Author for correspondence

relationships among social support, hope, and stress in elementary school students, as earlier findings found that social support promotes hopeful thinking in adolescents and hopeful thinking promotes the ability to cope with problems, which has a positive effect on children's psychological well-being<sup>10</sup>. Also, children who experience more stress exhibit more problematic behaviors<sup>11</sup>.

Cognitive intelligence accounts for 20% of the factors contributing to success in life, while other factors, including emotional intelligence, account for the remaining 80%<sup>12</sup>. Thus, studies on emotional intelligence in infants and children are actively being conducted. Emotional intelligence refers to the ability to understand the emotions felt by one and others, and involves the ability to effectively moderate one's emotions<sup>13</sup>. Emotional intelligence enhances the capacity for problem-solving as well as forming positive relationships<sup>14</sup>.

Notwithstanding individual teachers' efforts and in-depth understanding of their students in rural areas of South Korea, which results from the small number of students taught by each one<sup>15</sup>, rural areas are isolated from trends in cross-societal industrialization and urbanization and have unique regional characteristics and problems, including problems in the field of education<sup>16</sup>. Teachers tend to avoid working in rural schools because of difficulties with management and increased work burden<sup>17</sup> by comparison with urban schools.

Hence, this research was conducted to understand the relationships between hope, emotional intelligence, stress, social support, and self-esteem in students in rural South Korean elementary schools. To accomplish this purpose, the following research questions were addressed: first, how strong are the correlations among hope, emotional intelligence, stress, social support, and self-esteem? Second, what is the structural relationship among hope, emotional intelligence, stress, social support, and self-esteem in rural elementary school students? Finally, does social support serve as a mediator of the relationships between hope, emotional intelligence, stress, and self-esteem?

## 2 Method

### 2.1 Research Model

As shown in Figure 1, a research model was set up based on preceding studies.

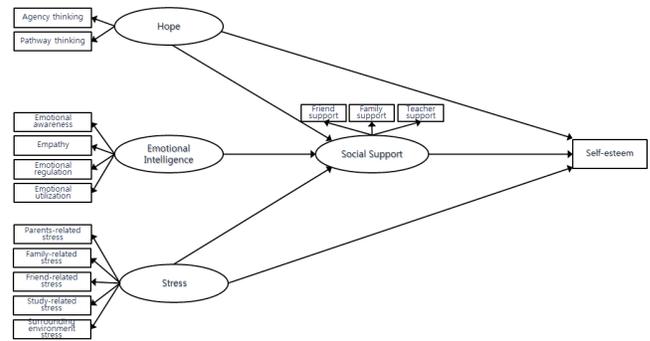


Figure 1. Research model

### 2.2 Participants and Data Collection

In this study, purposive sampling was conducted on 240 students attending small schools located in rural areas in S city, T county, and Y county of C province, taking convenience of the survey into consideration. The demographic characteristics of the subjects were recorded. Girls made up 45.8% of the study population, whereas the other 54.2% were boys. 37.9%, 34.6%, and 27.5% of the study participants lived in S city, T county, and Y county, respectively. First graders made up 19.2% of the study population, which is the highest proportion, followed by third, sixth, and fifth graders, accounting for 18.3%, 17.5%, and 16.7%, respectively, and second and fourth graders, each of which accounted for 14.2% of the population.

### 2.3 Survey Tools

#### 2.3.1 Hope

To measure hope, the Korean version of Snyder's Dispositional Hope Scale (K-DHS), developed by Choi et al. [18] based on the hope scale developed by<sup>18,19</sup> was used. The original scale is graded on a 5-point Likert scale, but the K-DHS is modified to a 3-point scale to be suitable for the research participants. Higher scores indicate higher levels of hope. Hope was divided into two sub-groups, agency thinking and pathway thinking. The Cronbach's  $\alpha$  values of agency thinking and pathway thinking were  $\alpha=0.710$  and  $\alpha=0.756$ , respectively.

#### 2.3.2 Emotional Intelligence

Emotional intelligence in the forms of emotional awareness, empathy, emotional regulation, and emotional

utilization were measured through confirmatory factor analysis using the sub-groups of emotional intelligence test that Moon<sup>20</sup> developed on the basis of the emotional intelligence model of<sup>14</sup>. Each item is scored on a 3-point Likert scale from disagree (1) to agree (3). Higher scores indicate higher levels of emotional intelligence. In sub-group analysis, the Cronbach's  $\alpha$  values for emotional awareness, empathy, emotional regulation, and emotional utilization were  $\alpha=0.740$ ,  $\alpha=0.751$ ,  $\alpha=0.855$ , and  $\alpha=0.870$ , respectively.

### 2.3.3 Stress

To measure stress, 36 questions regarding 'family-related stress', 'friend-related stress', 'parent-related stress', 'study-related stress' and 'surrounding environment stress' from the daily stress scale for Korean children developed by<sup>21</sup> were used. Stress is scored on a 4-point Likert Scale; higher scores indicate higher levels of stress. The Cronbach's  $\alpha$  values for 'parent-related stress', 'family-related stress', 'friend-related stress', 'study-related stress' and 'surrounding environment stress' were  $\alpha=0.871$ ,  $\alpha=0.848$ ,  $\alpha=0.876$ ,  $\alpha=0.844$ , and  $\alpha=0.867$ , respectively.

### 2.3.4 Social Support

To measure social support, we used scale<sup>22</sup>, which was modified from the Social Support Appraisal Scale (SSAS) developed by<sup>23</sup> in order to make it more appropriate for the study subjects.

The modified scale consists of 3 sub-groups that measure children's perception and evaluation of family support, peer support, and teacher support. Each item is scored on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). The Cronbach's  $\alpha$  values for peer support, family support and teacher support were  $\alpha=0.789$ ,  $\alpha=0.883$  and  $\alpha=0.729$ , respectively.

### 2.3.5 Self-Esteem

The self-esteem scale developed by Rosenberg<sup>2</sup> was used to assess self-esteem. The scale consists of 10 items, some of which are positive and some of which are negative. Each item is scored on a 4-point Likert scale, and higher scores indicate higher levels of self-esteem. The Cronbach's  $\alpha$  values for positive and negative questions were  $\alpha=0.789$  and  $\alpha=0.684$ , respectively.

### 2.3.6 Data Analysis

Data were analyzed using SPSS PC+ Win. 21.0 and Amos 21.0. For statistical analysis, descriptive statistics, reli-

ability analysis, correlation analysis, mean comparison analysis, and structural equation modeling were used.

## 3. Results

### 3.1 Correlation Analysis and Descriptive Statistics

To measure the correlations between variables, we used Pearson's correlation analysis; the results are shown in Table 1. Self-esteem showed a significant positive correlation with hope, social support, and emotional intelligence, and a negative correlation with stress. Of the sub-groups of emotional intelligence, empathy and emotional regulation showed no significant correlation with the sub-groups of stress, but emotional awareness and emotional utilization were significantly negatively correlated with stress.

The correlations between self-esteem and hope, between social support and self-esteem, between emotional intelligence and hope, and between social support and emotional intelligence were 0.485-0.540, 0.477-0.547, 0.172-0.404, and 0.128-0.389, respectively, all of which are statistically significant. The mean value of all factors except for stress exceeded the median values. The mean of family support was the highest of all the sub-groups of social support; mean emotional utilization was highest of all the sub-groups of emotional intelligence; mean parent-related stress was highest of the sub-groups of stress; and mean agency thinking was higher than mean pathway thinking in hope. Based on the criteria suggested by<sup>24</sup>, if the absolute values of skewness and kurtosis are lower than 3 and 8, respectively, the variables are normally distributed.

### 3.2 Validating Test of Modified Model

To identify the structural relationships in the study model, we performed confirmatory factors analysis (measurement model analysis), convergent validity evaluation, and research model analysis. To confirm the goodness of fit of the measurement model,  $\chi^2$  was assigned a value that did not have any statistically significant difference. Also, TLI and CFI were assigned values greater than 0.9, whereas RMSEA was assigned a value of less than 0.1<sup>25</sup>. To confirm the convergent validity of the model, the standard factor load was assigned a value of more than 0.5, whereas z was assigned a value that was statistically significant. Moreover, Average Variance Extracted (AVE)

**Table 1.** Correlation analysis and descriptive statistics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1														
0.737**	1														
0.314**	0.365**	1													
0.305**	0.329**	0.302**	1												
0.370**	0.404**	0.369**	0.625**	1											
0.204**	0.172**	0.082	0.177**	0.263**	1										
-0.253**	-0.183**	-0.150*	-0.023	-0.074	-0.325**	1									
-0.174**	-0.150*	-0.218**	-0.028	-0.048	-0.216**	0.710**	1								
-0.186**	-0.151*	-0.200**	0.048	0.006	-0.221**	0.614**	0.656**	1							
-0.283**	-0.247**	-0.188**	-0.032	-0.064	-0.262**	0.680**	0.621**	0.610**	1						
-0.249**	-0.223**	-0.257**	-0.087	-0.075	-0.151*	0.566**	.0645**	0.532**	0.574**	1					
0.394**	0.366**	0.389**	0.220**	0.303**	0.132*	-0.175**	-0.145*	-0.190**	-0.239**	-0.249**	1				
0.449**	0.417**	0.332**	0.179**	0.251**	0.153*	-0.322**	-.0294**	-0.183**	-0.346**	-0.352**	0.589**	1			
0.328**	0.351**	0.371**	0.194**	0.286**	0.128*	-0.185**	-0.191**	-0.105	-0.218**	-0.184**	0.450**	0.623**	1		
0.540**	0.485**	0.445**	0.291**	0.424**	0.283**	-0.356**	-0.343**	-0.308**	-0.385**	-0.355**	0.551**	0.547**	0.477**	1	
M	2.184	2.165	2.451	2.178	2.214	2.691	2.101	1.700	1.944	1.982	1.621	2.730	3.131	2.866	3.042
SD	0.510	0.513	0.382	0.456	0.403	0.251	0.735	0.670	0.792	0.743	0.674	0.564	0.657	0.572	0.532
Skewness	-0.213	-0.069	-0.692	-0.308	-0.263	-1.671	0.415	0.926	0.660	0.574	1.368	-0.356	-0.656	-0.105	-0.101
Kurtosis	-0.313	-0.286	0.034	-0.407	-0.122	7.525	-0.483	0.356	-0.421	-0.296	1.689	0.536	0.336	-0.239	-0.584

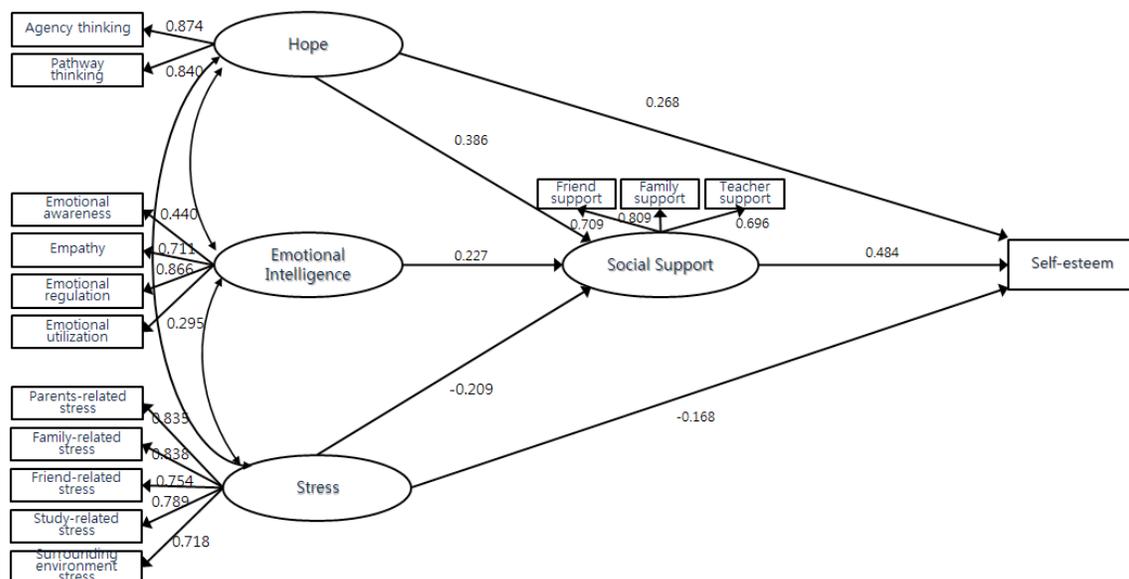
1. Agency thinking, 2.Pathway thinking, 3.Emotional awareness, 4.Empathy, 5.Emotional regulation, 6.Emotional utilization, 7.Parents-related stress, 8. Family-related stress, 9.Friend-related stress, 10.Study-related stress, 11.Surrounding environment stress, 12.Friend support, 13.Family support, 14.Teacher support, 15.Self-esteem

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

**Table 2.** A comparison of the goodness of fit index between the research and modified models

Classification	$\chi^2$	df	NFI	TLI	CFI	RMSEA
Research model	162.227***	82	0.906	0.936	0.950	0.064
Modified model	131.496***	80	0.924	0.958	0.968	0.052

\*\*\*p<0.001



**Figure 2.** Modified model

and Concept Reliability (CR) were assigned values of more than 0.5 and more than 0.7, respectively<sup>26</sup>.

In the goodness of fit index, which indicates the overall goodness of fit of the verified research model, the values of  $\chi^2$ , NFI, TLI, CFI, and RMSEA were 162.227 (df=82), 0.906, 0.936, 0.950, and 0.064, respectively, which are levels difficult to satisfy, and which cause a model to be partly modified through modification indices (MI). In order to modify the model, out of the error variance of the value of MI greater than 10<sup>27</sup> a covariance path is connected between errors that can theoretically be explained.

As shown in Table 2, the modified model showed improvements in the goodness-of-fit indices; the values of  $\chi^2$ , NFI, TLI, CFI, and RMSEA were 131.496 (df=80), 0.924, 0.958, 0.968, and 0.052, respectively, which were much improved compared to the model before modification. Therefore, this study adopted the modified model as the final model. Results derived from verification of the modified model and each of the path coefficients are given in Figure 2 and Table 3. Results obtained from verification by path are as follows. Hope in rural elementary school students showed a statistically significant positive effect on social support ( $\beta=0.386$ ,  $p<0.001$ ) and self-esteem ( $\beta=0.268$ ,  $p<0.01$ ). Emotional intelligence also showed a positive effect on social support ( $\beta=0.227$ ,  $p<0.01$ ), and social support showed a positive effect on self-esteem ( $\beta=0.484$ ,  $p<0.001$ ). In contrast, stress showed a statistically significant negative effect on social support ( $\beta=-0.209$ ,  $p<0.01$ ) and self-esteem ( $\beta=-0.168$ ,  $p<0.01$ ).

### 3.3 Mediating Effect Verification

To inquire into the size of the mediating variable of social support in the relationships among hope, stress, and self-

esteem, Sobel's test was used, and results obtained from verification are shown in Table 4.

The significant mediating effect of social support ( $Z=3.4646$ ,  $p<0.001$ ) is found in the link between hope and self-esteem. Furthermore, social support ( $Z=-2.7519$ ,  $p<0.01$ ) showed a statistically significant mediating effect on the correlation between stress and self-esteem. Namely, higher levels of hope in elementary school students are associated with higher levels of perception and evaluation of peer, family, and teacher support, which showed a positive effect on self-esteem in those students. These results indicate that hope in elementary school students not only showed a direct positive effect on their self-esteem, but also showed an indirect effect on self-esteem via social support. Furthermore, lower levels of life stress in rural elementary school students are associated with higher levels of their perception and evaluation of peer, family, and teacher support, which contribute to a positive effect on self-esteem. In short, life stress in elementary school students not only had a direct negative effect on self-esteem, but also affected it indirectly through social support.

## 4. Discussion

This research was conducted in order to understand the structural relationships among hope, emotional intelligence, stress, social support, and self-esteem in 240 students attending small elementary schools in rural areas. Several conclusions can be drawn based on the results of our research.

First, a significant positive correlation was found between self-esteem, hope, social support, and emotional intelligence, whereas a negative correlation was found

**Table 3.** Path of the modified model

Path between variables			B	$\beta$	S.E	t
Hope	→	Social support	0.342	0.386	0.082	4.149***
Emotional intelligence	→	Social support	0.533	0.227	0.205	2.599**
Stress	→	Social support	-0.135	-0.209	0.044	-3.055**
Hope	→	Self-esteem	0.315	0.268	0.080	3.926***
Stress	→	Self-esteem	-0.144	-0.168	0.046	-3.13**
Social support	→	Self-esteem	0.641	0.484	0.103	6.210***

\*\* $p<0.01$ , \*\*\* $p<0.001$

**Table 4.** Mediating effects of emotional intelligence, hope, and stress

Path					Z	p
Hope	→	Social support	→	Self-esteem	3.4646	0.0005
Stress	→	Social support	→	Self-esteem	-2.7519	0.0059

between self-esteem and stress. Of the sub-groups of emotional intelligence, empathy and emotional regulation had no significant correlation with the sub-groups of stress, whereas emotional awareness and emotional utilization showed a significant negative correlation with stress.

Second, hope in rural elementary school students showed a statistically significant positive effect on social support and self-esteem; emotional intelligence had a positive effect on social support; and social support showed a statistically significant positive effect on self-esteem. In contrast, stress showed a statistically significant negative effect on social support and self-esteem. These results are in agreement with earlier findings that social support predicts hopeful thinking, which has a positive effect on psychological well-being in adolescents by promoting coping and problem-solving skills<sup>10</sup>.

Third, social support had an indirect effect on the relationships between hope and self-esteem and between stress and self-esteem in rural elementary school students, which identifies social support as a mediating variable. This indicates that hope and stress not only showed a direct effect on self-esteem, but also showed an indirect effect on self-esteem through social support, which identifies social support in elementary school students as a key factor in self-esteem.

Based on our results, we can make several suggestions for further research. Here, social support was identified as a key factor in self-esteem amongst rural elementary school students, and thus it is necessary to enhance the levels of social support perceived by elementary school students in rural areas. Specifically, it is important to develop and apply an expression abilities improvement program to enable students to perceive peer, teacher, and family support in a positive manner, and build satisfying relationships with others.

## 5. Acknowledgment

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## 6. References

1. Jeon GY. The Relationships between Children's Sex-Role Type and Self-esteem. Unpublished Master's Dissertation. Kyungpook National University, 1984. Snyder CR. The psychology of hope: You can get there from here. Simon and Schuster; 1994.
2. Rosenberg M. Society and the adolescent self-image; 1965. p. 560-62.
3. Lee MJ. The Effects of the Group Diary Writing Activity on Middle School Students' Peer Relationship and Self-Esteem. Unpublished Master's Dissertation, Suncheon National University; 2004. p. 1-11.
4. Han KS. The Influence of Self-concept and Self-esteem about Career Awareness of Elementary Schoolers in Rural Area and Urban Area. Unpublished Master's Dissertation, Suncheon National University; 2003. p. 1-68.
5. Snyder CR. Hope and optimism. In V. S. Ramachandran (Ed.), *Encyclopedia of Human Behavior*, San Diego, CA: Academic Press. 1994; 2(1):535-42 .
6. Hinds PS. Adolescent hopefulness in illness and health. *Advances in Nursing Science*. 1988; 10(3):79-88.
7. Kim KH. Effects of elementary school children's after school activities and social support on stress. Unpublished Doctoral Dissertation. Sookmyung University; 2008. p. 1-39.
8. Ong AD, Edwards LM, Bergeman CS. Hope as a source of resilience in later adulthood. *Personality and Individual Differences*. 2006; 41(1):1263-73.
9. Kring AM, Johnson SL, Davison GC, Neale JM, Wiley NJ. *Abnormal Psychology*; 2010.
10. Won DR. The effects of Social support, hope and coping with problem solving on the psychological wellbeing: The mediating roles of hope and coping with problem solving. *Korean Journal of Health Psychology*. 2011; 16(2):297-311.
11. Han MH. The Effects of Family Economic Stress and Parental Support on Behavior Problems of Children. 1993; 11(2):182-94.
12. Goleman D. *Emotional intelligence*. New York: Bantam Books. 1995; 25(2):167-77.
13. Lee JH. The Effects of Emotional Intelligence, Classroom Climate and Social Support on the Friendship Quality - Focusing on the Differences between Gifted Students and General Students. Unpublished Doctoral Dissertation. Kyungpook National University; 2013. p. 1-13.
14. Salovey P, Mayer JD. Emotional intelligence. *Imagination Cognition and Personality*. 1990; 9(1):185-211.
15. Kweon HS. A Study on an Adolescent Experience of Children from International Marriage in Rural Area. *Korea Society of Agricultural Extension*. 2011; 18(1):35-72.
16. Lee DH. An Ethnography on Educational Activities of Three Middle Schools in Rural Area. *Korea Society of Agricultural Extension*. 2011; 18(3):435-83.
17. Han MG. An analysis of education and welfare status of rural, mountainous and fishery areas: Elementary and middle school. Seoul: Korea Institute of Educational Development. 2008; 1(2):1-16.

18. Choi YH, Lee HK, Lee DG. Validation of the Korean version of Snyder's dispositional hope scale. *Korean Psychological Association*. 2008; 22(2):1-16.
19. Snyder CR, Harris C, Anderson JR, Holleran SA, Irving LM, Sigmon ST, Yoshinobu L, Gibb J, Langelle C, Harney P. The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*. 1991; 60(1):570-85.
20. Moon YR. A study on the measurement of emotional intelligence of students in Korea. Seoul: Samsung Life, Society and Mental Health Institute; 1997. p. 77-89.
21. Han MH, Yoo AJ. Development of Daily Hassles Scale for Children in Korea. *Journal of the Korean Home Economics Association*. 1995; 33(4):49-64.
22. Kim MS. (The) relation between social support and maladjustment of children. Unpublished Doctoral Dissertation. Sookmyung Women's University. 1995;115(1):74-101.
23. Dubow EF, Ullman DG. Assessing social support in elementary school children: The survey of children's social support. *Journal of Clinical Child Psychology*. 1989; 18(1):52-64.
24. West SG, Finch JF, Curran PJ. Structural equation models with nonnormal variables. Problems and remedies. In Hoyle RH (Ed.). *Structural equation modeling: Concepts, issues and applications*. Newbury Park, CA: Sage; 1995. p. 56-75.
25. Hong SH. The Criteria for Selecting Appropriate Fit Indices in Structural Equation Modeling and Their Rationales. *The Korean Journal of Clinical Psychology*. 2000; 19(1):161-77.
26. Lee HS, Lim JH. *SPSS 20.0 Manual*. Seoul: Seoulmoongo; 2011.
27. Fassinger RE. Use of structural equation modeling in counseling psychology research. *Journal of Counseling Psychology*. 1987; 34(4):425-36.