



# *The Factors that Move College Students from Job Indecision to Job Decision for Improving their Psychological Well-being*

**Youngju Hur**

Professor, General Education Department, Namseoul University, Chugnam, Republic of Korea

## **Abstract**

*This study aimed to explore the individual, familial, and educational factors influencing the transition process of undecided college students into making job decisions and to provide suggestions for college career educational activities. To achieve the research objectives, binary logistic regression analysis was conducted using data from the 6th year of the Korea Education Employment Panel (KEEP II) survey conducted in 2022. The research findings are as follows. First, among college students who were undecided about their job one year prior, 65.1% remained undecided, while 34.9% of college students were found to have made job decisions one year later. Second, it was found that there were more students in the humanities, social sciences, and engineering disciplines remained undecided, while more students in the education and medical fields made new decisions; the natural sciences and arts fields showed proportions similar to the overall rate. Students who exhibited higher levels of self-determination and satisfaction in family life, university performance, major satisfaction, and overall university satisfaction were significantly more likely to be in the new decision group than the undecided group. Furthermore, it was found that students who had experience with job preparation courses, career counseling with department professors, career/employment mentoring, utilization of career development websites, corporate/recruitment information, job preparation programs, and field internship programs were more likely to be in the new decision group compared to students who had not experienced such opportunities. Third, regarding major disciplines, there was no difference in the probability of belonging to the undecided or new decision groups among humanities, engineering, natural sciences, and arts disciplines. In contrast, social sciences, education, and medical disciplines had a higher probability of belonging to the new decision group than humanities disciplines. Higher satisfaction levels in family life, and major were associated with an increased probability of belonging to the new decision group. Students who took career exploration courses were more likely to belong to the undecided group. In contrast, those taking job preparation courses were likelier to belong to the new decision group. Utilization of career development websites and participation in field internship programs increased the probability of belonging to the new decision group in job choices. Based on these research findings, it is proposed to concretize career educational activities at the departmental level within universities, guide the utilization of job preparation courses and career development websites, and participate in field internship programs as part of a long-term roadmap.*

**Keywords:** college students, job decision, job indecision, career education activities, Korean Education & Employment Panel II

## **1. INTRODUCTION**

*In their youth, college students must undertake the important task of deciding and preparing for their future careers and occupations. In particular, a job serves as a pathway that guarantees an individual's life as a social being. Job decision-making functions as a milestone in the first stage of career decision-making. Therefore, for college students about to enter society, job decision-making is an essential developmental task (6, 8). The job decisions of college students are also directly related to the development of businesses and the nation, as it ensures the supply of high-quality talent (23). Hence, it receives significant attention from a societal perspective as well.*

*However, South Korea's labor market is changing due to a preference for experienced workers, leading*



to a decrease in youth employment (1). Additionally, the rapid pace of changing information and advanced technologies has resulted in the emergence of various new occupations (24). The perceived employment rate among young job seekers below 40% supports this assertion (6). Furthermore, there has been an announcement that 3,525 new jobs have been created over the past eight years (1). As a result, many college students are experiencing difficulties in making career and job decisions. A survey conducted by Choi (9) on 2,146 four-year university students reported that 46.9% of the respondents had yet to decide on their career path. The problem is that job indecision leads to psychological anxiety, depression, and a lack of confidence among college students (8), resulting in negative outcomes such as a lack of motivation for learning (7).

The South Korean government and universities are providing various career education programs to address the difficulties college students face in making career and job decisions. The South Korean government is implementing diverse career policies to alleviate college students' career and employment burdens, including offering career exploration, job/start-up competency enhancement activities, and supporting further education (23). Universities also offer career exploration education that reflects future job trends, job/start-up programs, job preparation education, and entrepreneurship education (22).

Along with the strengthening of career education, there has been an increase in studies analyzing the effectiveness of career education. These studies primarily focus on the impact of career education on psychological factors such as self-efficacy, self-identity, and career maturity or the effects on career preparation behavior and employment probability (3). However, there is a lack of research focusing on the impact of career education on college students' job decision-making. Specifically, it is challenging to find studies that explore how participation in college career education activities influences the resolution of job indecision and facilitates job decision-making among college students. The studies conducted on job decision-making can be broadly categorized into the following three types.

Firstly, some studies explore the effectiveness of various career education programs targeting high school students (12) or investigate the impact of career-related conversations with parents on job decision-making (7). These studies primarily focus on the process of career and job decision-making among high school students, making it difficult to generalize to college students.

Secondly, studies have been conducted targeting college students, still, they compare the inclination towards job indecision based on gender (20) or analyze the impact of factors such as residence, school type and affiliation, part-time work experience, self-efficacy, and school career counseling on college students' job decision-making (19). These studies only include career counseling as a factor influencing job decision-making, thus failing to comprehensively analyze the influence of various career education activities and identify the most influential factors (7, 19, 24).

Thirdly, several studies have been conducted on college students, comprehensively analyzing the influence of various career education activities. One study reported differences in the rate of job decision-making based on the extent of participation in career education and services provided to



college students (6). Another study categorized college students into four groups based on the patterns of job decision changes over four years: job decision group, decision confusion group, decision weakening group, and undecided group. This study explored the influence of gender, aptitude, and satisfaction with school career guidance on these groups (20). However, these studies have not focused on students who eventually make job decisions over time among those who initially couldn't decide on a career. In fact, a crucial indicator for assessing the effectiveness of career education activities related to job decision-making is when college students who have not yet decided on their desired occupation make a decision through university career education activities.

Therefore, it is necessary to comprehensively analyze the factors influencing the process of college students transitioning from job indecision to job decision, including personal, familial, and educational factors encompassing various career education activities. By identifying the most significant positive influences, it is essential to determine which career curriculum and programs should be intensively provided to support students' job decision-making. Thus, this study aims to explore the personal, familial, and educational factors influencing the process of college students transitioning from job indecision to job decision and to provide suggestions for university career education activities.

## **2. THEORETICAL BACKGROUND**

### **2.1 The Significance and Importance of College Student's Job Decision**

The concepts of career decision-making and job decision-making are often used interchangeably, but there are three perspectives on the relationship between these two concepts. Firstly, some argue that since job decision-making is a central task of career decision-making, considering them as synonymous is reasonable (20). Secondly, there is a perspective that views job decision-making as encompassing career decision-making, with job decisions leading to career decisions and job preparation (18). Thirdly, there is a perspective that considers career decision-making as encompassing job decision-making, viewing job decisions as markers and stepping stones for setting the direction of one's career (5).

Generally, career decision-making refers to setting the direction of one's life beyond the current state (22, 23). Therefore, understanding the relationship between job decision-making and career decision-making from the third perspective is appropriate. Hence, college students' job decision-making, where they specifically and confidently choose a career path that suits them, serves as the starting point for career decision-making, which is crucial for setting the direction of one's life. Furthermore, individuals achieve self-realization and live as social beings through their occupations. Therefore, job exploration and decision-making among college students in their youth, as they prepare for social life, can be considered crucial developmental tasks.

However, many college students struggle to make job decisions. Job indecision refers to a state of incapacity where individuals cannot decide which occupation to choose (20). In fact, the reasons for indecision in career choice can be categorized into two types(13): the indecisive type, who lacks decisiveness due to personality traits and postpones decisions, and the undecided type, who shows limited interest or no interest in job decisions due to a lack of motivation or insufficient information about careers and vocations. This study will investigate whether the lack of decisiveness, as seen in the first type, is a contributing factor by examining self-determination as a factor, and whether the lack of career-related information, as seen in the second type, is a contributing factor by examining various forms of



career education activities. Indeed, this study focuses on college students who fall into the second type, exploring factors that can assist these students in making job decisions. As discussed earlier, job decision-making in youth serves as a roadmap for individual career planning and should be made at a mature level through adequate preparation.

## 2.2 Factors Influencing College Student's Job Decisions

Previous studies have categorized the factors influencing job decisions into individual characteristics, family environment, and school environment (32), while others have categorized them into individual, family, school, and occupational factors (24). Since this study focuses on college students, occupational factors will be excluded. Instead, the factors influencing career decisions will be categorized into individual, family, and educational factors.

Firstly, individual factors, such as gender, academic major, and self-determination, are considered. Research results regarding the predictability of college students' job decisions by gender vary. Some studies report that male students experience more difficulty in job decision-making than female students (15, 53), while others suggest that gender does not influence career indecision (27). Therefore, further rigorous research is needed to examine the relationship between gender and job decision-making more precisely. Previous studies on academic majors generally suggest that the probability of job decision-making is higher in majors with clear objectives, such as education and medicine, compared to other majors (32). Self-determination refers to the intention to autonomously determine one's life goals, career, and occupation (12). Previous studies indicate that individuals with high self-determination tend to have lower career indecision and higher levels of career decision-making engagement and career preparation behavior (5, 39).

Secondly, family factors include socioeconomic status and family life satisfaction. The relationship between the socioeconomic status of the family and the level of career decision-making among college students appears inconsistent. While some studies suggest that higher family socioeconomic status is associated with higher levels of career development among college students (44, 47, 56), others report no relationship between family socioeconomic status and the level of career development in children (26). Although there are no direct studies on family life satisfaction and job decision-making, several studies on parent-child relationships and job decisions suggest that a positive and satisfactory relationship with parents, as well as frequent discussions about career and occupation with parents, are associated with a higher probability of making job decisions (33, 57).

Thirdly, educational factors can be further divided into general factors of the university and career education activities. General factors of the university include academic performance, major satisfaction, and university satisfaction. It has been found that higher academic performance is associated with higher levels of career maturity, career decision-making, career preparation, and successful employment outcomes (27, 53). Students with higher major satisfaction demonstrate higher levels of career motivation and career preparation behaviors (39) and also exhibit a positive influence on job decision-making (21, 37). These studies argue that high major satisfaction indicates a well-made career choice, thus positively impacting job decision-making and career preparation. University satisfaction, representing satisfaction with college life, has been found to have a positive impact on career maturity, job decision-making, and other related aspects (23, 25, 27).

Universities have implemented various career education activities, and the impact on job decision-making has been diverse. Research has shown that participation in career-related courses and programs positively affects career maturity, career preparation behaviors, career decision-making, and employment rates (4, 46, 54). However, there are also studies indicating that participation in career



education courses may have negative effects on employability (49), or no significant impact at all (51). Research has reported that participation in career counseling and mentoring significantly influences career maturity, self-efficacy in career decision-making, career preparation behaviors, and job decisions (8, 17), while some studies suggest that it reduces employment rates (11).

Participation in job preparation programs such as job fairs, company recruitment sessions, and job camps been found to increase employability according to some studies (48, 60), while other studies suggest that it does not significantly impact employment rates (11) or may have a negative effect on career maturity (46). Participation in career experiences, internships, and field practicums has been shown to have a positive impact on career decision-making, career preparation behaviors, employment outcomes, and job retention (49, 55), although research suggests that engineering students' internships do not necessarily shorten the time to obtain a job (10, 28). These inconsistent findings underscore the need for confirmatory research on the factors related to career education activities that influence university students' job decisions.

### 3. RESEARCH METHODOLOGY

#### 3.1 Research Subjects

This study utilized data from the 6th year (survey conducted in 2022) of the Korean Education & Employment Panel II (KEEP II), which has been collected and managed by the Korea Research Institute for Vocational Education & Training since 2016. The survey initially targeted high school sophomores in the 1st year (2016), making the 6th year data most suitable for obtaining information related to career decision-making among college students nearing graduation, and data related to career and vocational education. Based on the 6th year (2022) data, students enrolled in 4-year universities were selected, specifically focusing on those who responded "No" to the question about "Future Career Decision" during the 5th year (2021) survey. After excluding missing data, the dataset used in the study consisted of 895 college students. The general characteristics of the final study sample are presented in Table 1.

**Table 1** Characteristics of the research subjects

Category		N(%)
Gender	Male	203(22.7)
	Female	692(77.3)
Major Field	Humanities	122(13.6)
	Social Sciences	227(25.4)
	Education	35(3.9)
	Engineering	203(22.7)
	Natural Sciences	122(13.6)
	Medicine	44(4.9)
	Arts	142(15.9)
Total		895(100.0)

#### 3.2 MEASURING INSTRUMENT

This study defined the dependent and independent variables, as shown in Table 2. The dependent variable, whether a new occupation decision was made, was coded as '1' for university students who made a new occupational decision at the time of the 6th survey in 2022 among those who had not yet decided on their occupation according to the 5th survey in 2021, and '0' for those who still had not made





a decision. Gender was recoded as male (0) and female (1), and the seven major fields of study were dummy-coded. Self-determination and social status were measured on an 11-point scale, while household, major, and university satisfaction were measured on a 5-point scale. University grades were converted to a 4.5-point scale based on the average scores of the 1st and 2nd semesters during the 6th survey in 2022. Ten career education factors were recoded as 'Yes (1)' if the student participated in the corresponding career education courses and programs and 'No (0)' if they did not participate.

**Table 2** Independent and Dependent Variables Utilized in Logistic Regression Analysis

Variable Group	Level	Variable Name	Scale	Variable Description
Independent Variables	Personal Factors	Gender	Binary	Male(0) Female(1)
		Major Field	Categorical	Humanities(000000) Social Sciences(000001) Education(000010) Engineering(000100) Natural Sciences(001000) Medicine(010000) Arts(100000)
		Self-Determination		Not at all autonomous(1) ~ Very autonomous(11)
	Familial Factors	Social Status	Continuous	Very low(1)~Very high(11)
		Family Life Satisfaction		Not at all(1)~Very much(5)
	Educational Factors: General Factors	University Grades(Average for 1 year, on a 4.5 scale)	Continuous	0~4.5
		Major Satisfaction		Not at all(1)~Very much(5)
		University Satisfaction		Not at all(1)~Very much(5)
	Educational Factors: Career Education Factors	Participation in Major Exploration Courses	Binary	No(0), Yes(1)
		Participation in Career Exploration Electives		
		Participation in Job Preparation Courses		
		Experience in Career Counseling with		



		Department Professors		
		Experience in Career Counseling with Career Development Centers		
		Experience of Career/Mentoring Programs		
		Utilization of Career Development Websites		
		Experience of Company/Recruitment Information Provision		
		Experience of Job Preparation Programs		
		Experience of Field Internship/Practicum Programs		
Dependent Variable	Occupational New Decision Indicator		Binary	Ongoing job indecision(0) Newly job decision(1)

**3.3 Analysis Method**

First, frequency analysis (number of cases, proportions) was conducted to understand the distribution of the study participants. Second, cross-tabulation (crosstabs) was performed to analyze whether there were differences in job decision types based on gender, major field, and the participation or experience of the ten career education factors. Furthermore, group mean differences analysis was conducted to determine whether there were differences in self-determination, social status, family life satisfaction, university grades, major satisfaction, and university satisfaction based on job decision types. Third, binary logistic regression analysis was used to identify the impact of personal, familial, and educational factors, including general university and career education factors, as independent variables on job decision types as the dependent variable. All analyses were conducted using SPSS 28.0.

**4. RESEARCH RESULTS**

**4.1 Typology of Changes in Job Decisions of College Students**

The typology of changes in career decisions among university students is presented in Table 3. Students who responded 'No' to future career decisions in the end-of-2021 survey and continued to respond 'No' in the end-of-2022 survey were classified as 'Job Undecided Continuance Type', while those who responded 'Yes' were categorized as 'Newly Job Decision Type'. It was found that 65.1% belonged to the Undecided Continuance Type, while 34.9% belonged to the Newly Job Decision Type. This indicates



that despite various career education activities provided by universities over a year, 65.1% of students who were undecided about their career path remained undecided. However, it also highlights that 34.9% of students made a new career decision.

**Table 3** Typology of Changes in Job Decisions of College Students

Category		Career Decision in 2022		Total(, (%))
		No(N, %)	Yes(N, %)	
Career Decision in 2021	No	Job Undecided Continuance Type	Newly Job Decision Type	
		583(65.1)	312(34.9)	895(100.0)

**4.2 Differences in Job Decision by Individual, Familial, and Educational Factors**

To examine whether there were differences in career decisions based on individual, familial, and educational factors, cross-tabulation and between-group mean difference analyses were conducted, and the results are presented in Table 4. There was no significant difference in career decision type among individual factors based on gender. However, differences were observed based on major fields of study. Humanities, Social Sciences, and Engineering majors had a higher proportion of Job Undecided Continuance Types than the overall proportion of majors. Education and medicine majors had a higher proportion of new job decision types. The proportions in Natural Sciences and Arts majors were similar to the overall proportion. Self-determination was significantly higher in the Job New Decision Type across all categories. Additionally, there was no significant difference in career decision type among familial factors based on social status. However, family life satisfaction was higher in the Job New Decision Type compared to the Job Undecided Continuance Type.

Among the educational factors, it was found that overall, the Job New Decision Type outnumbered the Job Undecided Continuance Type in terms of university grades, major satisfaction, and university satisfaction. It was observed that more students did not participate in career education activities than those who did. Regarding career counseling with department professors, a similar proportion was observed between participating and non-participating students. However, non-participating students outnumbered participating students by 3 to 10 times or more in other activities. There was no difference in the distribution of Job Undecided Continuance Type and Job New Decision Type based on whether students took major and general career exploration courses. However, there were more instances of the Job New Decision Type among students who did not take job preparation courses than those who did. Regarding career counseling experience at career development centers, there was no significant difference between the Job Undecided Continuance Type and Job New Decision Type. However, among students who had experiences such as career counseling with department professors, career and job mentoring programs, utilizing career development websites, receiving company/recruitment information, participating in job preparation programs, or field internships and practicum programs, the Job New Decision Type outnumbered those who did not have such experiences.

**Table 4** Differences in Job Decision by Individual, Familial, and Educational Factors





Category		Job Undecided Continuance Type	Newly Job Decision Type	Total	$\chi^2(p)$
		N(%)	N(%)	N(%)	
Gender	Male(0)	135(66.5)	68(33.5)	203(100.0)	.215
	Female(1)	448(64.7)	244(35.3)	692(100.0)	
Major Field	Humanities	90(73.8)	32(26.2)	122(100.0)	32.801***
	Social Sciences	161(70.9)	66(29.1)	227(100.0)	
	Education	16(45.7)	19(54.3)	35(100.0)	
	Engineering	135(66.5)	68(33.5)	203(100.0)	
	Natural Sciences	75(61.5)	47(38.5)	122(100.0)	
	Medicine	15(34.1)	29(65.9)	44(100.0)	
	Arts	91(64.1)	51(35.9)	142(100.0)	
Category		Job Undecided Continuance Type	Newly Job Decision Type	Total	F(p)
		M(SD)	M(SD)	M(SD)	
Self-Determination		7.85(1.53)	8.07(1.53)	7.93(1.53)	4.080*
Social Status		6.38(1.62)	6.49(1.57)	6.42(1.60)	.920
Family Life Satisfaction		3.89(.69)	4.06(.64)	3.95(.68)	12.651***
University Grades		3.74(.46)	3.81(.42)	3.76(.45)	4.956*
Major Satisfaction		3.67(.74)	3.92(.72)	3.76(.75)	23.298***
University Satisfaction		3.64(.72)	3.86(.80)	3.72(.75)	17.511***
Category		Job Undecided Continuance Type	Newly Job Decision Type	Total	$\chi^2(p)$
		N(%)	N(%)	N(%)	
Participation in Career Exploration Major Courses	No	423(64.5)	233(35.5)	656(100.0)	.468
	Yes	160(66.9)	79(33.1)	239(100.0)	
Participation in Career Exploration General Courses	No	455(66.4)	230(33.6)	685(100.0)	2.119
	Yes	128(61.0)	82(39.0)	210(100.0)	
Participation in Job Preparation Courses	No	535(67.0)	259(33.0)	794(100.0)	9.268**
	Yes	58(52.3)	53(47.7)	111(100.0)	
Experience in Career Counseling with Department Professors	No	325(68.4)	150(31.6)	475(100.0)	4.800*
	Yes	258(61.4)	162(38.6)	420(100.0)	
Experience in Career	No	503(65.3)	267(34.7)	770(100.0)	.083



Counseling with Career Development Centers	Yes	80(64.0)	45(36.0)	125(100.0)	
Experience of Career and Job Mentoring Programs	No	494(66.9)	244(33.1)	738(100.0)	5.989**
	Yes	89(56.7)	68(43.3)	157(100.0)	
Utilization of Career Development Websites	No	543(66.7)	271(33.3)	814(100.0)	9.738**
	Yes	40(49.4)	41(50.6)	81(100.0)	
Experience of Company/Recruitment Information Provision	No	487(67.6)	233(32.4)	720(100.0)	10.129***
	Yes	96(54.9)	79(45.1)	175(100.0)	
Experience of Job Preparation Programs	No	541(66.7)	270(33.3)	811(100.0)	9.357**
	Yes	42(50.0)	42(50.0)	84(100.0)	
Experience of Field Internship/Practicum Programs	No	532(67.1)	261(32.9)	793(100.0)	11.620***
	Yes	51(50.0)	51(50.0)	102(100.0)	
Total		583(65.1)	312(34.9)	895(100.0)	
* p<.05 ** p<.01 *** p<.001					

### 4.3 Factors Influencing Newly Job Decisions of College Students

The results of logistic regression analysis to identify the factors influencing new job decisions among college students are presented in Table 5. The classification accuracy is 65.1. The -2 Log-Likelihood (-2LL) for the model, including independent variables, is 1049.102, and the difference between the -2LL of this model and the model consisting only of the constant term is 108.272. Conversely, we can infer that the -2LL value for the model consisting only of the constant term is 1157.374. Since a lower -2LL indicates a better fit (Lee & Lim, 2023), it can be observed that the model including independent variables (-2LL=1049.102) has a better fit compared to the model with only the constant term (-2LL=1157.374). The  $\chi^2$  value from the Hosmer-Lemeshow test indicates the overall goodness-of-fit of the logistic regression model, where a non-significant  $\chi^2$  value suggests that the model adequately fits the data, indicating a small discrepancy between the actual and predicted values of the dependent variable (Lee & Lim, 2023). This study shows a  $\chi^2$  value of 11.278, which is not significant, indicating that the model is adequate.

Among personal factors, gender did not significantly influence the probability of belonging to the indecisive or new decision type. Regarding academic disciplines, there was no significant difference in the probability of belonging to the indecisive or new decision type among humanities, engineering, natural sciences, and arts disciplines. However, for social sciences, the probability of belonging to the new decision type was 1.830 times higher than that of humanities, while for education and medical sciences, the probability of belonging to the new decision type was 7.004 and 3.647 times higher than that of humanities, respectively. Self-determination did not significantly influence the probability of belonging to the indecisive or new decision type when other variables were included in the model. Among familial factors, social status did not significantly influence the probability of belonging to the indecisive or new decision type when other variables were included in the model. In contrast, for each one-point increase in household satisfaction, the probability of belonging to the new decision type increased by 1.413 times.



Among educational factors, university grades and satisfaction did not significantly influence the probability of belonging to the indecisive or new decision type when other variables were included in the model. However, major satisfaction showed that for each one-point increase, the probability of belonging to the new decision type increased by 1.325 times. When other variables were included in the model, taking career exploration general courses, experiencing career counseling with department professors, career counseling at career development centers, career and job mentoring experiences, receiving information from experienced companies/recruiters, and participating in job preparation programs showed low predictive power. On the other hand, students who took job preparation courses had a 1.620 times higher probability of belonging to the new decision type. In comparison, those who utilized career development websites had a 1.939 times higher probability, and those who experienced field internships had a 1.638 times higher probability. The interesting point is that students who took career exploration major courses had a 1.828 times higher probability (1/0.547) of belonging to the indecisive type instead.

**Table 5** Factors Influencing Newly Job Decisions of College Students

Independent Variables		B	S.E.	exp( $\beta$ )
Constant term		-5.370***	.941	.005
Personal Factors	Gender(0 Male 1 Female)	-.008	.188	.992
	Major Field(Social Sciences)	.604*	.286	1.830
	Major Field(Education)	1.947***	.400	7.004
	Major Field(Engineering)	.510	.294	1.665
	Major Field(Natural Sciences)	.505	.275	1.657
	Major Field(Medicine)	1.294***	.419	3.647
	Major Field(Arts)	.212	.266	1.237
	Self-Determination	.044	.055	1.045
Familial Factors	Social Status	.031	.052	.970
	Family Life Satisfaction	.346**	.126	1.413
Educational Factors: General Factors	University Grades	.220	.181	1.246
	Major Satisfaction	.281*	.132	1.325
	University Satisfaction	.154	.131	1.167
Educational Factors: Career Education Factors	Participation in Career Exploration Major Courses	-.603**	.223	.547
	Participation in Career Exploration General Courses	.257	.224	1.293
	Participation in Job Preparation Courses	.482*	.238	1.620
	Experience in Career	.176	.165	1.193



	Counseling with Department Professors			
	Experience in Career Counseling with Career Development Centers	-.474	.273	.622
	Experience of Career/Job Mentoring Programs	.166	.218	1.180
	Utilization of Career Development Websites	.662*	.276	1.939
	Experience of Company/Recruitment Information Provision	.367	.207	1.444
	Experience of Job Preparation Programs	.380	.282	1.463
	Experience of Field Internship/Practicum Programs	.494*	.240	1.638
Selected cases: 895 -2 Log likelihood: 1049.102 $\chi^2(p)=108.272(.000)$ Hosmer and Lemeshow test $\chi^2(p) =11.278(.186)$ Classification accuracy: 65.1				
* p<.05 ** p<.01 *** p<.001				

**5. DISCUSSION AND CONCLUSION**

*This study aimed to explore the factors influencing the transition process of undecided university students in making career decisions and to provide suggestions for university career education activities. To achieve this goal, data from the 6th wave of the Korean Education & Employment Panel II (KEEP II) survey conducted in 2022 were utilized, focusing on undergraduate students enrolled in 4-year universities who remained undecided about their careers in the 5th wave of the survey conducted in 2021. A total of 895 survey responses were analyzed using binary logistic regression to identify the factors influencing the two types of career decision outcomes: continued indecision and new decisions. The research results and discussions are as follows. Firstly, among 4-year university students, 65.1% were classified as continuing with undecided career choices, while 34.9% were classified as making new career decisions. This indicates that despite various career education activities by universities over a year, 65.1% of students still need help making decisions about their career choices. This supports a previous study reporting that many university students struggle to make career decisions. Furthermore, these findings also support studies (11, 46, 49, 51) questioning the effectiveness of various career education courses and programs. However, considering that 34.9% of students made new career decisions, it is essential to identify the factors facilitating these decisions for these students. Secondly, when comparing the proportions across different academic disciplines, it was found that within the humanities, social sciences, and engineering disciplines, there were more students classified as continuing with undecided career choices, while in the education and medical disciplines, there were more students classified as making new career decisions. However, in the natural sciences and arts*



disciplines, the proportions were similar to the overall distribution. Additionally, it was observed that self-determination, satisfaction with family life, university grades, major satisfaction, and university satisfaction were significantly higher for students classified as making new career decisions struggle to make those continuing with undecided career choices. It was noted more students did not participate in career education activities than those who did. While there was a similar ratio of students who engaged in career counseling with department professors compared to those who did not, in other activities, non-participating students outnumbered participating students by 3 to 10 times. The similar ratio of students participating and not participating in career counseling with department professors suggests that universities have institutionalized counseling with department professors as part of their policies (40). Moreover, the low participation rates in other career education activities align with the arguments presented in previous studies (11, 23; 49).

Furthermore, it was found that students who had taken career preparation courses, students who had experienced career counseling with department professors, students who had participated in career and job mentoring, students who had utilized career development websites, students who had received information on companies/employment opportunities, students who had participated in job preparation programs, and students who had completed internships/field training programs were more likely to make new career decisions compared to students who had not experienced these activities. These results support previous studies suggesting that despite the low participation rates in career education activities among university students, participation in career-related courses and programs can assist in making new career decisions (19; 40).

Thirdly, gender was found to have no significant impact on the probability of belonging to the undecided or new decision group when other variables were included in the model. This result differs from studies reporting that male students face more difficulties making career decisions than female students ( 53). However, it aligns with research indicating that gender does not influence career indecision (27). Regarding academic disciplines, there was no significant difference in the probability of belonging to either group among humanities, engineering, natural sciences, and arts disciplines, while social sciences, education, and medical sciences were more likely to belong to the new decision group than humanities. These findings are consistent with study reporting that disciplines with clear career objectives, such as education and medical sciences, tend to have more stable career decisions, whereas disciplines like humanities, engineering, natural sciences, and arts may face more difficulties in career decision-making (32). In fact, disciplines like social sciences, including economics and management, have relatively predetermined career paths, while education and medical sciences often lead to specific professions like teaching, medicine, or pharmacy from the time of admission. Conversely, disciplines like humanities, engineering, natural sciences, and arts may encounter challenges in career decision-making.

Self-determination was found to have no significant impact on the probability of belonging to either the undecided or new decision group when other variables were included in the model. This finding contradicts previous studies reporting that higher self-determination leads to lower career indecision (5; 39). The reason for the discrepancy between the results of this study and previous research can be found in previous studies suggesting that the causes of career indecision are lack of decisiveness in personality and lack of information related to occupations and careers (13). Suppose individuals acquire information for making new career decisions through participation in occupational and career-related courses or programs. In that case, it suggests that self-determination may diminish or overcome its influence on making new career decisions.

Among the familial factors, social status was found to have no significant impact on the probability of





belonging to the undecided or new decision group when other variables were included in the model. However, it was observed that higher satisfaction with family life was associated with an increased probability of belonging to the new decision group. These findings contrast with studies reporting that higher family social status is associated with higher levels of career development among university students (44, 47) but align with research suggesting that family social status is unrelated to children's career development (26). The results are similar to studies indicating that a positive relationship with parents and frequent discussions about careers and occupations are associated with a higher likelihood of making career decisions (33, 58). The lack of influence of family social status in this study suggests that fostering open discussions about career and occupation within the family and increasing satisfaction with family life may mitigate the influence of family social status.

Among the educational factors, university grades and satisfaction were found to have no significant impact on the probability of belonging to either the undecided or new decision group when other variables were included in the model. However, it was observed that higher satisfaction with one's major increased the probability of belonging to the new decision group. These findings differ from studies asserting that higher university grades and satisfaction are positively associated with career decisions (43, 53, 59) but align with research indicating that higher major satisfaction has a positive influence (14, 21, 37, 39). This suggests that high major satisfaction can mitigate the influence of university grades or satisfaction. Given that high major satisfaction indicates a well-made career choice, it holds significant influence over career decisions.

Courses related to career exploration and employment showed varied results. Taking general courses related to career and job exploration did not influence the probability of belonging to either the undecided or new decision group. Interestingly, students who took major-specific courses in career and job exploration were more likely to belong to the undecided group. In contrast, those who enrolled in employment preparation courses were more likely to belong to the new decision group. These findings suggest that participating in courses related to career and job preparation has a positive effect on career decisions (4, 11, 46, 54), specifically in employment preparation courses. Conversely, research indicates that participation in career education courses negatively impacts employability (38, 49) and pertains to major-specific courses in career and job exploration. Studies report that career education courses have no impact on employability (51) and pertain to general career and job exploration courses. Ultimately, these results highlight that the influence of courses related to career and job exploration on career decisions can vary depending on how the content is structured and delivered.

Experiences with career counseling from faculty members, career counseling from career development centers, and mentoring programs had low predictive power. These results differ from studies reporting that participation in career counseling and mentoring has a significant impact on career decisions (8, 17). This suggests that the influence of career counseling and mentoring on career decisions is diminished when employment-related courses or internship programs are provided. Experiences with company/recruitment information and participation in employment preparation programs also had low predictive power, while utilizing career development websites and participating in internships increased the likelihood of making new career decisions. These findings align with studies reporting that career exploration, internships, and practical experiences have a positive impact on career decisions (6, 49, 55), indicating the need to increase the utilization of career development websites and opportunities for practical experiences, internships, and field-related experiences.

Based on these research findings, several suggestions for university career education activities were proposed. Firstly, although a majority of university students experience difficulties in making career decisions, the participation rate in career education activities is low. Therefore, there is a need to expand



the participation of students in career education activities. Similar to how universities have increased the participation rate of students in consultations with faculty members by institutionalizing policies, it is necessary to institutionalize the participation of all students in career education activities. To achieve this, developing and operating more efficient and diverse career education activities is essential while actively promoting the necessity and benefits of such activities. However, it is necessary to concretize university-level career education activities into department-level activities for more fundamental changes. By developing career education activities related to majors at the department level and encouraging participation through collaboration with major professors and seniors, the participation rate and the level of major satisfaction can increase, which positively influences career decisions.

Universities should provide financial and institutional support to humanities, engineering, natural science, and fine arts departments, which have relatively low rates of student career decisions, to ensure their active participation.

Secondly, universities and departments need to expand career education activities that effectively support students' career decisions. It is necessary to shift the focus of career education activities from counseling and mentoring provided by department professors and career development centers to expanding career preparation courses and enhancing career education activities linked to real-world experiences. First, since career preparation requires systematic planning and consistent implementation, students should be encouraged to take career preparation courses related to their majors from their early years, and they should be required to design long-term roadmaps for continuous and systematic participation in extracurricular programs such as document preparation and interview skill enhancement until they become upperclassmen. Short-term and one-time career education programs are not very helpful for career decision-making. Additionally, universities and departments should increase the quantity and quality of career development website (portfolio) utilization and fieldwork/internship programs to support students' career decisions. These career education activities should be characterized by providing diverse career information, student-centered experiential activities, and activities closely related to the workplace. Therefore, planning and operating programs that encapsulate these two characteristics well is essential. Considering the recent limitations on face-to-face activities due to COVID-19, there has been a lack of experiential and internship opportunities. Hence, there is a need to actively expand career education activities related to job experience internships.

Thirdly, this study only focused on two types of career decision-making among university students: those who persistently remain undecided and those who make new decisions. However, there can be more diverse typologies of career decision-making among university students, including those who initially made a decision but later became confused and reverted to an undecided state or those who consistently maintain their career decisions. Therefore, future research should attempt to diversify typologies by integrating decided and undecided career statuses and exploring the factors influencing the probability of belonging to each type. Furthermore, while this study only explored changes in career decisions over a one year, subsequent research could investigate trajectories of career decision changes over multiple years. This study solely utilized panel data and employed participation in career education activities as an independent variable. However, the effectiveness of educational activities depends on factors such as educational content and methods. Therefore, future research should analyze the effects of career education activities while reflecting on their quality.

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*All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.*

## DECLARATION OF CONFLICTS OF INTERESTS

*Authors declare that they have no conflict of interest.*

## Availability of data and materials

*Not Applicable*

## Use of Artificial Intelligence

*Not applicable*

## DECLARATIONS

*Authors declare that all works are original and this manuscript has not been published in any other journal.*

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