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# Study on Relationship between Self-Directed Learning and Career Preparation behavior of College Students: Major Satisfaction, Positive psychological capital, Job-Seeking Stress mediation effect

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## Abstract

*The purpose of this study is to analyze the mediating effects of major satisfaction, positive psychological capital, and job-Seeking Stress in the relationship between college students' self-directed learning and career preparation behavior. For this purpose, the study was conducted on 253 college students. The parallel mediation effect was analyzed using SPSS (24.0). Process Macro and Bootstrapping. The following results were confirmed. First, self-directed learning, major satisfaction, positive psychological capital, job-Seeking stress, and career preparation behavior were found to have a mutually significant influence relationship. Second, in the relationship between self-directed learning and career preparation behavior, major satisfaction, positive psychological capital, and job-seeking stress were confirmed to be variables that affect the parallel mediation effect and serial multiple mediation effect. Third, college students' self-directed learning was found to increase career preparation behavior through the mediating roles of major satisfaction, positive psychological capital, and employment stress. Therefore, in order to increase the career outcomes and success rates of college students, their own efforts, professors, and schools must create diverse environments and develop programs for college students' careers. Additionally, follow-up research must continue to supplement this.*

**Keywords:** *Self-directed learning, Major Satisfaction, Positive psychological capital, Job-Seeking Stress, Career preparation behavior.*

## 1. INTRODUCTION

College students are transitioning from adolescence to adulthood, and it is a time when establishing self-identity and choosing a career are recognized as major developmental tasks. They are increasing their capabilities and competitiveness by adapting to a life of career preparation and action. Recently, many people choose universities and majors based on the employment rate or grades of the major rather than their aptitude and interests[1]. Going to college is advantageous for getting a job, and this is also the reason for the social atmosphere that encourages going to college and the variety of experiential activities at college. This is a time when college students must explore their career path, decide specifically on the career they will choose, and prepare for the necessary practical work. However, they are exposed to physical and mental stress related to

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employment, such as the 4th industrial revolution, low birth rate and aging, economic recession, job market anxiety, ability evaluation, differences between career paths and majors, and lack of job-seeking information. In order to successfully enter the world of work, it is necessary to develop a plan to promote successful career preparation behaviors for career exploration and decision making. Career preparation behavior is a concept that refers to efforts to make a career decision and to prepare and execute concretely and practically to achieve career goals. In research on career preparation behavior, self-directed learning[2], major satisfaction[3], positive psychological capital[4], and job-seeking stress[5] are presented as important variables. However, studies related to career preparation behavior focused on dealing with relationships between variables, and had limitations in examining specific relationships between various variables. In this regard, it is necessary to verify the influence between various variables in a multidimensional manner.

This study focused on self-directed learning as a preceding variable of career preparation behavior. In order to successfully cope with the rapid changes in modern society, there are limits to improving career ability through university's subject-centered education method. Regarding career preparation, it is necessary to go beyond the constraints of educational or training institutions and provide necessary information and an environment for acquiring career-related knowledge, information, and skills. In this process, attention is paid to college students' voluntary learning activities and self-directed learning. Self-directed learning is reported to be an important factor affecting career development[2]. Self-directed learning is a variable that affects emotional characteristics or the learning environment, and it is necessary to pay attention to the interaction pattern with other variables[6]. It is believed that self-directed learning can change the degree of relationship with career preparation behavior due to differences in the learning abilities of college students. In this regard, we aim to identify multidimensional mediating variables in the relationship between college students' self-directed learning and career preparation behavior.

In this study, we aim to analyze the multiple mediating effects of major satisfaction, positive psychological capital, and job-seeking stress in the relationship between college students' self-directed learning and career preparation behavior. Major satisfaction is the degree of positive and subjective feelings related to the student's personal judgment and employment after graduation depending on various factors related to the major and learning in the major department during college life[7]. It is formed by the interaction between the social environment surrounding the major and personal characteristics[3]. Major satisfaction has a significant positive correlation with self-directed learning[8] and influences career preparation behavior[9]. Positive psychological capital is reported as a variable that has a positive impact on various career variables [4]. Positive psychological capital is an internal variable that can be applied and developed, and as a state of positive psychological belief that one can achieve one's goals, it plays a role in internal psychological strengthening of career preparation behavior[10]. There are research results showing that positive psychological capital has a significant positive relationship with self-directed learning and career preparation behavior[10]. As college students prepare for their future jobs and have to choose and decide on a specific job, job-related issues are the biggest concern and stress they face. Job seeking stress forms a significant relationship with self-directed learning[11] and as employment stress increases, students' career preparation behavior appears to decrease[5].

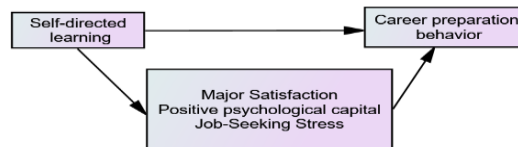
In college students' college life, it is important to overcome career goals and realistic problems with self-directed capabilities and provide perspectives that allow them to see their surroundings from a positive perspective. This study aims to find various effective variables that influence college students' college life and career preparation behavior for their majors and present useful data that can be used to intervene in education, guidance, and counseling for effective career preparation.

Therefore, the purpose of this study is to empirically analyze the multiple mediating effects of major satisfaction, positive psychological capital, and job-seeking stress that affect self-directed learning and career preparation behavior among college students.

## 2. METHODS

### 2.1 Research Model

This study investigates the impact of self-directed learning perceived by college students on career preparation behavior and investigates the multi-mediating effects of major satisfaction, positive psychological capital, and job seeking stress. The multiple mediation effect seeks to verify the parallel mediation effect and the research model was developed as shown in <Figure 1>.



**Figure 1. Parallel mediation research model**

### 2.2 Research Subject

The subjects of the study were university students in the G metropolitan area, and the survey was conducted through random sampling from March 2 to March 22, 2024. A total of 253 copies were collected and used in the study. There were relatively more women, with 120 men (47.4%) and 133 women (52.6%). By grade, 10.3% were 26 first-year students, 29.2% were 74 second-year students, 32.0% were 81 third-year students, and 72 fourth-year students were 28.5%. The career type was undecided for 50 people (19.8%), freelance for 11 people (4.3%), 29 people for civil service preparation (11.5%), major employment for 153 people (60.5%), and general employment for 10 people (4.0%).

### 2.3 Measuring Tool

The variables of this study were created through a structured questionnaire through a process of modification and supplementation to suit the characteristics of college students and the purpose of the study. All survey questions used a Likert scale (5-point scale: 1 point not at all to 5 points very much). The higher the score, the higher the corresponding variable is.

For self-directed learning, the scale used by Kim Ki-hong (2019)[12] was modified and supplemented to suit the purpose of this study. In this study, as a result of factor analysis, it consisted of 4 self-concept questions, 4 responsibility acceptance questions, 4 passion questions, 5 openness questions, and 5 time management questions. It consisted of a total of 22 questions. Cronbach's  $\alpha$  was .769.

For major satisfaction, the scale used by Seo Bo-ram (2016)[13] was modified and supplemented to suit the purpose of this study. In this study, as a result of factor analysis, a total of 8 questions were composed of 4 sub-areas: 2 questions on subject satisfaction, 2 questions on relationship satisfaction, 2 questions on general satisfaction, and 2 questions on cognitive satisfaction. Cronbach's  $\alpha$  was .834.

For positive psychological capital, the scale used by Lee Yun-ji (2023)[14] was modified and supplemented to suit the purpose of this study. In this study, as a result of factor analysis, it consisted of four sub-domains: 5 questions on hope, 5 questions on self-efficacy, 3 questions on resilience, and 5 questions on optimism. It consisted of a total of 18 questions. Cronbach's  $\alpha$  was .933.

For job seeking stress, the scale used by Kim Hye-jeong (2014) [15] was modified and supplemented for the purpose of this study. In this study, as a result of factor analysis, it consisted of 5 sub-domains: 6 personality questions, 4 academic questions, 5 family environment questions, 4 school environment questions, and 3 job anxiety questions. It consisted of a total of 22 questions. Cronbach's  $\alpha$  was .942.

For career preparation behavior, the tool used by Kim Yu-jin (2018)[16] was modified and supplemented for the purpose of this study. In this study, as a result of factor analysis, it consisted of three sub-areas: 5

questions on information collection activities, 4 questions on tool preparation behavior, and 7 questions on goal achievement behavior. It consisted of a total of 16 questions. Cronbach’s  $\alpha$  was .924.

### 2.4 Data Analysis

The analysis method used for the data collected for this study was SPSS (24.0) Process Macro. Frequency analysis and descriptive statistics analysis were performed using the descriptive statistics of each variable. After factor analysis and reliability analysis, correlation analysis was performed. Multicollinearity analysis was performed through regression analysis. For the mediation effect analysis, parallel and serial mediation effects were analyzed using Process Macro of Hayes (2018)[17], and the significance of the mediation effect was verified using bootstrapping.

## 3. RESULTS

### 3.1 Self-Directed Learning, Major Satisfaction, Positive Psychological Capital, Job Seeking Stress, Career Preparation Behavior Correlation Analysis and Descriptive Statistical Analysis

The correlation analysis and descriptive statistical analysis of self-directed learning, major satisfaction, positive psychological capital, employment stress, and career preparation behavior in this study are shown in <Table 1>. As a result of the empirical analysis, the correlation was statistically significant, and the analysis results showed a positive (+) relationship. In the multicollinearity analysis, the tolerance was found to be .596 to .845, and the VIF was found to be 1.183 to 1.679, confirming that there was no multicollinearity. Skewness was found to be less than 1, and kurtosis was found to be less than 4. Therefore, it was confirmed that normal distribution was achieved.

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

	Self-Directed Learning	Major Satisfaction	Positive Psychological Capital	Job Seeking Stress	Career Preparation Behavior
Self-Directed Learning	1				
Major Satisfaction	.385***	1			
Positive Psychological Capital	.471***	.507***	1		
Job Seeking Stress	-.195**	-.245***	-.390***	1	
Career Preparation Behavior	.331***	.344***	.441***	-.039	1
M	3.2573	3.8295	3.4620	2.0167	2.9234
SD	.4104	.6479	.6324	.6922	.8265
Skewness	-.254	-.314	.031	.445	-.188
Kurtosis	3.373	.586	.660	-.217	.400

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

### 3.2 Parallel mediation effect analysis of self-directed learning, major satisfaction, positive psychological capital, employment stress, and career preparation behavior

In this study, the analysis was conducted using Process Macro No. 4 proposed by Hayes (2018) to verify the parallel mediating effects of college students' self-directed learning, major satisfaction, positive psychological capital, employment stress, and career preparation behavior. The results of analyzing this

research model are shown in <Table 2>.

As a result of the analysis, self-directed learning and major satisfaction ( $\beta=.6084$ ,  $p<.001$ ), self-directed learning and positive psychological capital ( $\beta=.7255$ ,  $p<.001$ ), self-directed learning and job seeking stress ( $\beta=-.3283$ ,  $p<.01$ ) Self-directed learning and career preparation behavior ( $\beta=.2700$ ,  $p<.05$ ), major satisfaction and career preparation behavior ( $\beta=.1863$ ,  $p<.05$ ), positive psychological capital and career preparation Behavior ( $\beta=.4810$ ,  $p<.001$ ), job seeking stress and career preparation behavior ( $\beta=.982$ ,  $p<.001$ ). The effects of self-directed learning, career preparation behavior, and self-directed learning on the mediating variables (major satisfaction, positive psychological capital, job seeking stress) were all statistically significant.

**Table 2. Parallel mediating effects of major satisfaction, positive psychological, and job seeking stress**

	$\beta$	se	t
Self-Directed Learning→Major Satisfaction	.6084	.0920	6.6162***
Self-Directed Learning→Positive Psychological Capital	.7255	.0858	8.4539***
Self-Directed Learning→Job Seeking Stress	-.3283	.1044	-3.1440**
Self-Directed Learning→Career Preparation Behavior	.2700	.1279	2.1112*
Major Satisfaction→Career Preparation Behavior	.1863	.0831	2.2435*
Positive Psychological Capital→Career Preparation Behavior	.4810	.0931	5.1663***
Job Seeking Stress→Career Preparation Behavior	.1982	.0714	2.7751**
Total Effect	.6673	.1199	5.5642***
Direct Effect	.2700	.1279	2.1112*

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

The total effect of the path between self-directed learning and career preparation behavior was  $\beta=.6673$  ( $p<.001$ ), but as the mediators were introduced in parallel, the direct effect between self-directed learning and career preparation behavior was  $\beta=.2700$  ( $p<.001$ ). This result indicates that major satisfaction, positive psychological capital, and job seeking stress mediate the relationship between self-directed learning and career preparation behavior in parallel.<Table 3>.

**Table 3. Verification of the parallel mediating effects of major satisfaction, positive psychological, and Job seeking stress**

	$\beta$	se	95% CI	
			LLCI	HLCI
Total Indirect Effect	.3973	.1018	.2154	.6107
Self-Directed Learning→Major Satisfaction→Career Preparation Behavior	.1134	.0613	.0042	.2457
Self-Directed Learning→Positive Psychological Capital→Career Preparation Behavior	.3490	.1208	.1677	.5658
Self-Directed Learning→Job Seeking Stress→Career Preparation Behavior	-.0651	.0326	-.1402	-.0128
Total Effect	.6673	.1199	.4311	.9035

Direct Effect	.2700	.1279	.0181	.5220
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In this study, the analysis of the differences in the size of the mutual mediating effects of college students' self-directed learning, major satisfaction, positive psychological capital, and job seeking stress is shown in <Table 4>. As a result of the analysis, there was a significant difference between major satisfaction and job seeking stress, and positive psychological capital and stress. The mediating effect of job seeking stress was the largest, and there was no difference between major satisfaction and positive psychological capital.

**Table 4. Specific mediation effect size**

	$\beta$	se	95% CI	
			LLCI	HLCI
Major Satisfaction→Positive Psychological Capital	-.2356	.1290	-.4988	.0058
Major Satisfaction→Job Seeking Stress	.1784	.0701	.0523	.3265
Positive Psychological Capital→Job Seeking Stress	.4140	.1193	.2029	.6641

#### 4. CONCLUSION

This study analyzed the mediating effects of major satisfaction, positive psychological capital, and job seeking stress in the relationship between self-directed learning and career preparation behavior of college students, and the following conclusions were obtained.

First, self-directed learning, major satisfaction, positive psychological capital, job seeking stress, and career preparation behavior were found to have a mutually significant influence relationship. Self-directed learning, major satisfaction, positive psychological capital, and career preparation behavior were found to form a positive (+) influence relationship, while job seeking stress was found to form a negative (-) influence relationship.

Second, it was confirmed that major satisfaction, positive psychological capital, and employment stress are multiple mediating variables in the relationship between self-directed learning and career preparation behavior. In the parallel mediation condition, there was no difference between major satisfaction and positive psychological capital, and the mediation effect of employment stress was the largest. In the relationship between self-directed learning and career preparation behavior, the simultaneous mediating effects of major satisfaction, positive psychological capital, and employment stress were found to be strong. This can be said to be a result that supports the study (Chang-Beom Lee, Min-Jeong Kim. 2023) [18] that suggested the possibility of being influenced by a third variable. We provide curricular activities that provide opportunities to establish specific plans to achieve achievable goals and challenges during school life, and develop programs such as curricular activities that allow you to collect information about career paths and establish plans. It is expected that through this, college students' career preparation capabilities will increase in the long term.

Third, this study has limitations. Career preparation behaviors may vary depending on grade level. In addition, because career preparation behavior can be influenced by various factors depending on various variables, there is a need to expand more detailed research by grade, age, department, and regional characteristics. In addition, because it relied on a questionnaire centered on self-evaluation through

self-report, there is a possibility that result errors may occur. Supplementation and development of more sophisticated follow-up research is necessary.

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