

Mediated effect of Self-Efficacy Between Academic Stress and College Adjustment

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Abstract. Stress could cause maladjustment in individual or social life, and affect life satisfaction negatively. This study aims to investigate the mediated effect of self-efficacy between stress and school adjustment of college students in Korea. This study adapted causal research method, using stress as an independent variable and the school adjustment as the dependent variable. Self-efficacy was used as mediating variable between the previous two variables. The subjects of this study were 1,117 college students in a university located in a provincial area of Korea. For self-efficacy, the 24 question, for stress, the 50 question and for adjustment, the 30 question survey were used for 4-point Likert-type scales. There were significant correlations among academic self-efficacy, stress and adjustment ($p < .001$). There was a strong positive correlation ($r = .592$, $p = .000$) between school adjustment (3.18 ± 0.44) and self-efficacy (3.11 ± 0.45). Meanwhile, stress (1.96 ± 0.49) were strong negative correlation with school adjustment ($r = -.326$, $p = .000$) and self-efficacy ($r = -.336$, $p = .000$). The entire results were statistically significant. As for the variables, self-efficacy ($\beta = 0.544$, $p = .000$) and stress ($\beta = -.143$, $p = .000$) were influential to the college adjustment. The standardized beta value in Step 2 ($\beta = -.326$) was smaller than those in Step 3 ($\beta = -.143$). In terms of Sobel test, a mediator variable carried the influence of an independent variable to a dependent variable significantly; whether the indirect effect of the independent variable on the dependent variable through the mediator variable was significant ($z = -10.629$, $p = .000$). Also, explanation power of college adjustment, the explanation power of college adjustment itself was 11.2% ($F = 141.968$, $p < .001$) which increased to 36.87% ($F = 325.880$, $p < .001$) when self-efficacy was committed, indicating self-efficacy has significant influence on college adjustment. Such findings refer to the fact that a program promoting self-efficacy to improve school adjustment is suggested. With regard to the study result, self-efficacy is interpreted as a buffer effect due to the mediated effects of stress on university adaptation negatively. As a follow-up study, we propose a study to develop programs that promote self-efficacy and stress control to improve college student adaptation in their life.

Keywords: Stress, Adjustment, Self-efficacy, College student, Mediated effect

I. INTRODUCTION

Lazarus and Folkman argued that stress is an experience occurring when one's external or internal needs larger than resources for adjustment that deal with the needs, and assumed that from interaction point of view, stress differs by personal or environmental characteristics [1]. Thus, if stress is not properly managed, an individual could experience

maladjustment and end up with exhaustion [2]. Also, stress had decreased quality of life, happiness and life satisfaction of college students [3], and it was confirmed that the college students with higher level of stress had lower level of living satisfaction. Likewise, stress is known as a significant factor predicting happiness, in other words the life satisfaction in previous studies.

In reality, college students of today deal with sudden psychological and environmental changes as their environments change from controlling and heteronomous middle and high school life to free and active college life. Actually, many college students are under stress from adjustment in studying, career and employment, interpersonal issue, financial problem and value system.

University students have each mature physical bodies, their economic, social or psychological development is not quite sufficient [4]. The complex stress and conflict, as well as the problem-solving process that they experience take up a large part of the adjustment to university life. This period in their lives also become a preparation for successful life post-graduation [5-9]. In college, such stress could cause maladjustment in individual or social life, and affect life satisfaction negatively [10]. Proper level of stress could influence work performance positively, but excessive stress affect psychological and physical aspect negatively. Thus, for college students to live happy lives, it is very crucial to conduct adjustment instruction to let them rationally understand the source of stress, and properly manage the stress [11].

Lately, self-efficacy has received great attention as a significant factor of behavior in social cognitive theory that is related to the level of stress. Self-efficacy is a confidence about one's capability such as how successfully one could conduct a behavior. As a emotional predictive factor, self-efficacy indicates belief and expectation that one could plan and conduct necessary behaviors for certain outcome. Numerous prior studies have shown how positive self-efficacy promotes students' academic engagement, goal-setting, task selection, persistence and effort, intrinsic motivation, use of strategy, performance and achievement, and even career choice [12].

Actually, self-efficacy is a judgment of one's capability of how successfully one could perform well to achieve certain outcome and it is a belief at the same time. How one feels about oneself in various simulative variables and how one copes with the situation,

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and other acknowledgement and evaluation is realized by self-efficacy, and improvement of self-efficacy gives one trust and belief about one's way of coping with life and interpersonal relationship. In other words, the higher the self-efficacy and acknowledge level of control is, the less likely it will cause emotional pain, and improve outcomes in various stress situation. In previous researches, those with higher self-efficacy leads to less stress, and those with lower self-efficacy are more likely to suffer from depression and anxiety. This is because it causes stress by acknowledging one's own ability and strategy negatively in problem solving situation and incapacitate effective strategic coping behavior while high self-efficacy maintains self-conception and uses effective strategy in problematic situation which ultimately increase life satisfaction. Up to this date, previous researches were mostly about relation between stress and coping mechanism, while studies that dealt with self-efficacy posing positive influence on line and adjustment were insufficient.

As such, this study was conducted to investigate the mediated effect of academic self-efficacy in relationship between academic stress and adjustment of college students.

II. MATERIALS AND METHODS

This study was a causal research, using stress as independent variable and the school adjustment as the dependent variable. Self-efficacy was used as mediating variable between the previous two variables.

2.1 Subjects

There were 1,130 college students participating in this study. After explaining the purpose of the study, subjects who agreed on the study were surveyed using a structured questionnaire. In order to investigate the ethical issues of the study, we first explained the purpose of the study to the subjects and then conducted a survey only when the subjects agreed to participate. The researcher explained to the subjects that they could withdraw them at any time during their participation and that all data collected from the subjects would be anonymous. Of these, 13 copies that were inappropriate for the analysis due to the insufficient data were excluded for analysis purposes, making the total number of study subjects 1,117.

2.2 Measurements

2.1.1 self-efficacy

For self-efficacy, a survey consists of 24 questions created by Lee [13] was used. This tool is composed of 3 sub categories; confidence, self-control and task difficulty, the higher score indicating higher self-efficacy. This study recomposed the tool into 4 point scale, credibility of tool (Cronbach's α) in Lee [13]'s study was .89 while the tool in this study's credibility was .86.

2.1.2 College life stress

To assess the life stress of college students, the study used Revised Life Stress Scale for College Student, RLSS-CS [14]. This tool is composed of 50 questions and 8 factors; interpersonal relationship with friends, lover, family and professor which are interpersonal relationship stress, and academic, financial, career and value system which are present problem stress. The degree of life experience is recomposed in to 4 point scale (0: Strongly disagree, 3:

Strongly agree). In Chon [14]'s study targeting college students, credibility of tool (Cronbach's α) was .90 while the tool in this study's credibility was .950.

2.1.3 College adjustment

For the adjustment, the 30-question scale created by Kim [15] with 4-point Likert scale for answer was used. The tool is composed of 3 sub categories (Academic adjustment, social adjustment, school environment and general adjustment). The Cronbach's alpha assessing the internal consistency of tool in Kim[15]'s study was .99 while it was .851 in this study.

2.3 Data analysis methods

The study verified the correlation between variables by applying Pearson coefficient correlation. The mediated effect of self-efficacy was verified using three steps linear regression of the SPSS/PASW 23.0 program according to the method proposed Baron and Kenny [16]. The Sobel test calculator was used for the significance of mediated effect [17].

III. RESULTS AND DISCUSSION

3.1 Correlations among variables

The analysis of the correlation among college adjustment, self-efficacy and college stresslays out the result in table 1. There was a strong positive correlation ($r=.592$, $p=.000$) between school adjustment (3.18 ± 0.44) and self-efficacy (3.11 ± 0.45). Meanwhile, stress (1.96 ± 0.49) was a strong negative correlation with school adjustment ($r=-.326$, $p=.000$) and self-efficacy ($r=-.336$, $p=.000$). The entire results were statistically significant as described in table 1.

Table 1: Correlations among variables (N=1,117)

Variables	M	SD	Pearson Correlation(p)	
			Adjustment	Self-efficacy
Adjustment	3.18	.44		
Self-efficacy	3.11	.45	.592(.000)	
Stress	1.96	.49	-.326(.000)	-.336(.000)

3.2 Mediated effect of self-efficacy

Regarding the influence of stress, the leading variable to college adjustment, to verify the mediated effect of self-efficacy, the study conducted three-step mediated regression analysis. When the independent variable affect mediating variable significantly at the first regression analysis, when the independent variable affect dependent variable significant at the second regression analysis, and when the mediating variable affect dependent variable significantly and the effectiveness of independent variable in third regression analysis larger than second analysis, the role of mediating variable is confirmed [16]. At the third analysis which both independent and mediating variables are inserted to regression formula, if independent variable is insignificant, it plays a complete mediating role, and if it is significant, it plays partial mediating role. In other words, at the third regression analysis, when mediating variable is controlled and mediating variable has insignificant influence on dependent variable, independent variable does not directly affect dependent variable and affect only through mediating variable, which pose full mediated effect.



In the regression analysis over three steps, the mediated effect of self-efficacy was confirmed by the following in figure 1.

Step 1: Independent variable (stress) had a statistically significant effect on the parameter (self-efficacy).

Step 2: Independent variable (stress) had a statistically significant effect on a dependent variable (adjustment).

Step 3: Independent variable (stress) and the parameter (self-efficacy) have a statistically significant effect on a dependent variable (adjustment).

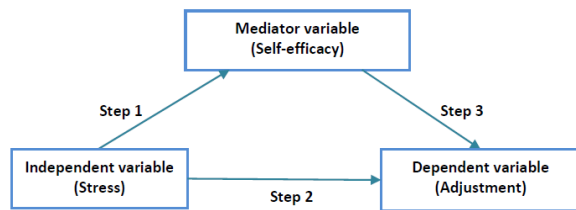


Fig 1. Three steps in the regression analysis

Among the variables, self-efficacy ($\beta=0.544$, $p=.000$) and stress ($\beta=-.143$, $p=.000$) had an effect on college adjustment, see as table 2 and figure 2. The standardized beta value in Step 2 ($\beta=-.326$) was smaller than those in Step 3

Table 2. Mediated effect of Self-efficacy in relationship between Stress and Adjustment (N=1,117)

Predictors	Variable	B	SE	β	t	AdjustedR ²	F
Step 1							
Stress	Self-efficacy	-.307	.026	-.336	-11.915*	.112	141.968*
Step 2							
Stress	Adjustment	-.294	.026	-.326	-11.509*	.105	132.455*
Step 3							
S-efficacy	Adjustment	.538	.025	.544	21.547*	.368	325.880*
Stress		-.129	.023	-.143	-5.655*		

*: $p<.001$

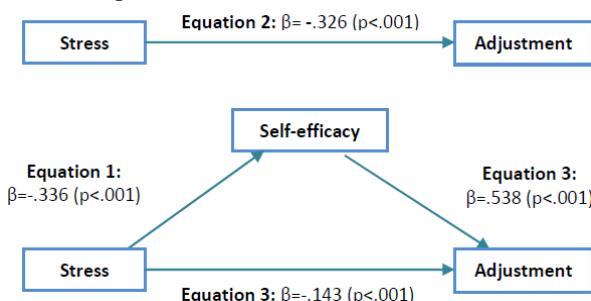


Fig 2. Mediated effect of self-efficacy in the relationship between college stress and adjustment

IV. CONCLUSION

This study aimed to confirm the mediated effect of self-efficacy in relationship between academic life stress and college adjustment of college students. The academic stress of study subjects were average 1.96 point out of 4, and college adjustment and self-efficacy were ach 3.19 point and 3.11 point out of 4. The stress of college students has a negative impact on university life adjustment. Academic self-efficacy mediated in relationship between stress and adjustment in college life ($z=-10.629$, $p=.000$). College adjustment had a significant positive correlation with self-efficacy. The factor that had the most significant positive impact on school adjustment was self-efficacy. The stress of college students has a negative impact on university life adjustment .According to the results of this study,

($\beta=-.143$).According to the Sobel test, a mediator variable carried the influence of an independent variable to a dependent variable significantly; whether the indirect effect of the independent variable on the dependent variable through the mediator variable was significant($z=-10.629$, $p=.000$).College adjustment had a significantly positive correlation with self-efficacy. The factor that had the most significant impact on school adjustment was self-efficacy [8].The stress of college students has a negative impact on university life adjustment. According to the results of this study, self-efficacy is interpreted as a buffer effect due to the mediated effects of stress on university adaptation negatively. Thus, academic self-efficacy has partial mediated effect in relationship between stress and adjustment of college student.

Also, explanation power of college adjustment, the explanation power of college adjustment itself was 11.2% ($F=141.968$, $p < .001$) which increased to 36.87% ($F=325.880$, $p < .001$) when self-efficacy was committed, indicating self-efficacy has significant influence on college adjustment as shown in table 2 and figure 2.

self-efficacy is interpreted as a buffer effect due to the mediated effects of stress on university adaptation negatively. As the result, higher self-efficacy indicates better college adjustment and active controlling for adjustment despite of stress.

Self-efficacy is self-evaluation about one's value and capability, which is mainly decided by attitude toward others and self-behavior, and self-efficacy is a significant factor to individual's happiness and adjustment to life. Actually, those with low self-efficacy has distorted recognition on objects, passive about life, project uncertain elements of self to environment and has unstable behavior. In other words, those with low self-efficacy has negative acknowledgement on one's experience, cannot control negative thinking which ultimately leads to depressive experience. Vicious circle repeats if college students who suffer from depression and anxiousness due to heavy load of work such as school adjustment, academic life and career preparation have low self-efficacy which leads to negative experience like frustration.

On the contrary, those with high self-efficacy positively reacts to one's surrounding and cope with the situation actively. Also, they experience virtuous circle which they positively conduct difficult task or challenges with belief and obtain diligence based on the belief.



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Especially, various types of stress which college students experience in college life could cause maladjustment in individual or social life and pose negative influence on life satisfaction.,

Thus, improving self-efficacy of college students is a significant strategy of improving college adjustment of individual from various types of stress they experience in college life and improving life satisfaction. In other words, forming positive self-conception requires development of a program that trains college students about active mediating strategy such as respecting other's rights, practicing rational behavior of controlling individual desire, and controlling negative emotion of oneself. The result of this study is significant as it provided necessity and grounds about self-efficacy mediation to make stress coping strategy of college students into more active and positive type of virtuous circle.

As a follow-up study, we propose a study to develop programs that promote self-efficacy and stress control to improve college student adaptation in their life.

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