Impact of a career guidance course on the career readiness of nursing students

Jaehee Jeon[1], Jeong Rim Koh[2*]
[1]Department of Nursing, Gangneung-Wonju National University, Wonju, Korea; jhjeon@gwnu.ac.kr (J.J.)
[2]Department of Nursing, Andong Science College, Andong-si, Korea; gjl1331@gmail.com (J.R.K.)

Abstract: This study aimed to confirm the impact of a career guidance course on the career preparation of nursing students. The study used a non-equivalent control group pre-post experimental design. The participants were 57 first-year students from a nursing college in W city, with 28 in the experimental group undergoing a career guidance elective and 29 in the control group not taking the course. Career preparation was assessed in terms of career decision-making level, career preparation behavior, and career decision-making self-efficacy. Data were collected from March to June 2024, with surveys administered before and after the 15-week course. The career guidance program was provided to the experimental group. Data analysis was conducted using SPSS 26.0, including frequencies, percentages, means, standard deviations, paired t-tests, and independent t-tests. The results showed that students who underwent the career guidance course had significant improvements in career decision-making, career preparation behavior, and career decision-making self-efficacy. Comparing the two groups, there were no significant differences in career decision-making, but significant differences were observed in career preparation behavior and career decision-making self-efficacy. Thus, to enhance nursing students' career preparation, it is necessary to develop and implement educational programs within the nursing curriculum that improve career decision-making, career preparation behavior, and self-efficacy. Moreover, it is recommended that such courses be actively developed and expanded to improve career readiness.

Keywords: Career choice, Decision making, Nursing, Self-efficacy students.

1. Introduction

University students must set life goals and determine the direction of their lives as this period is an essential developmental task in adulthood, where making and preparing for career decisions are critical [1]. Especially for nursing students, while they have chosen the nursing profession upon admission, they must prepare for employment by considering various employment environments and directions [2].

Nurses constitute the majority of healthcare professionals and are in close contact with patients, necessitating workforce expansion. Moreover, owing to the extension of the average life expectancy, the expansion of integrated nursing care service wards, the emergence of new infectious diseases, and the increasing variety of patient demands, the need to expand nursing personnel in various fields has become even more pressing [3]. According to the 2022 Health and Medical Personnel Survey by the Ministry of Health and Welfare, the number of licensed nurses as of 2020 was 436,340, an increase of 51.5% compared to the previous year, and the number of nurses per 1,000 people showed an increasing trend [4]. However, the average number of nurses in Korea is still below the OECD's average number of nurses [4]. As of 2020, the inactive nurse workforce accounted for 27.2% of the total number of nurses, with the average age rising from 32.9 years in 2010 to 36.2 years in 2020, indicating the

continuing aging of the workforce in medical institutions [4]. Additionally, the nurse turnover rate was 15.2%, more than three times higher than the overall industrial turnover rate of 4.9% [5] and the turnover rate of newly graduated nurses increased significantly from 33.9% in 2015 to 45.5% in 2019 [6].

Recognizing these issues in clinical settings, the government has continuously increased the number of nursing colleges and enrollment quotas as part of its efforts to increase the number of nurses [7]. Furthermore, to reduce the attrition of new nurses, hospitals have implemented various support programs such as preceptor systems, placement in desired departments, improvement of welfare systems, creation of work environments, and grievance counseling, but their effectiveness has been limited [8]. Career readiness involves enhancing the abilities and characteristics necessary for employment from the time of university admission [9]. These include career problem-solving abilities, career-related knowledge, self-understanding, motivation for career exploration, and career maturity [9]. In this study, career readiness was defined as the career decision-making level, career preparation behavior, and career decision-making self-efficacy.

The career decision-making level refers to the degree of certainty in choosing a career or occupation [10]. Previous studies have shown that the higher the career decision-making level, the greater the ability to select a job that matches one's aptitude and interests [11]. Nursing students are offered various opportunities to choose their careers, making it crucial to enhance their career decision-making levels.

Career preparation behavior refers to practical and specific actions related to career decision-making, including behaviors necessary to make correct career decisions [10] which are important for enhancing self-realization and quality of life [12]. However, although university students are interested in their careers, their ability to set and implement specific plans is low [13]. Especially among nursing students, many choose to enter nursing based on ease of employment or on the recommendations of others rather than on their own aptitude and interests [14]. This vague career choice, without a proper understanding of nursing reflection, can lead to mid-career dropouts or job changes in clinical settings [15]. Therefore, nursing colleges need a detailed roadmap for career preparation behaviors.

Career decision-making self-efficacy refers to the belief that one can successfully perform the tasks required for career-related decision-making [16]. Previous studies on nursing students have shown that higher career decision-making self-efficacy leads to higher self-leadership, major satisfaction, and career preparation behavior [17] as well as positive relationships with social support, career outcome expectations [18] and grit.

Therefore, appropriate career guidance is needed for nursing students. However, most nursing colleges do not offer additional career guidance courses specifically for first-year students. Applying career guidance programs that help students understand and explore their future careers from the first year based on their understanding of themselves can help enhance rational career decision-making self-efficacy and career preparation behavior [19, 20]. In response to this need, G National University developed a career guidance course titled 'Self-Management and Career Planning' for first-year students, which was applied as a major elective course depending on the characteristics of each department. Therefore, in this study, the career guidance course refers to the 1-credit course "Self-Management and Career Planning," which was conducted over 15 weeks as a major elective.

Thus, this study aimed to confirm the differences in career readiness between a group of freshmen in the nursing department of a university who applied for a career guidance course (experimental group) and a group that did not (control group).

2. Research Method
2.1. Research Design
This was a quasi-experimental study with a non-equivalent control group pre-post design to confirm the difference in career readiness between a group of nursing students who underwent the career guidance course and those who did not.

2.2. Participants and Data Collection

The participants in this study were first-year nursing students aged 18 years or older who understood the purpose of the study and voluntarily agreed to participate. The required number of participants was calculated using G*Power 3.1.9.7, assuming an effect size of 0.70, a significance level (α) of 0.05, and a power (1-β) of 0.80 for a t-test. At least 26 participants were required in each group. Considering a 20% dropout rate, 32 participants per group (64 participants in total) were selected.

Students who underwent the elective career guidance course were assigned to the experimental group, whereas those who did not undergo the course were assigned to the control group. Both groups completed a pre-survey before the intervention. The experimental group underwent a structured career guidance program for over 15 weeks, whereas the control group participated in general university activities. A post-test survey was conducted after 15 weeks. The final analysis included data from 29 participants in the experimental group and 28 participants in the control group who responded to the post-survey.

2.3. Research Tools
2.3.1. Career Decision-Making Level

Career decision-making levels were measured using the Career Decision Scale (CDS) developed by Osipow [21] and adapted to Korean cultural contexts by Koh [22]; Osipow, et al. [23] and Koh [22]. The tool consists of 18 items on a 4-point scale, with higher scores indicating a lower state of career decision-making. The reliability (Cronbach's alpha) of the tool was reported as 0.90 in Kang [24] and it was 0.86 in this study.

2.3.2. Career Preparation Behavior

Career preparation behavior was measured using a tool based on the Career Preparation Behavior Scale for college students developed by Kim [10] with two additional items added by Lee [25] and modified by Kang [24] to 18 items Kang [24]. Each item is scored on a 4-point scale, with higher scores indicating greater career preparation behavior. The tool's reliability (Cronbach's alpha) was 0.84 in Kang [24] and it was 0.92 in this study.

2.3.3. Career Decision-Making Self-Efficacy

Career decision-making self-efficacy was measured using a 25-item short-form scale developed by Betz, et al. [26] validated on a 5-point scale for college students by Betz, et al. [26] and adapted by Lee and Lee [27]. The tool consists of 5-point scale items, with higher scores indicating higher levels of career decision-making self-efficacy. The reliability (Cronbach's alpha) was reported to be between 0.68 and 0.79 for different subdomains in Lee and Lee [27] study, and it was 0.93 in this study.

2.4. Data Analysis

The collected data were statistically analyzed using SPSS 26.0. General characteristics, career decision-making levels, career preparation behavior, and career decision-making self-efficacy were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations. The homogeneity of general characteristics and pre-test dependent variables between the experimental and control groups was analyzed using the chi-squared test, Fisher's exact test, and t-tests. Differences in career decision-making levels, career preparation behavior, and career decision-making self-efficacy between the experimental and control groups were analyzed using an independent t-test after confirming a normal distribution using the Kolmogorov–Smirnov test.

2.5. Ethical Considerations

This study was conducted after obtaining approval (GWNUINR-2024-9) from the Institutional Review Board of G University. During study participant recruitment, an announcement was made to the online student community, and those who voluntarily agreed to participate after reading an

explanation about the study's purpose, privacy protection, and right to withdraw at any time were recruited. The participants were informed that they could withdraw from the study at any time if they did not wish to continue participating. Collected data were anonymized. All data related to the study is kept in the researcher's secure folder for three years after data analysis and will then be destroyed by shredding. The participants were given a small gift certificate as compensation and individual career guidance was provided to the control group by the supervisor after the study period.

3. Results

3.1. Characteristics of Participants and Verification of Homogeneity

In this study, there were 57 participants: 29 in the experimental group and 28 in the control group. No statistically significant differences were observed in sex, age, high school major, residence type, socioeconomic status, health status, motivation for choosing a major, or major satisfaction between the experimental and control groups, confirming the homogeneity of the participants before the study was conducted (Table 1).

Table 1.
General characteristics and homogeneity (N=57).

Variables		Experimental group (n=29) n (%)	Control group (n=28) n (%)	χ^2 (p)
Sex	Male	8 (27.6)	4 (14.3)	1.52 (0.331)
	Female	21 (72.4)	24 (85.7)	
Age (years)	<20	22 (75.9)	24 (85.7)	0.89 (0.173)
	≥20	7 (24.1)	4 (14.3)	
	Mean ± SD	20.00±0.65	19.89±0.94	
High school major	Humanities	13 (41.4)	18 (28.6)	2.54 (0.070)
	Science	17 (58.6)	20 (71.4)	
Residence type	Dormitory	14 (48.3)	17 (60.7)	4.99 (0.114)
	Living alone	7 (24.1)	1 (3.6)	
	Living alone	8 (27.6)	10 (35.7)	
Socioeconomic status	High	1 (3.4)	1 (3.6)	2.18 (0.121)
	Middle	22 (75.9)	25 (89.3)	
	Low	6 (20.7)	2 (7.1)	
Health status	Good	12 (41.4)	8 (28.6)	1.59 (0.152)
	Fair	15 (51.7)	19 (67.9)	
	Poor	2 (6.9)	1 (3.6)	
Poor	Aptitude	15 (51.7)	18 (64.3)	3.89 (.051)
	Parental opinion	0 (0.0)	2 (7.1)	
	Employment rat	14 (48.3)	8 (28.6)	
Major satisfaction	Average	7 (24.1)	7 (25.0)	0.01 (0.240)
	Satisfied	22 (75.9)	21 (75.0)	

3.2. Verification of Homogeneity of Dependent Variables

No statistically significant differences were observed in the career decision-making level, career preparation behavior, or career decision-making self-efficacy scores between the experimental and control groups, confirming the homogeneity of the dependent variables between the two groups before the experiment (Table 2).

Table 2.
Homogeneity of dependent variables (N=57).

Variable	Mean ± SD		t	p
	Experimental group (n=29)	Control group (n=28)		
Career decision-making level	2.89±0.51	2.84±0.36	0.39	0.697
Career preparation behavior	2.47±0.66	2.19±0.47	1.84	0.071
Career decision-making self-efficacy	3.78±0.52	3.52±0.49	1.95	0.057

3.3. Difference in Pre- and Post-Test Values of Dependent Variables and Verification of Career Guidance Course Effects

In the experimental group, there were significant increases in the post-test scores compared to the pre-test scores for career decision-making levels (t = -2.59, *p* = .015), career preparation behavior (t = -5.31, *p* < .001), and career decision-making self-efficacy (t = -2.85, *p* = .008). In the control group, there was a significant increase in the post-test scores for career preparation behavior (t = -2.15, *p* = .040), but no significant differences were observed in the pre- and post-test scores for career decision-making levels (t = -0.88, *p* = .386) and career decision-making self-efficacy (t = -0.63, *p* = .535).

To verify the effects of the career guidance course, differences in changes in the pre- and post-test scores between the experimental and control groups were examined. No statistically significant differences were observed in career decision-making levels (t = -1.69, *p* = .097), but significant differences were observed between the two groups regarding career preparation behavior (t = -3.83, *p* < .001) and career decision-making self-efficacy (t = -2.03, *p* = .047) (Table 3).

Table 3.
Pre-post comparison of variables (N=57).

Variable	Group	Mean ± SD			t	p	Between Groups t (p)
		Pre-Test	Post-Test	Difference			
Career decision-making level	Experimental group (n=29)	2.89±0.51	3.11±0.31	-0.22±0.47	-2.59	0.015	-1.69 (0.097)
	Control group (n=28)	2.84±0.36	2.89±0.39	-0.05±0.30	-0.88	0.386	
Career preparation behavior	Experimental group (n=29)	2.47±0.66	3.04±0.37	-0.57±0.58	-5.31	<0.001	-3.83 (<0.001)
	Control group (n=28)	2.19±0.47	2.31±0.52	-0.11±0.28	-2.15	0.040	
Career decision-making self-efficacy	Experimental group (n=29)	3.78±0.52	4.02±0.32	-0.24±0.45	-2.85	0.008	-2.03 (0.047)
	Control group (n=28)	3.52±0.49	3.55±0.55	-0.34±0.29	-0.63	0.535	

4. Discussion

This study aimed to confirm the effects of a career guidance course on nursing students' career decision-making levels, career preparation behavior, and career decision-making self-efficacy.

The study results showed that the career decision-making levels of nursing students who underwent the career guidance course had an average score of 3.11 out of 4 points, which was higher than the average score of 2.89 for students who did not undergo the course. This was higher than the score of 2.68 reported in Ko and Kim [28]. The career decision-making level refers to confidence in future career paths [10] and active information searching regarding career paths is an important factor in enhancing this confidence [29]. In this study, the career guidance course seemed to enhance students' confidence in the career decision-making process by providing them with various types of career-related information and opportunities to explore careers suitable for them. Furthermore, the course appeared to play a critical role in helping students deeply understand their interests, aptitudes, and values and set clear career goals [29]. Therefore, to improve nursing students' career decision-making levels, it is

important to provide opportunities and information for exploration through active support and interaction with instructors in career guidance courses.

Regarding career preparation behavior, the average score of nursing students who underwent the career guidance course was 3.04 out of 5 points, higher than the average score of 2.34 for those who did not undergo the course. This score was higher than the 2.6 reported by Moon and Kim [30] but lower than the 3.30 reported by Ko and Kim [28]. According to Kim [29] high satisfaction with one's major positively affects one's career preparation [29]. This study showed that the nursing students were highly satisfied with their majors. However, unlike the study in Ko and Kim [28] which targeted third and fourth-year nursing students, the participants of this study were first-year students with relatively little concrete experience in clinical practice, which may explain why their career preparation behavior scores were lower. Nevertheless, the higher scores of the students who underwent the career guidance course suggest that the course provided them with opportunities to experience specific and practical situations, which seemed to have enhanced their career preparation behavior. Therefore, it is necessary to strengthen career preparation behavior to prevent turnover and dropout related to job selection [15].

In terms of career decision-making self-efficacy, nursing students who underwent the career guidance course had an average score of 4.02 out of 5 points, higher than 3.55 for those who did not undergo the course. This score was higher than the 3.57 reported by Ko and Kim [28]. Given the nature of nursing majors, students tend to have their careers somewhat determined upon admission, and employment is often prioritized over aptitude considerations [31]. Particularly, first and second-year students may lack confidence in career-related decision-making because of their relatively low problem-solving abilities [28]. In this study, a career guidance course provided opportunities for first-year nursing students to set and plan career goals, resulting in increased career decision-making self-efficacy. Furthermore, as satisfaction with one's major increased, career decision-making self-efficacy increased. Since higher confidence in career abilities leads to higher career decision-making self-efficacy for nursing students [28] it is necessary to reflect on students' needs and enhance career readiness through career guidance courses in the future.

In conclusion, this study confirmed that nursing students who underwent a career guidance course showed significant increases in career decision-making levels, career preparation behavior, and career decision-making self-efficacy compared to before the course. This is consistent with Cho [32] finding that participation in a student career design program increases students' career decision-making levels and self-efficacy [32]. This aligns with the findings of Park and Lee [33] who reported that a career education program improved nursing students' career decision-making self-efficacy [33]. This study confirmed that a career guidance course can enhance nursing students' career preparation behaviors and career decision-making self-efficacy, suggesting the need to develop and apply strategic career guidance programs in nursing education to enhance effective career readiness.

5. Limitations of the Study

One limitation of this study is the composition of the experimental and control groups. The experimental and control groups consisted of students who voluntarily chose the career guidance course and those who did not. Consequently, students who chose the career guidance course may have originally had a higher interest in their careers, higher career preparation behavior, and career decision-making self-efficacy. The pre-test homogeneity results showed p-values of .071 and .057, which were close to being statistically significant, suggesting that there might not be a statistically significant difference between the two groups. Therefore, future research should consider using more rigorous study designs, such as random assignment or controlling for pre-career readiness levels, to create the experimental and control groups.

6. Conclusion

This study aimed to confirm the effects of a career guidance course on nursing students' career decision-making levels, career preparation behavior, and career decision-making self-efficacy. The results showed that nursing students who underwent a career guidance course had significantly higher scores on career decision-making levels, career preparation behavior, and career decision-making self-efficacy after the course. Additionally, nursing students who underwent the career guidance course had higher scores on career preparation behaviors and career decision-making self-efficacy than those who did not undergo the course. Therefore, it is essential to develop and implement educational programs that can enhance career decision-making levels, career preparation behavior, and career decision-making self-efficacy within the nursing curriculum to improve nursing students' career readiness. These educational programs are expected to improve the quality of nursing care, reduce turnover rates, and enhance adaptability in clinical settings.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

References

[1]   E. Park, "The influence of fathering style on career search self-efficacy and attachment of university students," *The Korean Journal of East West Science*, vol. 11, no. 1, pp. 47-64, 2008.

[2]   Y.-J. Kim, "Influence of grit, career decision-making self-efficacy, career preparation behavior on job-seeking stress of nursing students," *Journal of Korea Entertainment Industry Association*, vol. 15, no. 7, pp. 193-204, 2021. https://doi.org/10.21184/jkeia.2021.10.15.7.193

[3]   National Health Insurance Corporation, "National Health Insurance will be with the people through communication and consideration," Retrieved: www.nhis.or.kr, 2022.

[4]   Ministry of Health and Welfare, "Health and medical personnel survey," Retrieved: https://www.prism.go.kr/homepage/entire/researchDetail.do?researchId=1351000-202200328, 2022.

[5]   Health and Medical Industry Labor, "Health and medical industry labor," Retrieved: https://bogunnodongorg/xe/khmwu_54/543250, 2022.

[6]   Hospital Nurses Association, "Survey on the status of hospital nursing staff placement," Retrieved: http://wwwkhnaorkr/web/information/resourceph, 2020.

[7]   M.-S. Kim, "The analysis of nursing students' work value, career attitude maturity influence on employment preparation behavior," *Journal of the Korea Academia-Industrial Cooperation Society*, vol. 20, no. 11, pp. 96-105, 2019. https://doi.org/10.5762/KAIS.2019.20.11.96

[8]   J. H. Lee, H. R. Noh, and J. Y. Park, "Predictive factors of turnover intention in new nurses," *Journal of Muscle and Joint Health*, vol. 27, no. 1, pp. 50-60, 2020. https://doi.org/10.5953/JMJH.2020.27.1.50

[9]   W. Camara, "Defining and measuring college and career readiness: A validation framework," *Educational Measurement: Issues and Practice*, vol. 32, no. 4, pp. 16-27, 2013. https://doi.org/10.1111/emip.12016

[10]   B. W. Kim, "Career decision level and career preparation behavior of the college students," *Korean Journal of Counseling and Psychology*, vol. 9, no. 1, pp. 311-333, 1997.

[11]   H. Hwang and J. Paek, "Effects of self-identity and social support on the leve of career decisions: the mediating effect of career decision-making self-efficacy," *Journal of Secretarial Science*, vol. 24, no. 1, pp. 99-122, 2015. https://doi.org/10.32727/JSS.2015.24.1.99

[12]   Korea Research Institute for Vocational Education and Training, "Research results KRIVET Report," Retrieved: https://www.krivet.re.kr/kor/index.do, 2021.

[13]   Y. Noh and C. Jyung, "The structural relationship among career adaptability, proactive personality, career exploration behavior, and career decision-making self-efficacy of undergraduate students," *Journal of Agricultural Education and Human Resource Development*, vol. 48, no. 2, pp. 55-81, 2016.

[14] Y. M. Jung, "Educational needs analysis for developing an occupational education program for nursing students: Focusing on nursing students and nursing professionals," *Korean Journal of Adult Nursing*, vol. 30, no. 2, p. 136, 2018. https://doi.org/10.7475/kjan.2018.30.2.136

[15] K.-H. Kim, "Influence of personality traits, social support, and career decision self-efficacy on career preparation behavior in nursing college students," *The Journal of the Korea Contents Association*, vol. 18, no. 3, pp. 399-408, 2018. https://doi.org/10.5392/JKCA.2018.18.03.399

[16] K. M. Taylor and N. E. Betz, "Applications of self-efficacy theory to the understanding and treatment of career indecision," *Journal of Vocational Behavior*, vol. 22, no. 1, pp. 63-81, 1983. https://doi.org/10.1016/0001-8791(83)90006-4

[17] M. Kim, "The structural relationships among nursing student's major satisfaction, self-leadership, nursing professionalism, career decision-making self-efficacy, and career preparation behavior," Pukyong National University Doctoral Dissertation, Busan, 2021.

[18] Y. J. Jeong, "Relationship between social support and career preparation behavior in nursing students: Mediating effects of career decision-making self-efficacy and career outcome expectation," *Journal of Learner-Centered Curriculum and Instruction*, vol. 21, no. 6, pp. 735-748, 2021. https://doi.org/10.22251/jlcci.2021.21.16.735

[19] I. O. Moon and H. S. Kim, "The effect of career search programs on career search efficacy, career search behavior and career decision making in nursing students," *The Journal of Korean Academic Society of Nursing Education*, vol. 18, no. 3, pp. 393-402, 2012. https://doi.org/10.12799/jkasne.2012.18.3.393

[20] J.-H. Yang and A.-S. Park, "Impact of emotional labor on the turnover intention of medical technology workers in general hospital," *International Journal of Advanced Nursing Education and Research*, vol. 4, no. 2, pp. 13-18, 2019. https://doi.org/10.21742/IJANER.2019.4.2.03

[21] S. H. Osipow, "The career decision scale," *Journal of Vocational Behavior*, vol. 16, no. 1, pp. 1-21, 1980. https://doi.org/10.1016/0001-8791(80)90029-4

[22] H. Koh, "A study on the effect of career counseling on Korean college students' decision making styles and on career decision making status ", Dissertation. Sookmyung Women's University Graduate School, 1993.

[23] S. H. Osipow, C. G. Carney, J. Winter, B. Yanico, and M. Koschier, *The career decision scale*, 3rd ed. Columbus, OH: Marsthon Cousulting and Press, 1976.

[24] J. Kang, "The influence of career barrier, psychological separation and career decision-making self-efficacy on career decision level and career preparation behavior: Comparison between the 4-year female college students and the 2-year female college students," Master's Thesis. The Graduate School of Sookmyung Women's University, 2008.

[25] M. Lee, *Analysis of relationship among career self-efficacy, career barriers perception, and career preparation behavior of college students*. Jeonju: CheonbukUniversity, 2003.

[26] N. E. Betz, K. L. Klein, and K. M. Taylor, "Evaluation of a career decision-making model with a sample of high school students," *Journal of Vocational Behavior*, vol. 49, no. 3, pp. 281-290, 1996. https://doi.org/10.1006/jvbe.1996.0030

[27] K.-H. Lee and H.-J. Lee, "The effects of career self-efficacy in predicting the level of career attitude maturity of college students," *The Korean Journal of Counseling and Psychotherapy*, vol. 12, no. 1, pp. 127-136, 2000.

[28] Y.-J. Ko and N. Kim, "Effect of career decision-making self-efficacy on career preparation behaviors mediated by career decision level," *Journal of Digital Convergence*, vol. 18, no. 4, pp. 301-308, 2020. https://doi.org/10.14400/JDC.2020.18.4.301

[29] S.-O. Kim, "The relationship among self-efficacy, career decision making types and career decision level of nursing students," *The Journal of Korean Academic Society of Nursing Education*, vol. 22, no. 2, pp. 210-219, 2016. https://doi.org/10.12799/jkasne.2016.22.2.210

[30] M. Moon and S. Kim, "The mediating effect of self-leadership in the relationship between career decision level and career preparation behavior of nursing students," *Journal of Health Informatics and Statistics*, vol. 42, no. 2, pp. 162-169, 2017. https://doi.org/10.21032/jhis.2017.42.2.162

[31] H. J. Son, K. E. Lee, and N. S. Kim, "Affecting factors on academic resilience of nursing students," *International Journal of u-and e-Service, Science and Technology*, vol. 8, no. 11, pp. 231-240, 2015. https://doi.org/10.14257/ijunnesst.2015.8.11.23

[32] E. J. Cho, "Changes of career decision making self-efficacy, career decision level and career resilience of nursing students undertaking individual career plan program," *The Korean Data & Information Science Society*, vol. 31, no. 1, pp. 85-96, 2020. https://doi.org/10.7465/jkdi.2020.31.1.85

[33] H.-M. Park and H.-S. Lee, "The effects of career education program on career self-efficacy, career adaptability and career stress for nursing students," *The Journal of the Korea Contents Association*, vol. 15, no. 8, pp. 304-312, 2015. https://doi.org/10.5392/JKCA.2015.15.8.304