Effects of Career Decision-Making Self-Efficacy, Career Outcome Expectation, and Career Consciousness Maturity on Career Preparation Behavior of Nursing Students

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Abstract

Although career preparation is an important factor in making correct career decisions and increasing job satisfaction, nursing students lack consideration and preparation for their career path when choosing a major. The purpose of this study was to identify the relationships among career decision-making self-efficacy, career outcome expectation, and career consciousness maturity on the behavior of nursing students in preparing for their careers. We collected data using structured questionnaires from 95 nursing students in C city from June 1 to June 20, 2018. We analyzed the data using the IBM SPSS/WIN 23.0 program for descriptive statistics, independent t test, oneway ANOVA, Pearson's correlation coefficient, and multiple regression. As a result, the factors influencing the career preparation behavior of nursing students were career decision self-efficacy (β = .35, p < .001) and career consciousness maturity (β = .30, p = .003), and the explanatory power of these variables was 37%. Based on these results, it was required to develop programs to strengthen career decision-making self-efficacy and career consciousness maturity. In order to improve career decision-making self-efficacy, a program should be developed to improve confidence in solving problems by providing career opportunities. In addition, in order to strengthen career consciousness maturity, a career road map for each grade should be constructed, as well as systematic career counseling and employment capacity enhancement programs.

Keywords: career, behavior, self-efficacy, expectation, maturity

1. Introduction

The college age is the time when they choose and decide on a career path (Seo et al., 2021). Since career choice is an important process that affects overall life satisfaction, sufficient exploration and preparation for a career is essential (Choi & Jung, 2018). The factors most considered in nursing students' major choices include high employment rates, job stability, and recommendations from acquaintances rather than their own aptitude and interests (Park & Park, 2021). Also, since most of them choose nursing as their first career after graduation, they have less time to explore and prepare for their careers compared to college students with other majors (Kim, 2021). In this way, if the career preparation process is insufficient, even if you get a job, you may have difficulty adapting to the workplace, and a decrease in job satisfaction is likely to lead to a job change.

The number of nurses working for medical institutions in Korea is 4.2 per 1,000 population, as low as less than half of the Organization for Economic Cooperation and Development (OECD) average of 9.0 nurses (Korean Nurses Association, 2022). To address the problem of nurse shortage, the department of nursing was established and the number of students increased since 2008 (Lee et al., 2014), and as a result the number of graduates from nursing education institutions increased by 5% every year since 2009, reaching 24,924 in 2020. Despite these efforts, the nurse turnover rate was 15.55%, and nurses with 1–3 years of seniority accounted for 66.5% of the total turnover. The fundamental solution for the problem of nurse shortage, therefore, is to pay attention not only to the expansion of training to nurture nurses, but also to the reduction of turnover rate.

Meanwhile, career preparation behavior refers to behaviors for rational and correct career decision-making and specific behaviors to achieve career goals after career decision-making (Kim & Kim, 1997). Career preparation behavior particularly emphasizes career-related behavioral aspects and includes specific behaviors for career

decision-making and preparation (Kim & Kim, 1997). A high level of career preparation behavior is related to an increase in job satisfaction and a decrease in the early turnover rate (Oh & Lee, 2019) and has a positive effect on life satisfaction (Lent & Brown, 2008). It is important, therefore, to raise the level of career preparation behavior in a college period, a time when careers are decided. Since career preparation behavior is enhanced through continuous exploration and experience, not temporary ones (Cho & Choi, 2007), steady and systematic preparations during college life are required.

Our systematic literature review shows that career decision-making self-efficacy in college students is an influencing factor of career preparation behavior (Kim et al., 2020). Career decision-making self-efficacy is an individual's belief that one has an ability to make plans and successfully perform tasks for career preparation (Taylor & Betz, 1983). Since career decision-making self-efficacy can be developed through acquired efforts, it is necessary to find a way to enable nursing students who lack career exploration and active preparation to develop career decision-making self-efficacy.

Career outcome expectations refers to a belief that career preparation behavior will produce valuable results in career decision-making and preparation (Betz & Voyten, 1997). In the social cognitive career theory, career outcome expectation works as a cognitive factor along with career decision-making self-efficacy to affect career preparation behavior (Lent et al., 1994). Hence, career outcome expectation is related to career decision-making self-efficacy (Joo et al., 2015), and it strengthens career-related specific goal setting and behavior (Lee & Lee, 2015).

Career consciousness maturity refers to an ability, in the career choice and decision-making process, to choose a career wisely and adapt to it through accurate evaluation and understanding of one's career view (Lee & Han, 1998). Career consciousness maturity has been shown to be an influencing factor of career preparation behavior (Lee, 2013), and since career perception differs depending on individual experiences, the level of career consciousness maturity varies among individuals (Lee & Han, 1998). Since a high level of career consciousness maturity is helpful in establishing a reasonable career plan (Ko & Park, 2018), the development of career consciousness maturity is important during the college period when the career decision is made.

Studies on career consciousness maturity in nursing students, however, have been limited, indicating additional ones on this theme. Despite the lack of concern and preparation of nursing students for their careers, studies in this field have been limited compared to that of other college students. Influencing factors of career preparation behavior in nursing students include personality traits, social support, career decision-making self-efficacy, self-leadership, nursing professionalism, major satisfaction, and career outcome expectation (Jeong, 2021; Kim, 2018; Park & Park, 2020). But studies on the relationship between career consciousness maturity and career preparation behavior are rare.

Nursing students' career preparation behavior is an important factor in increasing career goal setting and academic achievement as well as job selection and job satisfaction. The purpose of our study, therefore, is to provide basic data for improving the level of career preparation behavior in nursing students by identifying the relationship among career decision-making self-efficacy, career outcome expectation, career consciousness maturity, and career preparation behavior, which is also expected to have a positive effect on the decrease in their job turnover and increase in job satisfaction.

2. Method

2.1 Design

This study is a descriptive research study to identify the factors affecting career preparation by nursing students. Our purpose is to understand the subjects' self-efficacy in career decision, career outcome expectation, career consciousness maturity, and career preparation behavior level, and to examine the relationship with these variables.

Subjects

The subjects of this study were fourth-year nursing students located in C city, Korea. We calculated sample size using the G*Power 3.1.9.2 program under the conditions of significance level for multiple regression analysis (α) of .05, effect size (f²) of .35, power (1-β) of .95, prediction, and predictive variables of 10 was 80. We conducted the survey with 96 people, of whom one made an inappropriate response, resulting in a final sample of 95 people.

2.2 Instruments

2.2.1 Career Decision-Making Self-Efficacy

The career decision-making self-efficacy was measured using the career decision-making self-efficacy scale short

form (CDMSES-SF) developed by Betz et al. (1996) and translated by Lee and Lee (2000). This questionnaire was constructed on 5-point Likert scale, consisting 5 subfactors and 25 items. The Cronbach's α was .94 in the developer's report and .90 in our study.

2.2.2 Career Outcome Expectation

The career outcome expectation was measured using the career outcome expectation subscale from career outcome expectation and exploratory intention by Betz and Voyten (1997) and translated by Yang (2006). This subscale was a 5-point Likert type scale, consisting of four items. The Cronbach's α was .73 in the developer's report and .85 in our study.

2.2.3 Career Consciousness Maturity

Career consciousness maturity was measured using the career maturity inventory (CMI) developed by Crites (1978) and translated and supplemented for each subscale by Kim (2021). It was a 5-point Likert type scale, consisting five subfactors and 12 items: purposefulness, determination, preparedness, certainty, and independence. The Cronbach's α was .62–.78 in Kim (2021) and .61–.79 in our study.

2.2.4 Career Preparation Behavior

Career preparation behavior was measured using the adapted career-preparation behavior scale developed by Lee (2003). Considering the popularization of the internet and university career support center, we added two items from the career preparation behavior inventory developed by Kim and Kim (1997). The instrument was a 5-point Likert type scale, consisting of three subfactors and 18 items testing information collection behaviors, tool preparation behaviors, and goal achievement behaviors. The Cronbach's α was .84 in the developer's report and .88 in our study.

2.3 Data Collection

Data were collected through a questionnaire survey conducted from June 1 to 20, 2018 among fourth-year nursing students from a university located in C city, G region, South Korea. After the researcher explained the purpose and method of the study, the subjects who voluntarily agreed were asked to fill out the questionnaire. It took 10–15 minutes.

2.4 Ethical Considerations

Those who voluntarily agreed to participate in the study were asked to sign a written consent form, which explained that anyone who agreed to participate could withdraw their participation, and that the confidentiality of the personal information contained in the questionnaire would be maintained. In addition, to protect privacy, subjects were identified by code.

2.5 Data Analysis

We analyzed the data using the IBM SPSS/WIN version 23.0 program. First, the general characteristics, career decision-making self-efficacy, career outcome expectation, career consciousness maturity, and career preparation behavior levels of subjects were frequency, percentage, item mean, and standard deviation. Second, we analyzed differences in career preparation behavior according to the general characteristics of subjects using independent t test and oneway ANOVA. Third, we analyzed correlations between variables with Pearson's correlation coefficient, and we analyzed the influencing factors of career preparation behavior using multiple regression analysis

3. Results

3.1 Subject Characteristics

Subjects consisted of 17 males (17.9%) and 78 females (82.1%); their average age was 22.01 ± 1.22 years old. Motivation to apply to the department of nursing included employment (n = 42, 44.2%), aptitude (n = 33, 34.7%), and recommendation (n = 9, 9.5%). About half (n = 50, 52.6%) participated in club activities, and the most common average grade was "B0-B+" (n = 66, 69.5%) and was followed by "< C" (n = 24, 25.3%) and "A0-A+" (n = 5, 5.3%). Subjective health status was reported as "normal" (n = 68, 71.6%), "good" (n = 18, 18.9%), or "bad" (n = 9, 9.5%). "Introvert" (n = 48, 50.5) and "extrovert" (n = 47, 49.5%) each accounted for half of the personality (Table 1).

Table 1. Subjects Characteristics

Characteristics	Categories	n (%) or M±SD
Gender	Male	17(17.9)
	Female	78(82.1)
Age(y)		22.01±1.22
Motivation to apply to department of nursing	Aptitude	33(34.7)
	Employment	42(44.2)
	Value	8(8.4)
	Grade	3(3.2)
	Recommendation	9(9.5)
Club activity	Yes	45(47.4)
	No	50(52.6)
Average grade	A0, A+	5(5.3)
	B0, B+	66(69.5)
	< C	24(25.3)
Subjective health status	Good	18(18.9)
	Normal	68(71.6)
	Bad	9(9.5)
Personality	Extrovert	47(49.5)
	Introvert	48(50.5)

3.2 Level of Career Decision-Making Self-Efficacy, Career Outcome Expectation, Career Consciousness Maturity, and Career Preparation Behavior

Table 2. Level of Career Decision-Making Self-Efficacy, Career Outcome Expectation, Career Consciousness Maturity, and Career Preparation Behavior

Variables	M±SD	Range
Career Decision-Making Self-Efficacy	3.70±0.42	1-5
Job information	3.82±0.45	
Goal selection	3.77±0.49	
Future planning	3.68±0.51	
Problem solving	3.52±0.59	
Self-evaluation	3.73±0.47	
Career Outcome Expectation	3.95±0.62	1-5
Career Consciousness Maturity	3.50±0.40	1-5
Purposefulness	3.09±0.68	
Determination	3.67±0.65	
Preparedness	3.72±0.62	
Certainty	3.55±0.75	
Independence	3.60±0.63	
Career Preparation Behavior	3.72±0.53	1-5
Information collection behavior	4.13±0.58	
Tool preparation behavior	3.61±0.67	
Goal achievement behavior	3.44±0.65	

The mean and standard deviation score of career decision-making self-efficacy was 3.70 ± 0.42, where the subscale with the highest score was "job information" (3.80 ± 0.45) and the lowest one was "problem-solving" (3.52 ± 0.59). The mean and standard deviation score of career outcome expectation was 3.95 ± 0.62. The mean and standard

deviation score of career consciousness maturity was 3.50 ± 0.40; the subscale with the highest score was "preparedness" (3.72 ± 0.62) and the lowest was "purposefulness" (3.09 ± 0.68). The mean and standard deviation score of career preparation behavior was 3.72 ± 0.53, whereas the subscale with the highest score was "information collection behavior" (4.13 ± 0.58). It was followed by "tool preparation behavior" (3.61 ± 0.67) and "Goal achievement behavior" (3.44 ± 0.65). The data are shown in Table 2.

3.3 Difference in Career Preparation Behavior by Subjects' Characteristics

As a result of the difference in career preparation behavior according to the general characteristics of the subjects, we found a significant difference according to the personality (t = 2.52, p = .013), and there were no other significant differences as shown in Table 3.

Table 3. Difference in Career Preparation Behavior by Subjects' Characteristics

Characteristics	Categories	Career Preparation Behavior	
		M±SD	t or F (*p*)
Gender	Male	3.74±0.45	0.21(.836)
	Female	3.71±0.55	
Motivation to apply to department of nursing	Aptitude	3.81±0.56	1.56(.193)
	Employment	3.63±0.52	
	Value	3.72±0.52	
	Grade	3.26±0.68	
	Recommendation	3.94±0.32	
Club activity	Yes	3.80±0.54	1.54(.128)
	No	3.64±0.51	
Average grade	A0, A+	3.82±0.59	0.99(.373)
	B0, B+	3.67±0.52	
	< C	3.84±0.56	
Subjective health status	Good	3.85±0.47	1.30(.278)
	Normal	3.71±0.55	
	Bad	3.51±0.46	
Personality	Extrovert	3.85±0.53	2.52(.013)
	Introvert	3.59±0.50	

3.4 Correlation Among Subjects' Career Decision-Making Self-Efficacy, Career Outcome Expectation, Career Consciousness Maturity, and Career Preparation Behavior

We found career preparation behavior to have a significant correlation with career decision-making self-efficacy (r = .55, p < .001), career outcome expectation (r = .27, p = .009), and career consciousness maturity (r = .52, p < .001) as shown in Table 4.

Table 4. Correlation among subjects' Career Decision-Making Self-Efficacy, Career Outcome Expectation, Career Consciousness Maturity, and Career Preparation Behavior

Variable	Career Decision-Making Self-Efficacy	Career Outcome Expectation	Career Maturity	Consciousness
	r(*p*)			
Career Decision-Making Self Efficacy	1			
Career Outcome Expectation	.35(<.001)	1		
Career Consciousness Maturity	.52(<.001)	.23(.022)	1	
Career Preparation Behavior	.55(<.001)	.27(.009)	.52(<.001)	

3.5 Influencing Factors of Career Preparation Behavior

For the identification of the influencing factors of career preparation behavior, we treated the personality—a characteristic that was related to the significant difference in career preparation behavior—as a dummy variable, and we performed the regression analysis where career decision-making self-efficacy, career outcome expectation, and career consciousness maturity were input as independent variables. The results showed that career decision-making self-efficacy (β = .35, p = .001) and career consciousness maturity (β = .30, p = .003) were statistically significant influencing factors. The explanatory power of the model measured using the adjusted coefficient of determination (R^2) was 37.0%, and the regression model was statistically significant (F = 10.12, p < .001). The multicollinearity test showed that the tolerance limit was higher than 0.1 (.664-.943) and the variance inflation factor (VIF) did not exceed 10 (1.060-1.505), confirming that there was no multicollinearity problem. The Durbin–Watson value was 1.83, indicating that there was no autocorrelation problem (Table 5).

Table 5. Influencing Factors of Career Preparation Behavior

Variables	B	SE	β	t	*p*
(Constant)	.52	.49	-	1.08	.283
Career Consciousness Maturity	.39	.13	.30	3.03	.003
Career Decision-Making Self Efficacy	.45	.13	.35	3.53	.001
Career Outcome Expectation	.06	.08	.07	0.75	.458
Personality (ref. Extrovert)	-.12	.09	-.12	-1.37	.175
Adjusted R^2= .37, F=10.12, *p*<. 001					

4. Discussion

In this study we intended to provide basic data for promoting the level of career preparation behavior in nursing students by identifying the effect of career decision-making self-efficacy, career outcome expectation, and career consciousness maturity on career preparation behavior.

The mean and standard deviation score of career preparation behavior (range 1–5) in nursing students was 3.72 ± 0.53. In a previous study using the same instrument for first- to fourth-year nursing students, the mean and standard deviation score of career preparation behavior was 3.42 ± 0.86, which was lower than in our study (Jung, 2021). Considering that the level of career preparation behavior performance increases as the grade increases (Seo & Lee, 2021), these results seem to be due to the difference between this study (100%) and the previous study (28.8%) in the proportion of fourth-year students among the subjects. In a study that recruited first- to fourth-year general college students, the mean and standard deviation score of career preparation behavior was 3.72 ± 0.60, which was almost identical to that of our study (Shin & Kim, 2017). This is because nursing students decide on their career early, and most of them are employed by hospitals therefore they lack in-depth exploration and consideration about careers compared to non-nursing college students (Park & Chae, 2023). Therefore, it is necessary to help nursing students explore, in addition to hospital employment, various careers in which they can work as nurses, and decide their career path based on sufficient considerations. In our study, the subscale of career preparation behavior with the highest score was "information collection behavior" and the lowest one was "goal achievement behavior," which is identical to the results of a previous study of nursing students (Jung, 2021). This implies that nursing students should spend much time and effort to collect career information and achieve career goals, requiring preparation of specific measures to promote goal achievement activities.

We found career decision-making self-efficacy and career consciousness maturity to be significant factors in the career preparation behavior of the fourth-year nursing students in this study. According to one systematic review and meta-analysis of career preparation behavior in nursing students, career decision-making self-efficacy is the strongest influencing factor of career preparation behavior, supporting the result of our study (Kim et al., 2020). We infer that students with a high level of career decision-making self-efficacy can actively carry out career preparation behavior because they are confident of their ability to decide their own career path and follow it successfully. Our subjects showed the highest score on job information collection and the lowest score on problem-solving. Information collection requires the confidence to explore the conditions for a job in which one is interested, and problem-solving refers to the belief that one can solve a problem faced in a career path (Taylor & Betz, 1983). This means that it is possible for one to search for a career through various paths, but one might lack the confidence to cope with crises or problems therefore it is necessary to seek opportunities for various career experiences. Career decision-making

self-efficacy may be enhanced through the development of programs to experience various indirect experiences in the chosen field, such as career education programs with experts, employment camps, and career exploration counseling programs (Jung, 2021; Kim & Ko, 2020; Park & Park, 2022).

We found career consciousness maturity to be a factor influencing career preparation behavior, which was supported by Lee (2013). Career consciousness maturity is the ability to choose and adapt to a career based on a correct understanding and evaluation of occupational views (Lee & Han, 1998). A high level of career consciousness maturity is likely to lead to a more rigid belief in the chosen career and to a greater possibility of deciding the career according to one's own will (Lee & Han, 1998). The mean and standard deviation score of career consciousness maturity in this study was 3.50 ± 0.40 (range 1–5), similar to that of the previous study (Lee, 2022), which was 3.45 ± 0.56 (range 1–5). In our study, we found that the lowest score among the subfactors of career consciousness maturity was found in "purposefulness," which is the observation of what one seeks in a career choice where self-development and interpersonal aspects are more important than realistic factors (Super, 1980). This result may be explained by the fact that nursing students consider grades and employment rates rather than interests and aptitudes when choosing a department. This implies that it is necessary to explore and prepare for a career through continuous career counseling programs and employment competency programs after admission.

The results for career outcome expectation have been mixed. It was not an influencing factor in our study, as it was in a previous study (Jung, 2021), but it had an indirect influence on career preparation behavior in nursing students in another study (Koo et al., 2017). The mean and standard deviation score of career outcome expectation in this study was 3.95 ± 0.62 (range 1–5), and it was 3.92 ± 0.74 in Jung (2021) using the same instrument, indicating that nursing students had positive thoughts about their career outcomes, which is maybe due to high employment rate and career path determined upon admission (Koo et al., 2017). We did not find career outcome expectation to be a significant influencing factor, but we did observe a significant positive correlation, suggesting the need for reconfirmation through follow-up studies.

5. Conclusion

In this descriptive research study we identified the influencing factors of career preparation behavior in fourth-year nursing students, and we provided basic data for program development to promote career preparation behavior. Identification of career preparation behavior levels and related variables in nursing students is expected to bring about an increase in their job satisfaction, a reduction in turnover rate, and a further improvement in life satisfaction.

Our results showed that career decision-making self-efficacy and career consciousness maturity were significant influencing factors of career preparation behavior in nursing students, explaining 37% of the variance. This suggests the need to develop programs to enhance career decision-making self-efficacy and career consciousness maturity in order to improve the level of career preparation behavior in nursing students. To improve career decision-making self-efficacy, a program should be developed to improve confidence in solving problems by providing opportunities for experience in various careers. In addition, in order to strengthen career consciousness maturity, a career road map for each grade should be constructed, and systematic career counseling and employment capacity enhancement programs should be organized to specifically set the purpose of career choice.

Our study has limitations, and we suggest the following follow-up studies. Repeated studies in other regions and grades are needed since the subjects of this study were from a single university and region, limiting its generalizability. Also, it is important to develop a program and conduct related research considering the variables we identified as significant influencing factors of career preparation behavior.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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