

The Impact of Stress and Quality of Life of Korean University Students: Partial Mediating Effects of Social support and self esteem

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Abstract

The purpose of conducting this study was to verify the partial mediating effects of social support and self-esteem on the impact of stress and quality of life among Korean university students. The data were analyzed in the final 443 copies of university students enrolled in 4 universities located in D metropolitan area, and SPSS Win 22 was used to analyze with ANOVA, regression analysis, and Sobel-test. As a result of confirming the impact of stress, support and self-esteem on the quality of life of Korean university students, the quality of life was significantly predicted by 49.4% of stress and social support, and 41.8% of stress and self-esteem. With lower stress and higher self-esteem and social support, quality of life was higher, and it has been confirmed that self-esteem and social support are partially mediate the impact of stress in quality of Korean university students. Thus, it was confirmed that social support and self-esteem improve the quality of life by mitigating (buffering) the adverse effects of stress on the quality of life. For increasing the quality of life of Korean university students, it is implied that stress, social support, and self-esteem need to be identified simultaneously to identify groups that need intervention early, and that intervention to relieve stress by promoting social support and self-esteem is necessary.

Keywords: Korean university students; Stress; Quality of life; Self-esteem; Social support; Mediating effects

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Introduction

As the awareness of the issue of low quality of life of elderly people is shared, the quality of life among the elderly and the influencing factors are focused on and related studies are being actively conducted. However, according to the results of evaluation of life by age group in the survey conducted by the Korea Institute for Health and Social Affairs on happiness and quality of life of Koreans, young generation (19-34 years old) showed lower evaluation of the quality

of life than middle-aged people (35-49 years old) and elderly people (50-64 years old)(Jung H.S., 2019), and it is also necessary to pay more attention to the quality of life of young generation. Among the young generation, especially for the college students group between adolescence and early adulthood, it is a confusing period in the human development process, such as facing new roles and duties and responsibilities as adults as they move from passive and dependent high school life to university life, and in particular, the young generation of South Korea, who is suffering from serious employment difficulties, where people become unemployed at the same time as college graduation due to a prolonged economic downturn, experiences various stresses such as academic life, accumulating skills, and employment. Excessive stress is a factor that has a major effect on the quality of life of college students(Kim N.E., 2011), and when exploring the quality of life of college students, it needs to be dealt with together with stress. As for the degree of stress, it is reported that the individual's physical and psychological stability is more influenced by the individual's perception of the stress situation and his or her own evaluation and reaction to the stress situation (Folkman S *et al.*, 1980). However, most studies are on the relevance to stress and quality of life and factors influencing stress and quality of life, and studies on the factors that mitigate the negative effects of stress on the quality of life are insufficient. Looking at previous studies on the factors influencing stress and quality of life, social support alleviates negative effects from stress events (Kim M. R., 2006). and has significant effects on quality of life(Kim E.K. *et al.*, 2013), and self-esteem is the most influential factor on the quality of life of college students(Park J. Y., 2017), and it has been reported that the higher the self-esteem, the less vulnerable and resilient to stress events (Choi M. R. *et al.*, 2003). As in the above, it is expected that social support and self-esteem will act as mediators in the effect of stress of Korean university students on the quality of life, and this study aims to verify of the partial mediating effect of social support and self-esteem on the impact of stress on quality of life among Korean university students.

Materials and Methods

Research Subject and Data Collection Method

For male and female Korean university students enrolled in 4 universities, in D metropolitan area, after obtaining consent by explaining the purpose, procedure and future use plan of the study, it was conducted in a self-written method. The survey was conducted from April 30 to May 8, 2019, and 90.0% of the distributed questionnaire was used after final analysis of a total of 443 copies, excluding the 55 copies with omissions in the response and copies with outliers.

Variables and Measurement Method

Stress

Stress was measured by PWI-SF (Psychosocial Well-being Index-Short Form) (The Korean Society for Preventive Medicine, 2000). The tool consisted of 18 questions on a 4-point scale, with a minimum of 0 to maximum 72 points, and higher score indicates higher perception of stress. In this study, the stress tool Cronbach's alpha value was 0.873.

Social support

Social support was a measurement developed by Park (Park J. W., 1985), consisting of 25 questions on a 5-point scale, between 25 to 100 points, and higher score denotes higher perception of social support. In the current study, the social support tool Cronbach's alpha value was 0.979.

Self-esteem

The self-esteem was measured through RSE (Rosenberg Self-esteem Scale) (Rosenberg M., 1965) self-esteem scale, and was composed of five positive self-esteem and five negative self-esteem. This is a total of 10 items on a 4-point scale, from minimum 10 to maximum 40, where higher score denotes higher self-esteem. In the current study, the Cronbach's alpha value of the self-esteem tool was 0.752.

Quality of life

The quality of life of Korean university students was measured using the Korean version of the World Health Organization's quality of life simplified scale (Min S. K *et al.*, 2000). This is 26 questions on a 5-point scale, where higher the score, from 26 to 130, the higher the quality of life. In this study, the Cronbach's alpha value of the quality of life tool was 0.940.

Data Analysis

SPSS Win 22 was used for data analysis, and the difference of quality of life in regards to the level of stress, social support, and self-esteem was analyzed using descriptive statistics analysis, ANOVA, regression analysis, and Sobel-test to confirm the partial mediating effects of social support and self-esteem.

Results and Discussion

Differences in Quality of Life According to stress, social support and self-esteem level

To examine the difference in quality of life in regards to the level of stress, social support, and self-esteem among university students, the quality of life level was compared after classifying into high and low score groups based on average value of stress, self-esteem and social support. As a result, quality of life was highest in the group with low stress and high social support and self-esteem, with the group with high social support and self-esteem having higher quality of life compared to the low group even with the same stress levels. Table 1 shows the results.

Table 1. Differentiation in Quality of Life according to Stress, Social Support, Self-esteem level

		Social support	N	Quality of Life	Self-esteem	N	Quality of Life
Stress	High	High	96	88.063±11.779	High	58	90.235±15.368
		Low	138	80.341±10.299	Low	176	80.313±9.991
	Low	High	142	103.830±12.558	High	155	101.723±12.884
		Low	67	85.119±13.801	Low	54	86.340±17.347
F(p)		97.790*			87.758*		

*p<.001

Seen through result of the analysis, there was a difference in the quality of life level according to social support and self-esteem in regard to the same stress level, and it is thought that social support and self-esteem influence the individual's perception and coping of stress in stressful situations to control stress. The lower the level of perception of social support, the higher the stress (Dumont M *et al.*, 1999), and the social support prevents the occurrence of stress (Kaplan H. B *et al.*, 1983), and this is supported by previously conducted studies that reported that people with high self-esteem perceived stress lower and increase their degree of control (Choi M. R *et al.*, 2003).

In addition, when self-esteem and social support are high, the level of quality of life is high when social support is high and self-esteem is high in a high-stress situation, and in the future, more in-depth analysis and follow-up research is needed on the effects of self-esteem and social support on the quality of life according to the level of stress perception.

The Partial Mediating Effects of Social Support

Table 2 outlines the results of verifying whether social support mediates the effect of stress on the quality of life of Korean university students.

Table 2. Mediation effect of social support

step	Independent variable	dependent variable	B	SE	β	t		Adj.R ²	F(p)
1	Stress	Social support	-.650	.099	-.298	- 6.554		8.7	42.956*
2	Stress	Quality of Life	-.853	.072	-.492	-11.841		24.0	140.208*
3	Stress	Quality of Life	-.580	.062	-.334	- 9.422		49.4	216.038*
	Social Support		.420	.028	.528	14.886			

*p<.001

To verify the partial mediating effects of social support on the influence of stress on the quality of life of Korean university students, according to Baron & Kenny's mediating effects analysis procedure (Baron R. M *et al.*, 1986), 3 steps of regression analysis and Sobel test (Sobel M. E *et*

al., 1982) were conducted to verify the statistical significance of the mediating effects. Mediating effect of social support shows Figure1.

The effect of step 1 stress on social support was statistically significant ($\beta = -.298$, $p = .000$), the effect of the step 2 stress on the quality of life was statistically significant ($\beta = -.492$, $p = .000$), the step 3 stress ($\beta = -.334$, $p = .000$) and social support ($\beta = .528$, $p = .000$) had significant effects on the quality of life, and the regression coefficient of stress was $\beta = -.492$ in step 2 and $\beta = -.334$ in step 3, and the effect size was smaller in step 3 compared to step 2, so the partial mediating effects of social support was verified.

Next, a Sobel test was conducted to determine whether there was mediating effects through indirect effects. In the case of the Sobel test, if the score is greater than +1.96 points or less than -1.96 points, it is judged that the mediating effects is significant (Mediation variable, 2019), and the Sobel test value was 6.015, and it was confirmed that social support exhibited partially mediate the impact of stress on the quality of life of Korean University Students.

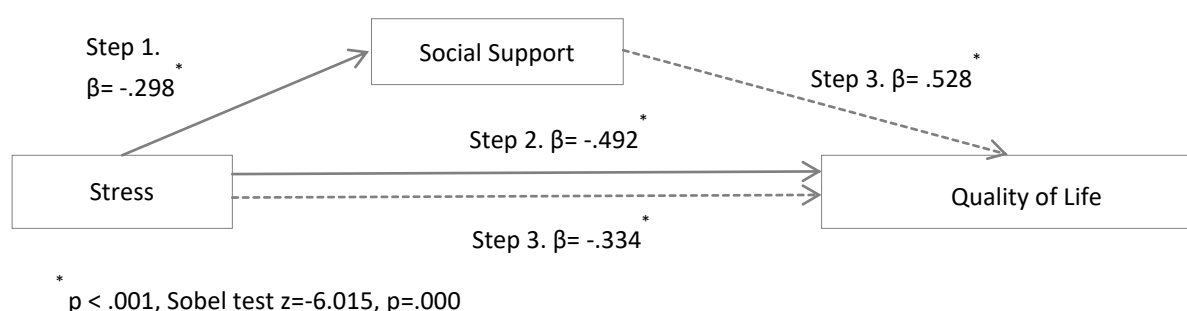


Figure 1. Social support mediating effects test result

These results are in line with Krause (1996) studies that when an individual experiencing stress receives social support, its buffering effect prevents the development of stress into psychological pain.

Social support is information that allows oneself to receive interest and love from others and to believe that one is a valuable being by forming a communication network (Cobb S., 1976), and social support from family and friends alleviates negative effects such as personal emotions and maladjustment behaviors caused by stress events (Kim M. R., 2006), and it is believed that it protects against health problems caused by stress (Cobb S., 1976) and strengthens the positive factor in the quality of life (Lee M. R *et al.*, 2013). Based on the results shown in this study, in order to effectively buffer the negative effects of stress and to improve the quality of the lives of university students, it is required to establish a social support network that can provide appropriate social support according to the stress situation, increase accessibility, and support to

establish appropriate relationships in expanded interpersonal relationships.

The Partial Mediating Effects of Self-esteem

Table 3 shows the results of verifying whether self-esteem mediates the influence of stress on quality of life of Korean university students.

Table 3. Mediation effect of self-esteem

step	Independent variable	dependent variable	B	SE	β	t	Adj.R ²	F(p)
1	Stress	Social support	-.262	.022	-.497	-12.021	24.5	144.513*
2	Stress	Quality of Life	-.853	.072	-.492	-11.841	24.0	140.208*
3	Stress	Quality of Life	-.431	.073	-.249	- 5.941	41.8	159.567*
	Self-esteem		1.606	.137	.488	11.659		

*p<.001

In order to verify whether self-esteem mediates the effect of Korean university students' stress on the quality of life, 3 steps of regression analysis and the Sobel test (Park J. Y., 2017) were conducted according to the mediating effects analysis procedure proposed by Baron & Kenny (Baron R. M *et al.*, 1986). Mediating effect of self-esteem shows Figure1.

The effect of step 1 stress on self-esteem is statistically significant ($\beta=-.497$, $p=.000$), the effect of step 2 stress on the quality of life is statistically significant ($\beta=-.492$, $p=.000$), the effect of step 3 stress($\beta=-.249$, $p=.000$) and self-esteem($\beta=.488$, $p=.000$) on the quality of life is significant, and as the effect size of stress was smaller in step 3 than in step 2 (step 2 $\beta=-.492$), step 3 ($\beta=-.249$), the partial mediating effects of self-esteem was verified. Next, it was confirmed that the Sobel test verification value was -8.354, and the mediating effects was statistically significant. In conclusion, self-esteem is a factor that affects quality of life along with stress, and it can be said that it partially mediates the impact of stress on the quality of life of Korean university students.

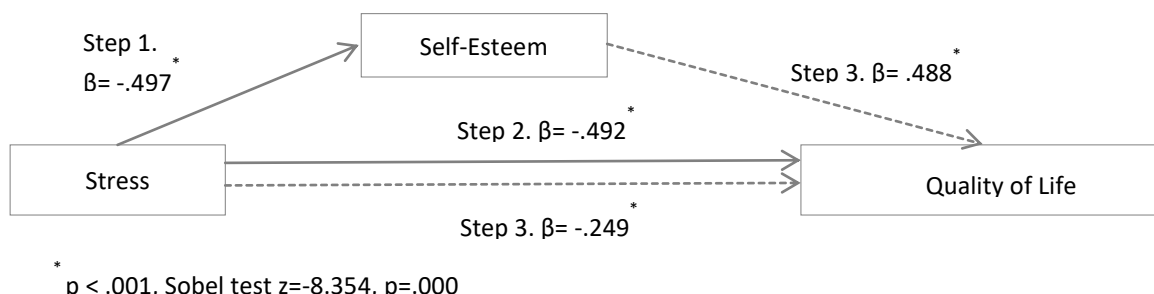


Figure 2. Self-esteem mediating effects test result

Self-esteem is an individual's overall value of self (Rosenberg H. S., 1979), and people with high self-esteem responded positively and efficiently to stress events, making them less susceptible to stress events, having resilience (Aspinwall I. G *et al.*, 1992), and receiving less

stress (Kim M. H., 2004), and this is in line with previous studies where self-esteem is a factor influencing quality of life (Kim J. Y *et al.*, 2008).

Looking at the result of this study, it can be deduced that increasing the self-esteem of university students allows them to control and effectively cope with stress, and in order to improve the quality of the lives of Korean university students, it is important to improve self-esteem so that students perceive the stress they experience low and cope effectively.

Conclusion

It was proposed in the study that the quality of life was high in the group with high social support and self-esteem even if the same stress was perceived. And It has been confirmed that social support and self-esteem are partially mediating the impact of Korean university students' stress in quality of life. Deduced from the results of this study, in order to increase the quality of life of Korean university students, it suggests that stress, social support, and self-esteem need to be identified together to identify groups that need intervention early, and that intervention to relieve stress by promoting social support and self-esteem is necessary. Based on the results shown in this study, follow-up research on the construction of a structural model that explains the quality of life and reveals the relationship of stress, social support, and self-esteem that affect the quality of life of Korean university students, and the development of an intervention program to promote self-esteem and social support, which act as buffers against stress, is suggested.

References(Harvard Style)

1. Jung H. S., 2019. *A Comprehensive Study of Happiness and Quality of Life in Korea*. (Report No. 19-52-01). Korea Institute for Health and Social Affairs.
2. Kim N. E., 2011. The Relationships among Stress, Resilience, and Quality of Life in College Students. *Journal of Adolescent Welfare*, 13(4), pp.1-19. Available at: <http://www.riss.kr/link?id=A82770725>
3. Folkman S., Lazarus R. S., 1980. An Analysis of Coping in a Middle-Aged Community Sample. *Japanese Journal of Nursing Research*, 21(3), pp.219-239.
4. Kim M. R., 2006. *The Relationship Between Housewives Life Stress and Depression Tendency: The Mediating and Moderating Effects of Self-esteem and Social*. Doctor's thesis, Chonnam National University. Gwangju. Available at: <http://dcollection.jnu.ac.kr/>
5. Kim E. K. Ha K. S., 2013. The Effects of Social Participation and Social Support on Quality

- of Life of the Elderly. *The Journal of digital policy & management*, 11(12), pp.811-820. DOI: <http://dx.doi.org/10.14400/JDPM.2013.11.12.811>.
6. Park J. Y., 2017. Effect of Optimism and Self-esteem on Quality of Life of College Students. *The Korean Journal of Rehabilitation Psychology*, 24(1), pp.171-183. Available at: <https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artId=ART002207494>
7. Choi M. R., Lee I. H., 2003. The Moderating and Mediating effects of Self-esteem on the Relationship of stress and Depression. *Kor. J. Clin. Psychol*, 22, pp.363-383. Available at: http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE06371061&language=ko_KR
8. The Korean Society for Preventive Medicine., 2000. *The Study about Standardization and Medicine statistics and numerical data*. Seoul: GyechukMunwhasa.
9. Park J. W., 1985. A Study to Development a Scale of Social Support. Master's thesis. Yeonsei University. Seoul.Available at: <https://library.yonsei.ac.kr/>
10. Rosenberg M., 1965. *Society and the Adolescent Self-image*. Princeton, New Jersey: Princeton University Press.
11. Min S.K., Kim K.I., Suh S.Y. & Kim D. K., 2000. Development of Korea version of World Health Organization Quality of Life Scale. *Journal of Korean Neuropsychiatry Association*, 39(1), pp.78-88.
12. Dumont M., Provost M. A., 1999. Resilience in adolescent: Protective role of social support, coping strategies, self-esteem, and social active on experience of stress and depression. *Journal of Youth and Adolescence*, 28, pp.343-363. DOI: 10.1023/A:1021637011732.
13. Kaplan H. B., Robbins C., & Martin S. S., 1983. Antecedents of psychology distress in young adults: Self-rejection, deprivation of social support, and life events. *Journal of Health and social behavior*, 1, pp.93-115. DOI: 10.2307/2136573.
14. Choi M. R., Lee I. H., 2003. The Moderating and Mediating effects of Self-esteem on the Relationship of stress and Depression. *Kor. J. Clin. Psychol*. 22, pp.363-383. Available at: http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE06371061&language=ko_KR
15. Baron R.M., Kenny D. A., 1986. The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*. 51(6), pp.1173-1182. DOI: 10.1037//0022-3514.51.6.1173.
16. Sobel M. E., 1982. Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological methodology*, 13, pp.290-312.
17. Mediation variable. 2019. Wikipedia. Available at: https://ko.wikipedia.org/wiki/%EB%A7%

A4%EA%B0%9C%EB%B3%80%EC%9D%B8

18. Krause N., 1996. Social support, stress and well-being among older adults. *Journal of Gerontology*. 41(0), pp.512-519. DOI:10.1093/geronj/41.4.512.
19. Cobb S., 1976. Social support as a mediator of life stress. *psychosomatic Medicine*, 38(5), p.330-314. DOI: 10.1097/00006842-197609000-00003.
20. Lee M. R., Park C. S., 2013. Influences of Psychological Distress, Social Support and Mental Fitness on Quality of Life among University Students -Focused on University Students in Daejeon and Chungnam. *Journal of Social Science research*, 22(-): 66-87. Available at: <http://kiss.kstudy.com/thesis/thesis-view.asp?key=3176156>.
21. Rosenberg H.S., 1979. *Conceiving the Self*, Now York: Basic Books. Aspinwall I. G., Taylor S. E., 1992. Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and social Psychology*, 63, pp.989-1003. DOI: 10.1037//0022-3514.63.6.989.
22. Kim M. H., 2004. *A Study of the Relationship between elementary school children of Self-esteem and the Levels of Stress*. Master's thesis. Seoul Women's University. Seoul. Available at : <http://lib.swu.ac.kr/>
23. Kim J. Y., Chung H. J., 2008. A Study on factors influencing the quality of Life for adolescents, *Social Welfare Review*, 13(0), pp.171-190. Available at: <http://www.riss.kr/link?id=A76591999>