

# Effect of Stress and Self-esteem on QoL in General College Students

Mi Hyun Joo<sup>1</sup>

<sup>1</sup>Professor, College of Medical Science, Jeonju University, Jeollabuk-do, KOREA

## ABSTRACT

**Background/Objectives:** College students are in the transition period between adolescence and adulthood and need to lay the ground for emotional or financial independence. This study aimed to analyze the effects of general college students' stress and self-esteem on their quality of life (QoL).

**Method/Statistical Analysis:** This study was performed in a total of 200 students at S University in S City. With the exception of the questionnaires not returned or wrongly or not fully completed during the process of data collection (n=25), 175 questionnaires were finally analyzed. Before the survey, the participants in this study were given an explanation about the purport of the research and those consenting to participate in this study were asked to make a written consent and complete questionnaires, which were then returned. The collected data were analyzed using descriptive statistics and t-test, one-way ANOVA, Pearson's correlation coefficient, and multiple linear regression.

**Findings:** This study obtained the following results: first, the total score was  $46.5 \pm 18.4$  for the socio-psychosocial well-being index (PWI),  $30.2 \pm 4.5$  for self-esteem, and  $91.0 \pm 13.1$  for QoL; second, QoL differed statistically significantly by the frequency of having breakfast per week ( $F=3.3$ ,  $p=.02$ ), and PWI ( $F=4.7$ ,  $p=.003$ ) and QoL ( $F=4.8$ ,  $p=.003$ ) differed statistically significantly by activity of daily; third, significant negative correlation was found between PWI and QoL ( $r=-.7$ ,  $p<0.001$ ); fourth, stress ( $\beta=-.7$ ,  $p<0.001$ ) was the factor that had the strongest negative effects on QoL.

**Improvements/Applications:** Stress was the factor that had the strongest effects on QoL in college students. It is therefore necessary to develop health promotion programs that can help general college students relieve stress with the objective of improving their QoL.

**Keywords:** College student, Stress, Self-esteem, QoL, Health

## Introduction

College students need to prepare for adulthood. However, they actually suffer from more stress than during adolescence to adapt themselves to an unfamiliar environment, while they may have expectation of and excitement at a new campus life<sup>[1, 2]</sup>. Indeed, the 2017 Youth Statistical Survey supervised by the Ministry of Gender Equality and Family showed that 50.3% of the respondents aged 20-24 were experiencing stress in all areas of their life<sup>[3]</sup>.

In the body, if a prolonged state of stress reactions overwhelms the capability of each system to cope with them, it can cause physically and psychologically abnormal signs, such as loss of appetite, muscle tension, fatigue, insomnia, emotional turmoil, and depression, which can then lead to several types of disease: gastrointestinal disorders, cardiovascular disease, respiratory disease, and mental illness<sup>[4]</sup>. So it is probably possible to solve university students' physical and mental problems by allowing them to identify and cope properly with the causes of stress so that they can avoid being left maladjusted due to the exposure to excessive stress.

Self-esteem means thinking of oneself as a valuable being; people with high self-esteem are likely to accept, respect, and regard themselves as valuable. Positive

---

### Corresponding Author:

Mi Hyun Joo

Professor, College of Medical Science,  
Jeonju University

Email: joomihyun@jj.ac.kr

self-esteem may cause people to lead a positive and worthwhile life and behave with confidence, whereas negative self-esteem may cause them to become skeptical of self-value, frequently feel anxious, become depressed, have no confidence in themselves, and do unstable and passive behavior<sup>[5]</sup>. University students need to establish their self-value and become independent, the failure in which can lower self-esteem due to an excessive sense of inferiority or lower self-esteem and give severe mental stress; for this reason, adjustment status, the environment, stress, and personal lifestyle during this period are likely to have significant effects on the quality of life in adulthood as well<sup>[6-8]</sup>.

The quality of life (QoL) means a subjective value judgment about daily satisfaction based on satisfaction with life as well as on physical, mental, and social well-being<sup>[9]</sup>. Research on the correlations between stress and QoL has reported that university students can experience lots of stress in all areas of campus life due to identity, interpersonal relationships, academic work, financial difficulties, and employment on entering the university and that students experiencing such severe stress can suffer mentally and physically severe maladjustment as well as problems with campus life<sup>[10-12]</sup>. A study showed that university students' stress management, satisfaction with the in-campus environment, and health practice behavior were likely to affect their QoL<sup>[13]</sup>.

So this study aimed to examine the effects of college students' stress and self-esteem on their QoL and is expected to provide basic data that can help develop health promotion programs so that they can improve their QoL and prepare for happy and healthy adulthood.

This study aimed to examine the effects of general college students' stress and self-esteem on their QoL.

## Materials and Method

**Participants:** The convenience sampling method was used to make a sample of 200 students at S University in S City. Before data collection, the participants in this study were given an explanation about anonymity, confidentiality, possibility of withdrawing from the survey any time, and the purport of the study in ethical consideration, and those volunteering to participate in this study were asked to make a written consent. The students were asked to personally complete questionnaires, which were then returned. With the

exception of the questionnaires not returned or wrongly or not fully completed during the process of data collection (n=25), 175 questionnaires were analyzed after the final error detection.

## Research Tools

**Stress:** The revision of the Socio-Psychosocial well-being Index (PWI) developed by the Korean Society for Preventive Medicine on the basis of Goldberg's GHQ-60 (General Health Questionnaire) was used<sup>[14]</sup>. PWI, which was designed to determine the level of stress in normal people, has a total of 45 items in four domains: performance of social role and the degree of self-reliance, depression, sleep disorders and anxiety, and general health and vitality. On a four-point Likert scale, scoring  $\leq 22$  in total for the level of socio-psychological health means positive well-being, 23-62 moderate distress, and  $\geq 63$  severe distress.

**Self-esteem:** The Korean version of the self-esteem scale developed by Rosenberg was used<sup>[15]</sup>. It had a total of 10 items—5 positive items and 5 negative ones—on a four-point Likert scale. The total score ranged from 10 to 40, with a higher total score meaning higher self-esteem.

**Quality of Life (QoL):** The Korean Version of WHO Quality of Life Scale Abbreviated Version (WHOQOL-BREF) was used to measure QoL<sup>[16]</sup>. It had a total of 26 items in the physical, psychological, social, and environmental domains (24), QoL in general (1), and general health awareness (1) on a five-point Likert scale. In this study, only the physical, psychological, social, and environmental domains (24 items) were used for analysis on the basis of literature review<sup>[17]</sup>. The total score ranged from 24 to 120, with a higher total score meaning higher QoL, except for 3 items processed reversely.

## Statistical Analysis

Frequency analysis in descriptive statistics was performed on the respondents' general characteristics; t-test and one-way ANOVA were carried out to determine the differences in stress, self-esteem, and QoL by the general characteristics; and Scheff's method was used for post-hoc analysis. Pearson's correlation coefficient was used to determine inter-variable correlation. Multiple linear regression was made on the factors for QoL. All the statistical analyses were carried out by using SPSS Window version 25.0 at the  $p < 0.05$  significance level.

**Characteristics of the Subjects:** The respondents' general characteristics—age, school year, smoking, frequency of alcohol intake per week, frequency of having breakfast per week, and exercise—are as presented in Table 1. The mean age was 21.5 years; 102 respondents (58.3%) were male, and 73 (41.7%) female. 22 students (12.6%) were smokers, and 152 (86.9%) non-smokers; 5 students (2.9%) drank everyday, 19 (10.9%) 4-5 per week, 114 (65.1%) 2-3 per week, and 37 (21.1%) didn't drink at all. 66 respondents (37.7%) had breakfast every day, 15 (8.6%) 4-5 per week, 30 (17.1%) 2-3 per week, and 64 (36.6%) skipped breakfast. As for activity of daily living, 4 respondents (2.3%) did intense activity, 54 (30.9%) moderate activity, 80 (45.7%) light activity, and 37 (21.1%) was sedentary.

**Table 1: Characteristics of the Subjects (N = 175)**

Characteristic	Category	n (%)
Age(yr)		21.5 ± 1.1
Sex	Male	102(58.3)
	Female	73(41.7)
Grade	Freshman	47(26.9)
	Sophomore	45(25.7)
	Junior	40(22.9)
	Senior	43(24.6)
Smoking	Yes	22(12.6)
	No	152(86.9)
Alcohol Drinking	Everyday	5(2.9)
	4-5 times a week	19(10.9)
	2-3 times a week	114(65.1)
	Nothing	37(21.1)
Number of breakfasts per week	Everyday	66(37.7)
	4-5 times a week	15(8.6)
	2-3 times a week	30(17.1)
	Nothing	64(36.6)
Activity of daily living	Intense activity	4(2.3)
	Moderate activity	54(30.9)
	Light activity	80(45.7)
	Sedentary	37(21.1)
Values are presented as mean ± standard deviation or number (%)		

**Stress, Self-esteem, Quality of Life in the Subjects:** The respondents' levels of stress, self-esteem, and QoL are as presented in Table 2. In this result, the total score for the PWI was 46.5 ± 18.4, which means moderate distress.

A study on university students' [18] socio-psychological health reported that university students had low levels of PWI and moderate or severe stress; the analysis of university students' stress, depression, and social support [19] showed that the majority of respondents experienced moderate or severe stress, which was consistent with the results of this study. In four domains of PWI, they scored slightly higher for performance of social role and the degree of self-reliance (16.0 ± 7.6) and depression (12.0 ± 6.4), and lower for general health and vitality (10.9 ± 3.2) and sleep disorders and anxiety (7.7 ± 5.0). This result implies that university students with moderate distress can have lots of stress related to performance of social role and a slightly higher depression index.

The respondents in this study scored slightly high for self-esteem (30.2 ± 4.5). Reportedly, high self-esteem controls problem behaviors because it positively affects stress coping [20] and the degree of perceiving, controlling, and coping with stress can depend on keeping self-esteem high [21]. It is believed, therefore, that the participants in this study felt less stress, protected themselves from psychological distress [22], and were very likely to recover [21, 23] because they had high self-esteem.

The respondents in this study scored relatively high for QoL (91.0 ± 13.1). Another research on university students' QoL also found high QoL, which was consistent with the results of this study [24]. As for the four domains of QoL, however, they scored relatively higher for the environmental (30.4 ± 4.5) and physical domains (26.2 ± 4.7) and lower for the psychological (22.7 ± 4.0) and social domains (11.7 ± 1.8). Even university students with high QoL are expected to be dissatisfied with their life to some degree in the psychological and social domains.

**Table 2: Level of PWI, Self-esteem and QOL (N = 175)**

Variable		M (SD)
PWI	Total Score	46.5 (18.4)
	Performance of social role and the degree of self-reliance	16.0 (7.6)
	Depression	12.0 (6.4)
	Sleep disorders and anxiety	7.7 (5.0)
	General health and vitality	10.9 (3.2)
Self esteem	Total Score	30.2 (4.5)

Conted...

QOL	Total Score	91.0 (13.1)
	Physical domain	26.2 (4.7)
	Psychological domain	22.7 (4.0)
	Social domain	11.7 (1.8)
	Environment domain	30.4 (4.5)
Values are presented as mean (standard deviation)		
PWI, Socio-Psychosocial well-being Index; QOL, Quality of life		

**The difference of Stress, Self-esteem, Quality of Life according to general characteristics:** The differences in the respondents' stress, self-esteem, and QoL by their general characteristics are as presented in Table 3. QoL differed statistically significantly by the frequency of having breakfast per week (F=3.3, p=.02). In particular, the students skipping breakfast showed significantly lower QoL than those having it every day. A study on the factors for QoL in university students [25] found positive correlation between health behavior practice status,

including the rate of meal skipping, and QoL. This finding implies that the lower level of health behavior practice, the lower QoL, which is consistent with the results of this study.

Activity of daily living made statistically significant differences in PWI (F=4.7, p=.003) and in QoL (F=4.8, p=.003). In particular, students doing light activity and sedentary had significantly higher PWI than those doing moderate activity. Several studies [26,27] found that physical activity of moderate or higher degree was effective in relieving stress. This finding is probably because physical activity is effective in relieving physical and mental tension and in making one less sensitive to stress [28].

Students doing moderate activity had significantly higher QoL than those doing light activity or sedentary. This study is consistent with the finding that university students with a larger amount of physical activity had higher QoL [29]. This is probably because a moderate or higher degree of physical activity can improve physical functions, mental health, social activity, etc.

**Table 3: The difference of PWI, Self-esteem and QOL according to general characteristics**

Characteristic	Category M(SD)	PWI		Self esteem		QOL	
		Tor F(p)	M(SD)	Tor F(p)	M(SD)	Tor F(p)	
Sex	Male	45.1(18.5)	-1.2	30.16(4.4)	-0.2	91.4(14.1)	0.5
	female	48.5(18.3)	(-0.2)	30.32(4.6)	(0.8)	90.4(11.5)	(0.6)
Grade	Freshman	45.7(19.6)	1.0	30.68(5.5)	0.2	91.9(12.8)	2.9
	Sophomore	44.2(16.4)	(0.4)	29.96(3.9)	(0.9)	91.3(13.1)	(0.8)
	Junior	50.7(18.3)		30.05(4.1)		89.4(14.4)	
	Senior	45.9(19.2)		30.16(4.2)		91.1(12.2)	
Smoking	Yes	43.6(21.7)	-0.8	31.45(4.4)	1.4	91.7(16.8)	0.3
	No	46.9(18.0)	(0.4)	30.05(4.5)	(0.2)	90.9(12.5)	(0.8)
Alcohol Drinking	Everyday a	35.6(21.0)	0.7	33.60(4.8)	1.3	89.2(21.6)	0.07
	4-5 times/week b		(0.5)	31.11(4.5)	(0.3)	90.9(10.7)	(1.0)
	2-3 times/week c	47.1(17.5)		30.0(4.2)		90.9(12.7)	
	Nothing d	45.3(20.6)		30.0(5.1)		91.7(14.3)	
Number of breakfasts per week*	Everyday a	44.1(19.8)	1.0	29.89(4.3)	0.3	93.8(13.8)	3.3
	4-5 times/week b	42.9(14.2)	(0.4)	30.40(3.6)	(0.9)	93.2(13.9)	(0.02)
	2-3 times/week c	47.9(17.3)		30.70(4.6)		92.0(11.9)	a>d
	Nothing d	49.1(18.3)		30.3(4.7)		87.1(11.9)	
Activity of daily living*	Intense activity a	32.3(11.3)	4.7	28.5(3.7)	0.4	102.3(13.7)	4.8
	Moderate activity b	40.2(17.1)	(0.003)	30.67(4.5)	(0.7)	95.4(14.0)	(0.003)
	Light activity c	49.1(17.6)	b<d,c	30.15(4.3)		89.1(12.9)	b>d,c
	Sedentary d	51.7(19.8)		29.92(4.9)		87.5(9.3)	
Values are presented as mean (SD), t-test or one-way analysis of variance. *Scheffe							
PWI, Socio-Psychosocial well-being Index; QOL, Quality of life							

**Associated Factors with Quality of Life:** The correlations among stress, self-esteem, and QoL in the participants are as presented in Table 4. In this study, PWI, which shows the level of stress in normal people, was significantly negatively correlated with QoL ( $r=-.7, p<0.001$ ). However, no significant correlation was found between PWI and self-esteem and between self-esteem and QoL. To investigate the effects on university students' QoL, multiple linear regression analysis was made with QoL as a dependent variable and stress and self-esteem as independent variables (Table 5). The regression model analysis found that stress ( $\beta=-.7, p<0.001$ ) was the factor that had the strongest negative effects on QoL.

These results imply that stress has the strongest effects on QoL in university students and that a higher level of stress can possibly lead to lower QoL. Research on living stress and QoL in nursing students [30] and a study on the factors for QoL in university students [14] reported that the students could improve their QoL by managing stress well. It is therefore necessary to develop and operate various health promotion programs as well as to create facilities and environments that can help university students manage their stress in campus so that they can lead a happy and healthy life.

**Table 4: Correlations among Outcome Variables (N = 175)**

Variables	PWI	Self esteem	QOL
PWI	1		
Self esteem	0.4(0.6)	1	
QOL	-0.7(0.000)**	-0.1(0.3)	1

PWI, Socio-Psychosocial well-being Index; QOL, Quality of life \*\*p<0.001

**Table 5: Predictors of QOL (N = 175)**

Variables	QOL					
	B	SE	$\beta$	t(p)	R2	F(p)
Constants	117.5	5.0		23.7	0.5	93.1**
PWI	-0.5	0.04	-0.7	-13.6**		
Self esteem	-0.1	0.16	-0.03	-0.6		

PWI, Socio-Psychosocial well-being Index; QOL, Quality of life \*\*p<0.001

**Conclusion**

This study aimed to analyze the effects of general college students' stress and self-esteem on their QoL and provide basic data that can help develop health promotion programs so that they can improve their QoL and prepare for happy and healthy adulthood.

The results of this study can be summarized as follows: First, the participants experienced moderate distress and showed relatively high self-esteem and QoL. Second, students skipping breakfast had significantly lower QoL than those having breakfast every day. The students doing light activity and sedentary experienced significantly more stress than those doing moderate activity; the students doing moderate activity had significantly higher QoL than those doing light activity or sedentary. Third, PWI, which shows the level of stress, was significantly negatively correlated with QoL. Fourth, stress was the factor that had the strongest negative effects on QoL.

It is therefore necessary to develop and operate various health promotion programs as well as to create facilities and environments that can help general college students manage their stress in campus so that they can lead a happy and healthy life.

**Ethical Clearance:** Not required

**Source of Funding:** Self

**Conflict of Interest:** Nil

**References**

1. Coffman K L, Gilligan T D, Social Support, Stress and Self-Efficacy: Effects on Student's Satisfaction. *Journal of College Student Retention: Research, Theory & Practice*. 2002 May;4(1):53-66
2. Kim KW, Cho YH. Mediation and Moderation Effects of Self-Efficacy Between Career Stress and College Adjustment among Freshmen. *Korean Journal of Youth Studies*. 2011 Apr;18(4):197-218
3. Statistics Korea (2017) [Internet]. Youth Statistics, 2017. [cited 2017 Apr]. Available from: <http://kostat.go.kr/portal/eng/pressReleases/13/3/index.board>
4. Demura S. *Textbook of Health and Sports science*. 2nd ed. Japan; Kyorin-shoin Press; 2011. p.222-223.

5. Rosenberg M. Self-concept and psychological well-being in adolescence. in the development of the self, ed. by Robert L. Leahy, New York: Academic Press; 1985. p.205-46.
6. Choi HR. A Study on College Students Self Esteem, Depression and Family Self. The Korean Journal of Counseling and Psychotherapy. 1999 Aug;11(2):183-197
7. Korean Neuropsychiatric Association. Uiryo haengdong gwahak. Seoul: Joongang Copy Co.;2004. p.123-126.
8. Chang W, Park Y, Kim U. "Interpersonal relationship, self-efficacy and quality of life among university students and their parents". Journal of Future Oriental Youth Society. 2007 Jun; 4(2):1-17
9. Kim N. "The relationship among stress, resilience, and quality of life in college students". Journal of Adolescent Welfare. 2011 Dec;13(4):1-19
10. Dubos, R. The state of health and the quality of life. The Western Journal of Medicine. 1976 July;125(1):8-9
11. Chon KK, Kim KH. Effects of Anger, Hostility and Stress on Physical Health. Korean Journal of health psychology. 1997 Jun;2(1):79-95
12. Ha JH, Jo HI. The Relationships among Perfectionism, Stress, the Ways of Stress Coping, Self-Efficacy, College Adjustment. Korea Journal of Counseling. 2006 Jun;7(2):595-611
13. Jeon MK, Kim YJ. Effect of Type D Personality on Life Stress in University Students. The Korean Journal of stress research. 2017 Sep;25(3):188-194
14. Ryu MK, Park KM, Kim CN. Factors related to the quality of life of college students. Korean Public Health Association. 1999 Apr;25(1):29-42.
15. Chang SJ, Cha BS, Koh SB, Kang MG, Koh SR, Park JK.(1997) Association between Job Characteristics and Psychosocial Distress of Industrial Workers. Korean J Prev Med. 1997 Mar;30(1):129-14
16. Jon B. Self-esteem: A test of its measurability. Yonsei Nonchong. 1974;11(1):107-130
17. Min SK, Lee CI, Kim KI, Suh SY, Kim DK. Development of Korean version of WHO quality of life scale abbreviated version (WHOQOL-BREF) J Korean Neuropsychiatr Assoc. 2000 May;39(3):571-579
18. Park SY, Kim, J Jang, JY. Structural Relationships of Physical Activity Level, Health-Related Quality of Life, Life Satisfaction and Quality of Life for College Students. Korea Journal of Sport science. 2015 Apr;24(2): 95-107
19. Ryu EJ, Kwon YM, Lee KS. A Study on Psychosocial Well-being and Health Promoting Lifestyle Practices of University students. Journal of Korean Society for Health Education and promotion. 2001 Mar; 18(1):49-60
20. Park YR, Jang EH. Impact of Stress on Depression among University Students: Testing for Moderating Effect of Social Support. Korean j Adult Nurs. 2013 Oct; 25 (5):549-558
21. Choi MR, Lee IH. The Moderating and Mediating Effects of Self-Esteem on the Relationship between Stress and Depression. Kor. J. Clin. Psychol. 2003 May3;22(2):363-383
22. Park HS, Bae YJ, Jung SY. A Study on Self-esteem, Self-dfficacy, Coping Methods, and the Academic and Job-seeking Stress of Nursing Students., Journal of Korean Academy of Psychiatric Mental Health Nursing. 2002 Dec;11(4):621-631
23. Lee HS. Effect of Family Function and Self Esteem on Stress in Adolescents. Korean J Str Res. 2013 Jun; 21(2):121-129
24. Han GH, Jang HS, Ahn KS. The role of adolescents self-esteem in stress experiences, coping against them, and problem behaviors. Korea Youth Research Associatio. 2004 Dec;11(3):386-402
25. Baek SS, Cho JY. Influence of Life Stress, Depression, Smart-phone Addiction on Quality of Life among College Students. Journal of the Korea Academia-Industrial cooperation Society. 2017 Aug;18(8):248-256
26. Lee YM. Quality of Life and Its Related Factors among University Students. Korean Journal of Health Education and Promotion. 2007Jun;24(2):77-91

27. Park JY, Kim NH. Relationships between physical activity, health status, and quality of life of university students. *Journal of Korean Public Health Nursing*. 2013 Apr;27 (1):153-165
28. VanKim NA, Nelson TF. Vigorous physical activity, mental health, perceived stress, and socializing among college students. *American Journal of Health Promotion*. 2013 Sep-Oct;28(1):7-15
29. Salmon P. Effects of physical exercise on anxiety, depression, and sensitivity to stress: a unifying theory. *Clin Psychol Rev*. 2001 Feb;21(1):33-61.
30. Song YS. Stressful Life Events and Quality of Life in Nursing Students. *The Journal of Korean Academic Society of Nursing Education*. 2012 Apr; 18(1):71-80