

# The Effects of College Life Adaptability on Career Preparation Behaviors of College Students: Mediating Effects of Major Satisfaction, Job Stress, and Self-Directed Learning

<sup>1</sup>Il-Hyun Yun

<sup>1</sup>Prof., Dept. of School of Social Work, Gwangju Univ., Korea  
[kwinae@hanmail.net](mailto:kwinae@hanmail.net)

## Abstract

*This study is a study to empirically verify the mediating effect on college life adaptation and career preparation behavior of college students. The purpose of this study is to empirically analyze the multi-mediated effects of major satisfaction, job stress, and self-directed learning. For this study, 216 university students were enrolled. For the collected data, SPSS Process macro was used. The result is as follows. First, there were multiple parallel mediating effects and multiple serial mediating effects on major satisfaction, job stress, and self-directed learning between college life adaptability and career preparation behavior. Second, the path of simple mediation and double mediation effect was found between college life adaptation and career preparation behavior. Based on the research, the necessity of revitalizing the program for revitalization of teaching activities and industry-academic cooperation activities in the major field and improvement of career preparation behavior and university life adaptation ability and follow-up research were suggested.*

**Keywords:** College Life Adaptation, Major Satisfaction, Job Stress, Self-Directed Learning, Career Preparation Behavior

## 1. INTRODUCTION

The college life is in the transition period from adolescence to adulthood. College students are living their college life while achieving balance and harmony among the school environment according to the needs of the university to respond to environmental changes to satisfy the diverse needs of university students. In addition, it is playing an important role as a bridgehead for social advancement by equipping the adult frame with appropriate responses and coping to changes and challenges during college life. Successful adaptation to college life has not only individual but also social meaning in terms of self-realization and career preparation, in addition to simply leading a college life [1]. It is difficult to achieve a reasonable career goal if there is no corresponding preparatory action even if the consciousness or attitude toward one's career has matured. The university should help the information technology and the environment necessary for self-directed learning so that the student's studies and various social environment change factors can adapt well to the university life environment, acquire majors and specialized knowledge, and increase academic achievement. They must adapt themselves to university life autonomously and proactively, such as time management, various extracurricular

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Corresponding Author: [kwinae@hanmail.net](mailto:kwinae@hanmail.net)

Tel: \*\*\* - \*\*\*\* - \*\*\*\* Fax: +82-62-670-2084

Dept. of School of Social Work, Gwangju Univ., Korea

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and extracurricular activities, and preparation for career and employment [2]. The prolonged COVID-19 pandemic that hit the world in 2020 is having a major impact on college students' academic and career preparation [3, 4]. In addition, rapid changes are accelerating throughout the overall economic structure, including the industrial structure and the labor market. Due to changes in the future society due to the development of the 4th industrial revolution, career preparation activities are required from the early days of college life. Due to these unexpected social and environmental changes and the influence of the 4th industrial revolution, college students are increasingly burdened with successful college life and career preparation actions. It can be said that the importance and necessity of career preparation behavior for college students adaptation to college life and employment is higher than ever. This suggests that various studies are needed to illuminate the relationship between college life adaptability and career preparation behavior, and to verify the relationship between variables that directly or indirectly affect or are related. Therefore, this study aims to empirically analyze the effect of College Life adaptation of college students on Career Preparation Behavior. In addition, in order to specify the relationship between these two variables, the mediating effects of major satisfaction, job stress, and self-directed learning were confirmed. College Life Adaptation is a process of adaptation through active interaction between university students and the university environment [5]. It is known those students who enter college without seriously exploring their identity, interests, and careers face difficulties in adapting to their major and college life, and delay college students' career preparation [6]. On the other hand, it is reported that by giving college students a sense of psychological stability, they have a positive effect on their career preparation while doing well in school life and recognizing the importance of life [7]. Career preparation behavior is a practical action in which college students explore for their own career decision and prepare for what they need for their career [8]. There are activities to collect information to understand oneself and the world of work, activities to equip necessary tools to achieve career goals, and activities to spend effort and time to achieve set career goals. College Life Adaptation was found to have a positive (+) relationship with career preparation behavior [6]. It is confirmed that college life adaptation is related to career preparation behavior even for college students with special circumstances [9-11]. In studies on college life adaptation and career preparation behavior, major satisfaction [9, 11], job stress [10, 12], and self-directed learning [13] are recently proposed as relevant variables.

Accordingly, this study intends to verify the effects of major satisfaction, job stress, and self-directed learning on the relationship between college life adaptation and career preparation behavior through empirical analysis. Major Satisfaction is formed by the interaction between individual characteristics of behavior and environmental factors in the major. Complex, meaning subjective experience. As college students with higher satisfaction with their major have a positive effect on setting their own career path and making clear decisions about their career path [14]. Major Satisfaction has an impact on career preparation behavior. Become an important variable. Job stress is the stress caused by experiencing difficulties and encountering various situations in the process of preparing for employment [15], a psychological state in which psychological and physical instability increases anxiety and heightens tension. means Career preparation behavior is the main source of stress for college students in social and economic conditions such as the prolonged COVID-19 pandemic and many social changes such as the 4th Industrial Revolution in the process of deciding on a career path and preparing for college life. Becomes Depending on the individual difference, Job Stress makes career preparation actions difficult or diligent. Self-Directed Learning is a concept that encompasses learning attitudes and behaviors with self-improvement capabilities in which students control their own internal and external factors, plan, execute, evaluate, and decide on their own. Self-Directed Learning affects the ability of college students to establish their own learning goals and strategies for life goal setting or career preparation behavior, and to execute and manage them. It can be said that it is an important variable in adapting well to college life even in long-term situations such as the COVID-19 pandemic.

The purpose of this study is to empirically investigate the multi-mediated effects of major satisfaction, job stress, and self-directed learning on the relationship between college life adaptation and career preparation behavior. The purpose of this study is to empirically investigate the multiple-parallel mediating effect that appears by simultaneously inputting the mediating factors, the multiple serial mediating effects in which the mediating variables are linearly and simultaneously input, and the path effect of the multiple mediating effects. Through this, we intend to contribute to the scalability of the multi-mediated effect empirical analysis and verification study.

## **2. RESEARCH HYPOTHESES**

This study is a study on College Life Adaptation and Career Preparation Behavior of college students in a situation where a pandemic situation such as Corona 19 continues for a long time. Major Satisfaction, Job Stress, as an empirical analysis of the multi-mediating effect of Self-Directed Learning, the following hypotheses were established.

- 1) Between College Life Adaptation and Career Preparation Behavior, Major Satisfaction, Job Stress, and Self-Directed Learning will have a significant effect on multiple parallel mediating effects
- 2) Between College Life Adaptation and Career Preparation Behavior, Major Satisfaction, Job Stress, and Self-Directed Learning will have a significant effect on multiple serial mediating effects.
- 3) Between College Life Adaptation and Career Preparation Behavior, Major Satisfaction, Job Stress, and Self-Directed Learning will have an effect through a significant path of multiple mediating effects.

## **3. METHODOLOGY**

### **3.1 Research Model**

This study is a technical investigation study to investigate the multi-mediated effects of major satisfaction, job stress, and self-directed learning on the relationship between college life adaptation and career preparation behavior during the COVID-19 pandemic. The multiple mediation effect is intended to verify the multiple parallel mediating effects and the multiple serial mediating effects. The independent variable was college life adaptation, the dependent variable was career preparation behavior, and the parameters were major satisfaction, job stress, and self-directed learning. Gender, Grade, Career preparation status, Career preparation Match major, and License were selected as control variables. All control variables were controlled to ensure the accuracy of the relationship among College Life Adaptation, Major Satisfaction, Job Stress, Self-Directed Learning, and Career Preparation Behavior used in this study.

### **3.2 Composition of Research Contents**

For this study, a survey was conducted with 216 college students living in college under the COVID-19 pandemic situation.

The independent variable was college life adaptation, the dependent variable was career preparation behavior, and the parameters were major satisfaction, job stress, and self-directed learning.

The variables of this study were modified and supplemented according to the characteristics and research purpose of university students based on previous studies. All of the questionnaires used a Likert 5-point scale (1 point not at all to 5 points very much). The higher the score, the higher the corresponding variable.

For the validity and reliability analysis of the measurement tool, the exploratory factor analysis of Varimax rotation method and Cronbach's  $\alpha$  coefficient were calculated.

For college life adaptation, the scale used by Jeongheon Kim (2016)[16] was used as a correction-supplement. As a result of exploratory factor analysis, the measurement tools of this study appeared as four sub-variables. The sub-variables consisted of 4 questions for psychological adaptation, 4 questions for adaptation to quality of education, 4 questions for adaptation to student relationships, and 3 questions for adaptation to school study. It consists of a total of 15 questions. Reliability was secured with the overall Cronbach's  $\alpha = .911$ .

For career preparation behavior, the tool used by Jinhee Jeong (2012)[17] was modified and used. As a result of exploratory factor analysis, the measurement tools of this study appeared as three sub-variables. The sub-variables consisted of a total of 18 items: information collection activities (6 questions), instrument preparation behavior (5 questions), and goal achievement behavior (7 questions). Reliability was secured with the overall Cronbach's  $\alpha = .869$ .

For major satisfaction, the scale used by Jinhee Jeong (2012)[17] was used. As a result of exploratory factor analysis, the measurement tool of this study was divided into four sub variables. Sub-variables consisted of subject satisfaction (2 questions), relationship satisfaction(2 questions), general satisfaction(2 questions), and cognitive satisfaction(2 questions). It consists of a total of 8 questions. Reliability was secured with the overall Cronbach's  $\alpha = .850$ .

For job stress, the scale used by Hyejeong Kim (2014)[18] was used. As a result of exploratory factor analysis, the measurement tools of this study appeared as five sub-variables. The sub-variables consisted of personality (6 questions), academic (4 questions), family environment (5 questions), school environment (4 questions), and job anxiety (3 questions). It consists of a total of 22 items. Reliability was secured with the overall Cronbach's  $\alpha = .911$ .

For self-directed learning, the scale used by Ki-Hong Kim (2019)[19] was used. The measurement tool of the study appeared as a sub-variable of 5 as a result of exploratory factor analysis. The sub-variables consisted of openness (5 questions), self-concept (4 questions), passion (4 questions), time management (5 questions), and responsibility acceptance (4 questions). It consists of a total of 22 questions. Reliability was secured with the overall Cronbach's  $\alpha = .850$ .

For the data collected for this study, SPSS 23.0 and SPSS Macro were used. Models 4 and 6 of Hayes (2013)'s[20] Process Macro were empirically analyzed using bootstrapping.

## 4. RESEARCH VERIFICATION RESULTS

### 4.1 Study Subjects

**Table 1. General background of college students**

Variables	Categories	N	%	Variables	categories	N	%
Gender	Male	98	45.4	Career preparation status	No	115	53.2
	female	118	54.6		Yes	101	46.8
Grade	1	36	16.7	Career preparation Match major	No	48	22.2
	2	44	20.4		Yes	168	77.8
	3	52	24.1	License	No	153	70.8%
	4	84	38.9		Yes	63	29.2
				Total		216	100.0

The subjects of this study were 216 university students in the G area. The survey was conducted by self-filling method. The target distribution is shown in <Table 1>. The gender of the respondents was 98 males (45.4%) and 118 females (54.6%), with more females than males. Haknyeong was 36 first graders (16.7%), 44 second graders (20.4%), 52 third graders (24.1%), and 84 fourth graders (38.9%). As for career preparation status, 115 people (53.2%) were not prepared and 101 people (46.8%) were prepared. In career preparation, there were 168 (77.8%) students who agreed with their major, more than 48 (77.8%) who did not agree with their major. 153 people (70.8%) said that they had a license, more than 63 people (29.2%) said they didn't.

**4.2 College Life Adaptation, Major Satisfaction, Job Stress, Self-Directed Learning, Career Preparation Behavior Multiple Parallel Mediating Effect**

Hayes (2013)'s Process Macro model #4 was used to analyze whether there are multiple parallel mediating effects of major satisfaction, job stress, and self-directed learning in the relationship between college life adaptation and career preparation behavior. And empirical analysis was performed using bootstrapping. The results are shown in Table 2.

**Table 2. Path Effect Size**

Division	Path Effect			
Total Effect	College Life Adaptation	→	Career Preparation Behavior	.6993***
Path	College Life Adaptation	→	Major Satisfaction	.6622***
	College Life Adaptation	→	Job Stress	.5250***
	College Life Adaptation	→	Self-Directed Learning	.8277***
	College Life Adaptation	→	Career Preparation Behavior	.2228*
	Major Satisfaction	→	Career Preparation Behavior	.1425
	Job Stress	→	Career Preparation Behavior	.1021*
	Self-Directed Learning	→	Career Preparation Behavior	.3970***

\* p<.05 \*\*\*p<.001

The effects of each pathway were found in College Life Adaptation, major satisfaction ( $\beta=.6622$ ,  $p<.001$ ), job stress ( $\beta=.5250$ ,  $p<.001$ ), and self-directed learning ( $\beta=.8277$ ),  $p<.001$ ) and career preparation behavior ( $\beta=.2228$ ,  $p<.05$ ) had a significant effect. For career preparation behavior, employment stress ( $\beta=.1021$   $p<.05$ ) and self-directed learning ( $\beta=.3970$   $p<.001$ ) showed significant responses. Major satisfaction ( $\beta=.1425$ ,  $p>.05$ ) was found to have no effect. The total indirect effect of career preparation behavior in college life adaptation of college students was  $\beta=.6993$  ( $p < .001$ ), but as the parameter was input, the difference between career preparation behavior in college life adaptation. The direct effect decreased to  $\beta=.2228$  ( $p<.05$ ). It was found that major satisfaction, job stress, and self-directed learning multi-parallel mediate the relationship between college life adaptation and career preparation behavior of college students. It was found that major satisfaction, job stress, and self-directed learning multi-parallel mediate the relationship between college life adaptation and career preparation behavior of college students.

The results of verifying the multiple parallel mediating effects are shown in Table 3. As a result of the analysis, the size of the total indirect effect was .6993 (.05887~.8099), which was significant because there was no 0 in the 95% confidence interval. As a result of verifying multiple parallel mediating effects, the total mediating effect size was .4766 (.3213 to .6231), and there was no zero in the 95% confidence interval.

Appeared to be significant. Therefore, it was confirmed that there were multiple parallel mediating effects of major satisfaction, job stress, and self-directed learning between college life adaptation and career preparation behavior of college students. Hypothesis 1 was supported.

**Table 3. Multiple Parallel Mediating Effect**

Division	$\beta$	se	95% Level	
			LLCI	ULCI
Total indirect effect	.6993	.0561	.5887	.8099
Direct effect	.2228	.0899	.0456	.3999
Total Mediation Effect	.4766	.0769	.3213	.6231
College Life Adaptation → Major Satisfaction → Career Preparation Behavior	.0944	.0607	-.0288	.2072
College Life Adaptation → Job Stress → Career Preparation Behavior	.0536	.0243	.0127	.1085
College Life Adaptation → Self-Directed Learning → Career Preparation Behavior	.3286	.0803	.1767	.4930

#### 4.3 College Life Adaptation, Major Satisfaction, Job Stress, Self-Directed Learning, Career Preparation Behavior Multiple Serial Mediation Effect

Hayes (2013)'s Process Macro model #6 was used to analyze whether there are Multiple Serial Mediation Effect of major satisfaction, job stress, and self-directed learning in the relationship between college life adaptation and career preparation behavior. And empirical analysis was performed using bootstrapping. The results are shown in Table 4.

**Table 4. Path Effect Size**

Division	Path Effect			
Total Effect	College Life Adaptation	→	Career Preparation Behavior	.6993***
Path	College Life Adaptation	→	Major Satisfaction	.6622***
	College Life Adaptation	→	Job Stress	.4272***
	College Life Adaptation	→	Self-Directed Learning	.6098***
	College Life Adaptation	→	Career Preparation Behavior	.2228*
	Major Satisfaction	→	Job Stress	.1478
	Major Satisfaction	→	Self-Directed Learning	.3266***
	Major Satisfaction	→	Career Preparation Behavior	.1425
	Job Stress	→	Self-Directed Learning	.0031
	Job Stress	→	Career Preparation Behavior	.1021*
	Self-Directed Learning	→	Career Preparation Behavior	.3970***

\* p<.05 \*\*p<.01 \*\*\*p<.001

The effects of each pathway were as follows: College Life Adaptation and Major Satisfaction ( $\beta=.6622$ ,  $p<.001$ ), College Life Adaptation, and Employment Stress ( $\beta=.4272$ ,  $p<.001$ ), College Life Adaptation and Self-Directed Learning ( $\beta=.6098$ ,  $p<.001$ ), College Life Adaptation and Career Preparation Behavior ( $\beta=.2228$ ,  $p<.05$ ), major satisfaction and self-directed learning ( $\beta=.3266$ ,  $p<.001$ ), job stress and career preparation behavior ( $\beta=.1021$ ,  $p<.05$ ), self-directed learning and career preparation behavior ( $\beta=.3970$ ,  $p<.001$ ) was statistically significant. The total effect of the path between college life adaptation and career preparation behavior was  $\beta = .6993$  ( $p < .001$ ), but as parameters were added, college life adaptation and career preparation behavior were added. The direct effect between actions decreased to  $\beta=.2228$  ( $p<.05$ ). It was found that major satisfaction, job stress, and self-directed learning mediate the relationship between college life adaptation and career preparation behavior of college students in multiple series.

**Table 5. Multiple Serial Mediating Effect**

Division	$\beta$	se	95% Level	
			LLCI	ULCI
Total Mediation Effect	.4766	.0768	.3234	.6262
1	.0944	.0609	-.0330	.2097
2	.0436	.0228	.0081	.0976
3	.2421	.0620	.1263	.3713
4	.0100	.0097	-.0056	.0326
5	.0859	.0331	.0352	.1633
6	.0005	.0048	-.0081	.0118
7	.0001	.0014	-.0025	.0034

- 1 College Life Adaptation → Major Satisfaction → Career Preparation Behavior
- 2 College Life Adaptation → Job Stress → Career Preparation Behavior
- 3 College Life Adaptation → Self-Directed Learning → Career Preparation Behavior
- 4 College Life Adaptation → Major Satisfaction → Job Stress → Career Preparation Behavior
- 5 College Life Adaptation → Major Satisfaction → Self-Directed Learning → Career Preparation Behavior
- 6 College Life Adaptation → Job Stress → Self-Directed Learning → Career Preparation Behavior
- 7 College Life Adaptation → Major Satisfaction → Job Stress → Self-Directed Learning → Career Preparation Behavior

The results of verifying the multiple serial mediation effect are shown in <Table 5>. As a result of the analysis, the size of the total mediating effect was .4766 (.3234 to .6262), which was significant because there was no zero in the 95% confidence interval. Therefore, it was confirmed that there were multiple serial mediating effects of major satisfaction, job stress, and self-directed learning between college life adaptation and career preparation behavior of college students. Hypothesis 2 was supported.

**4.4 College Life Adaptation, Major Satisfaction, Job Stress, Self-Directed Learning, Career Preparation Behavior multi-mediated effect path**

In the multi-parallel mediation state, the simple mediation effect was verified as shown in Table 3. Employment Stress (College Life Adaptation → Employment Stress → Career Preparation Behavior) .0536 (.0127~.1085) and Self-Directed Learning (College Life Adaptation → Self-Directed Learning → Career Preparation Behavior) Only .3286 (.1767~.4930) did not have zero in the 95% confidence interval, indicating that the mediating effect was significant. In other words, there was an effect of mediating major satisfaction, job stress, and self-directed learning between college life adaptation and career preparation behavior at the

same time. In addition, pathways of simple mediating effects were found: College Life Adaptation → Job Stress → Career Preparation Behavior, University Life Adaptation → Self-Directed Learning → Career Preparation Behavior.

In the multi-serial mediation state, the mediation path was confirmed as shown in Table 5. As a result, pathways that were found to be significant because zero did not exist in the 95% confidence interval were found. In the multi-serial mediation state, the simple mediation path was significant for employment stress .0436 (.0081~.0976) and self-directed learning .2421 (.1263~.3713) paths. As for the double-mediated path, major satisfaction and self-directed learning .0859 (.0352~.1633) were found to be significant. In other words, the path of simple mediating effect was found between College Life Adaptation and Career Preparation Behavior: College Life Adaptation → Employment Stress → Career Preparation Behavior, College Life Adaptation → Self-Directed Learning → Career Preparation Behavior. In addition, the path of college life adaptation → major satisfaction → self-directed learning → career preparation behavior was found to have a double mediating effect. Hypothesis 3 was supported.

## 5. CONCLUSION

This study was conducted with 216 college students living in college in the context of the COVID-19 pandemic. The multi-media effects were empirically verified on the effects of major satisfaction, job stress, and self-directed learning between college life adaptation and career preparation behavior. The study results were derived as follows.

First, there were multiple parallel mediating effects of major satisfaction, job stress, and self-directed learning in the relationship between college life adaptation and career preparation behavior of college students. In College Life Adaptation, it was found that the relationship between major satisfaction, job stress, self-directed learning, and career preparation behaviors all had a positive effect. It was found that the relationship between employment stress and career preparation behavior, self-directed learning and career preparation behavior had a significant effect. A study on the effect of college life adaptation on career preparation behavior [21, 22], a study on the effect of major satisfaction, job stress, and self-directed learning between college life adaptation and career preparation behavior [9-13] are supported. College life adaptation of college students affects career preparation behavior, but college life adaptation has been shown to affect career preparation behavior through major satisfaction, job stress, and self-directed learning.

Second, there were multiple serial mediating effects of major satisfaction, job stress, and self-directed learning in the relationship between college life adaptation and career preparation behavior of college students. The serial relationship between college life adaptation, major satisfaction, job stress, self-directed learning, and career preparation behavior were all significant. It was found that the serial relationship between major satisfaction, self-directed learning, job stress and career preparation behavior had a significant effect. These results support studies in which major satisfaction significantly affects self-directed learning [23] and studies in which job stress has a significant effect on career preparation behavior [10, 12, 24].

Third, the path of the multi-mediated effect was found in the relationship between college life adaptation and career preparation behavior of college students. In the analysis of multiple parallel mediating effects and multiple serial mediating effects, the simple mediating effects of college life adaptation → job stress → career preparation behavior, college life adaptation → self-directed learning → career preparation behavior were found as common simple mediating effects. Became In the relationship between college life adaptation and career preparation behavior of college students, the path of college life adaptation → major satisfaction → self-directed learning → career preparation behavior was found as a double mediating effect. College life adaptation of college students was found to affect career preparation behavior. College life adaptation was



found to affect career preparation behavior by major satisfaction, job stress, and self-directed learning, and college life adaptation affects career preparation behavior through job stress management, college life adaptation was found to affect career preparation behavior through self-directed learning management. And college life adaptation was found to affect career preparation behavior through major satisfaction and self-directed learning management.

Based on the research results, I would like to suggest the following.

First, the multi-mediated effects of major satisfaction, job stress, and self-directed learning between college life adaptation and career preparation behavior were empirically verified. In order for college students to carry out successful career preparation actions, teaching activities and industry-university cooperation activities in their major fields must be activated. Programs that can improve college life adaptation ability to reduce job stress and self-directed career preparation behavior must be actively conducted inside and outside the university.

Second, it is necessary to discover variables that multidimensionally affect variables other than college life adaptation, major satisfaction, job stress, self-directed learning, and career preparation behavior. In addition, follow-up studies to empirically analyze multidimensional influences should be continuously conducted.

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