

ORIGINAL ARTICLE

Nursing students' career identity, satisfaction with major, and career stress by career decision type

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Abstract

Aim: This study aimed to understand the career decision types of nursing college students and accordingly identify their career identity, satisfaction with major, and career stress.

Methods: Convenience sampling was used to recruit nursing students ($N = 220$) attending the same college in Korea. Data were collected from May 1 to May 30, 2017. General characteristics included sex, grade, religion, extracurricular activities, and motive for their nursing major choice. The instruments included career decision type, career identity, satisfaction with major, and career stress.

Results: Total cases of clusters showed 79 (39.5%) individuals in the undecided-uncomfortable type, 75 (37.5%) in decided-comfortable, 32 (16.0%) in undecided-comfortable, and 14 (7.0%) in decided-uncomfortable. The results indicated statistically significant differences in grade ($P = .001$), religion ($P = .040$), nursing major selection motive ($P = .030$), career identity ($P < .001$), satisfaction with major ($P < .001$), and career stress ($P < .001$) by career decision type.

Conclusions: Customized career education programs should be provided to nursing students to improve their career identity and satisfaction with major, while lowering career stress, considering career decision-comfort and decidedness, along with the reasons why some students find career decisions emotionally uncomfortable.

KEYWORDS

career choice, career counseling, job satisfaction, nursing

1 | INTRODUCTION

Job value confusion leading to uncertainty on career decisions leads to passive career-seeking activities (Bullock-Yowell, McConnell, & Schedin, 2014). Normally, nursing college students have a career path in mind as they enter college. However, as many students choose nursing because this field provides a quick pathway to employment, some students face difficulties in adapting to their major, and in career decision-making. Students who choose nursing due to the possibility of employment or recommendation from

parents and peers are found to have higher dissatisfaction with their major (Park & Han, 2017).

If students graduate and engage in nursing work before developing a sense of identity as a nurse, they might have low job satisfaction and high turnover intention (Kader, Bacaksiz, & Baykal, 2017). This may be caused by lack of self-confidence about their own job as a nurse, which may lead to high turnover for nurses (Jung, Jeong, & Yoo, 2014). The career identity of nursing students is related to factors such as career decision, satisfaction with their major, satisfaction with practicum, and the first desired job after

graduation; the formation of career identity during college years provides the foundation for a stable nursing career (Jung et al., 2014; Kim, 2012). Normally, establishing career identity by linking their educational experience to their future career acts as a main factor that aids in nursing students' adaptation to school and improves their satisfaction with their major. This connection between academic experience and career is critical for nursing students to set and develop a career roadmap for themselves (Repetto & Andrews, 2012). Moreover, factors such as poor support for career information, low levels of career decision-making, and lack of career education, make career decisions difficult for nursing students (Xia, Jialin, & Mengjie, 2015).

Career stress is defined as stress from the process of developing and determining one's career path; it negatively affects college life adaptation and interpersonal relationships (Park & Han, 2017). The career decision-making process is not completed instantly but instead over time, through obtaining information about one's career and developing an objective understanding of one's own aptitudes and abilities as well as appropriate use of career information. The emotional and psychological conflict that occurs during the career decision-making process destroys individual equilibrium and causes tension and anxiety. In such stressful situations, an accurate perception of one's abilities and positive emotions help the individual's cognitive function that solves the immediate problem in stressful situations (Hwang & Ko, 2015).

The need for career education for nursing students continues to increase; however, there is a lack of customized career education programs for nursing students' individual characteristics based on the identification of the career decision type and the level of career development. Career-related studies on nursing in Korea include the effect of career education on the career development of nursing students (Park, 2012); satisfaction with their major, career decision autonomy, and career search behavior (Lee & Kim, 2017); relationship between self-efficacy, career decision type, and level of career decision-making in nursing students (Kim & Kim, 2016); and factors influencing the career identity of nursing students (Kwon & Choi, 2010). These studies are usually cross-sectional studies on the level of recognition of factors influencing career perception and career development; some studies have conducted experiential research on career development programs. Recently, there has been research in fields other than nursing for students who have, and have not, made career decisions, for comprehensive and accurate diagnosis and treatment for the various stages of career paths that college students may find themselves (Choi, 2010; Gao, 2008; Kim & Kim, 2016). Existing studies have identified the career decision types of college students, specifically classifying homogeneous sub-groups,

identifying the characteristics of each type, and providing intervention and counseling for college students depending on the status of their career perceptions. Dissatisfaction or negative emotions related to career decisions can reduce nursing students' career identities and satisfaction with majors and increase career stress. Therefore, it is important that career education enhances individual problem-solving skills and develops positive emotions about career decision status in nurses.

This study aimed to understand the career decision types of nursing college students, and accordingly identify their career identity, satisfaction with their major, and career stress. The career decision types were classified by career decision-comfort and decidedness. The specific aims are as follows:

- identify the career decision types of nursing students
- understand the general characteristics of nursing college students according to their career decision type
- understand the relationship between career identity, satisfaction with their major, and career stress of nursing students
- identify career identity, satisfaction with their major, and career stress according to the career decision type of nursing students.

2 | METHODS

2.1 | Study design and participants

This study used a descriptive cross-sectional design. The participants understood the purpose of the study and agreed to participate voluntarily, and they were sampled using convenience sampling from nursing students attending a college in Korea. The appropriateness of the sample size was calculated using G* power 3.1.9.2 program, and the number of subjects required for the one-way analysis of variance (ANOVA) was calculated using the criteria of significance level of .05, power of $1 - \beta = .80$, median effect size of 0.25, and four groups. The calculation yielded a minimum sample size of 180 subjects; the 200 subjects of this study thus met the criteria for recommended sample size (Kang, Yeon, & Han, 2015).

2.2 | Data collection

Data were collected from May 1 to May 30, 2017. The survey took about 15–20 min, and after data collection, a small gift voucher was provided. Questionnaires were distributed to 220 individuals, of whom 206 completed them. For the final analysis, data from 200 subjects were used.

2.3 | Instruments

A personal information form was prepared by the researchers, focusing on career decision type, career identity, satisfaction with major, and career stress.

2.3.1 | Personal information form

The personal information form was composed of five questions addressing the demographic information of participants (sex, grade, religion, extracurricular activities, nursing major selection motive).

2.3.2 | Career decision type

Career decision type was measured using the Career Decision Profile (CDP) developed by Jones (1989) and modified into a four-point scale by Gao (2008). The original version of the CDP consists of items regarding decision (two items), comfort (two items), and causes of indecision (12 items); however, this study only used the four items related to decision and comfort. Each item is measured on a four-point Likert scale ranging from 1 ("Not at all") to 4 ("Agree strongly"), and a higher score indicates higher levels of decision and comfort. Cronbach's α in the previous study was 0.79 for decision and 0.81 for comfort (Gao, 2008). In this study, Cronbach's α was 0.76 for decision and 0.85 for comfort.

2.3.3 | Career identity

Career identity was measured using the My Vocational Situation scale developed by Holland, Daiger, and Power (1980), which was modified and validated by Kim and Kim (1997) to fit the Korean culture. It consists of 18 items, and each item is inversely scored; a higher total score indicates a higher level of career identity. Each item is measured on a four-point Likert scale ranging from 1 ("Not at all") to 4 ("Agree strongly"), with higher scores indicating a clearer vision of one's own goals, interests, character, and competence. The Cronbach's α in the previous study was 0.89 (Kim & Kim, 1997), and in this study, it was 0.90.

2.3.4 | Satisfaction with major

Satisfaction with major was measured using the tool developed by Kim and Ha (2000) that assesses college students' major satisfaction. It consists of 18 items, including six items on general satisfaction, six items on recognition satisfaction, three items on subject satisfaction, and three items on teacher–student relationship. Each item was measured on a five-point Likert-type scale ranging from 1 ("Not at all") to 5 ("Agree strongly"), with higher scores indicating higher

satisfaction with their major. Cronbach's α in the previous study was 0.92 (Kim & Ha, 2000) and 0.89 in this study.

2.3.5 | Career stress

Career stress was measured using a tool originally developed to measure employment stress for college students by Hwang (1998) and modified by Park and Park (2009). It consists of 11 items, including concerns about career paths, questions about career decisions, and frustration about preparing for employment. Each item is measured on a five-point Likert-type scale ranging from 1 ("Not at all") to 5 ("Strongly agree"). A higher score indicates higher career stress. Cronbach's α was 0.85 in the previous study (Park & Park, 2009), and 0.84 in this study.

2.4 | Ethical considerations

This study was approved by the author's university ethics review board. The participants were told that they could withdraw their consent at any time if they did not want to participate. It was also explained that the collected data would be anonymous, discarded after completion of the study, and not be used for other purposes.

2.5 | Data analysis

Data were analyzed using the IBM SPSS statistics program (v. 24.0; IBM Corporation, Armonk, NY, USA), using a significance level of $P < .05$. Descriptive statistics were used to analyze demographic characteristics of subjects and measurement variables, and the reliability of each measurement tool was tested using Cronbach's α coefficient. The K-means cluster analysis method was used to identify the career decision types of nursing students.

First, the study looked at the distance between the clusters to examine the similarities and differences between the four career decision types presented by Jones (1989). Then, we conducted an ANOVA to identify the contribution of the four items related to decision and comfort to cluster identification. Second, after analyzing the career decision types of nursing students based on groups related to comfort and decision, one-way ANOVA and post-hoc analysis (Scheffé) were conducted to examine the mean differences between type clusters. Career decision types were classified into four type clusters based on two axes of decision and comfort and were assigned cluster names. Third, Chi-squared (χ^2) test, Fisher exact test, one-way ANOVA, and post-hoc analysis were conducted to examine the general characteristics and the differences in research variables according to four career decision types derived from the cluster analysis. Fourth, Pearson's correlation coefficient was used to analyze the

relationship between satisfaction with major, career identity, and career stress.

3 | RESULTS

3.1 | Demographic characteristics

The demographic characteristics of the participants are presented in Table 1. A total of 93% of participants were female. Regarding participant grade (year of university), 25% were found to be in the first, 25% in second, 26% in third, and 24% in fourth grade. A total of 57.1% of participants reported having no religion, 59.3% had no extracurricular activities, and 44.0% had selected a nursing major due to employment rate.

3.2 | Career decision types from K-means cluster analysis

3.2.1 | Final cluster means

This study used decision and comfort factors to engage in K-means cluster analysis; the final cluster means were the highest for cluster 3 at 13, followed by cluster 4 at 12, cluster 1 at 10, and cluster 2 at 9.

3.2.2 | Distance between the final cluster means

The distances between the final clusters were 1.64 between clusters 1 and 2, then 2.27 between clusters 1 and 3, and 1.66 between clusters 1 and 4. Moreover, the distance between clusters 2 and 3 was 1.92, then 2.66 between clusters 2 and 4, and 1.82 between clusters 3 and 4. As such, clusters 2 and 4 had the largest distance between them at 2.66, and clusters 1 and 2 were the closest at 1.64.

3.2.3 | Analysis of cluster variance

This study examined the level of contribution of the four variables forming clusters on cluster discrimination using ANOVA; the results are shown in Table 2. Decision and comfort in the career decision types were found to be statistically significant, and it was determined that the four items of decision and comfort were significant variables in cluster classification.

3.2.4 | Difference between clusters according to decision and comfort

The career decision types of nursing students were clustered using decision and comfort, and one-way ANOVA and post-hoc test were completed to analyze the differences in means

of the type-specific clusters. The results are shown in Table 3. Both decision and comfort were statistically significant ($F = 97.01, P < .001$; $F = 157.51, P < .001$). The mean scores for the decision factor were in the order cluster 4, cluster 3, cluster 1, and cluster 2. The mean values for comfort were in the order cluster 3, cluster 2, cluster 4, and cluster 1.

Based on these results, the clusters were named as follows: cluster 1 was undecided-uncomfortable, cluster 2 was undecided-comfortable, cluster 3 was decided-comfortable, and cluster 4 was decided-uncomfortable. Table 3 shows the results of the analysis of total clusters using decision and comfort.

3.3 | Differences in demographic characteristics by career decision type

There were statistically significant differences in grade ($\chi^2 = 29.53, P = .001$), religion ($\chi^2 = 17.59, P = .040$), and nursing major selection motive ($\chi^2 = 26.81, P = .030$) (Table 1).

3.4 | Correlation between career identity, satisfaction with major, and career stress

Career identity was positively correlated with satisfaction with major ($r = .38, P < .001$) and negatively correlated with career stress ($r = -.77, P < .001$) (Table 4). Moreover, satisfaction with major showed a negative correlation with career stress ($r = -.37, P < .001$). In other words, higher career identity was related to higher satisfaction with major and lower career stress; higher satisfaction with major was related to lower career stress.

3.5 | Differences in career identity, satisfaction with major, and career stress by career decision type

There were statistically significant differences in career identity ($F = 26.13, P < .001$), satisfaction with major ($F = 8.10, P < .001$), and career stress ($F = 24.28, P < .001$) (Table 5). A post-hoc test was conducted to analyze the differences between groups, and the results showed that the mean value of career identity was higher for the decided-comfortable and decided-uncomfortable types compared to the undecided-uncomfortable and undecided-comfortable types. The mean values of satisfaction with major was higher for the decided-comfortable type compared to the undecided-comfortable type. Moreover, the undecided-uncomfortable and undecided-comfortable types had higher career stress compared to the decided-comfortable type, and undecided-uncomfortable type had a higher mean value compared to the decided-uncomfortable type.

TABLE 1 Differences in general characteristics by career decision type

Variable	Category	Undecided-uncomfortable <i>n</i> (%)	Undecided-comfortable <i>n</i> (%)	Decided-uncomfortable <i>n</i> (%)	Decided-comfortable <i>n</i> (%)	Total <i>n</i> (%)	χ^2 (<i>P</i>)
Sex	Male	4 (5.1)	3 (9.4)	6 (8.0)	1 (7.1)	14 (7.0)	0.84 ^a (.838)
	Female	75 (94.9)	29 (90.6)	69 (92.0)	13 (92.9)	186 (93.0)	
Grade	1st	12 (15.2)	13 (40.6)	22 (29.3)	3 (21.4)	50 (25.0)	29.53 ^a (<.001)
	2nd	22 (27.8)	13 (40.6)	14 (18.7)	1 (7.1)	50 (25.0)	
	3rd	19 (24.1)	5 (15.6)	25 (33.3)	3 (21.4)	52 (26.0)	
	4th	26 (32.9)	1 (3.1)	14 (18.7)	7 (50.0)	48 (24.0)	
Religion	Protestant	17 (21.5)	4 (12.5)	14 (18.9)	1 (7.7)	36 (18.2)	17.59 ^a (.040)
	Catholic	2 (2.5)	0 (0.0)	9 (12.2)	2 (15.4)	13 (6.6)	
	Buddhist	12 (15.2)	4 (12.5)	18 (24.3)	2 (15.4)	36 (18.2)	
	None	48 (60.8)	24 (75.0)	33 (44.6)	8 (61.5)	113 (57.1)	
Extracurricular activities	Yes	46 (58.2)	24 (75.0)	41 (55.4)	7 (50.0)	118 (59.3)	4.27 (.234)
	No	33 (41.8)	8 (25.0)	33 (44.6)	7 (50.0)	81 (40.7)	
Nursing major selection motive	High school grades	2 (2.5)	2 (6.3)	6 (8.0)	0 (0.0)	10 (5.0)	26.81 ^a (.030)
	Aptitude and preference	19 (24.1)	6 (18.8)	34 (45.3)	6 (42.9)	65 (32.5)	
	Employment rate	36 (45.6)	21 (65.6)	24 (32.0)	7 (50.0)	88 (44.0)	
	Parents or surrounding person's recommendation	17 (21.5)	3 (9.4)	9 (12.0)	0 (0.0)	29 (14.5)	
	Opportunity to go abroad	2 (2.5)	0 (0.0)	1 (1.3)	0 (0.0)	3 (1.5)	
	Other	3 (3.8)	0 (0.0)	1 (1.3)	1 (7.1)	5 (2.5)	

^aFisher exact test.

TABLE 2 Analysis of variance on cluster analysis

Career decision type		Cluster		Error		F (P)
		Mean square	Degree of freedom	Mean square	Degree of freedom	
Decision	Item 1	14.20	3	.25	196	54.85 (<.001)
	Item 2	16.91	3	.23	196	71.67 (<.001)
Comfort	Item 3	32.39	3	.26	196	120.23 (<.001)
	Item 4	29.96	3	.31	196	95.32 (<.001)

Item	Cluster	n (%)	Mean (SD)	F (P)	Scheffé
Decision	Cluster 1 ^a	79 (39.5)	2.92 .35	97.01 (<.001)	d > c > a > b
	Cluster 2 ^b	32 (16.0)	2.20 .37		
	Cluster 3 ^c	75 (37.5)	3.40 .45		
	Cluster 4 ^d	14 (7.0)	4.00 .34		
	Total	200 (100.0)	3.06 .62		
Comfort	Cluster 1 ^a	79 (39.5)	1.63 .44	157.51 (<.001)	c > b > d > a
	Cluster 2 ^b	32 (16.0)	2.53 .40		
	Cluster 3 ^c	75 (37.5)	3.16 .45		
	Cluster 4 ^d	14 (7.0)	2.04 .41		
	Total	200 (100.0)	2.38 .81		

TABLE 3 Difference in decision and comfort by cluster

4 | DISCUSSION

In this study, a cluster analysis of the career decision types of nursing students was conducted using the CDP of Jones (1989) and the decidedness and comfort factors; the distribution of students was as follows: undecided-uncomfortable, 39.5%; decided-comfortable, 37.5%; undecided-comfortable, 16.0%; and decided-uncomfortable, 7.0%. It is difficult to compare these results directly with previous research, as there are no studies examining career decision types for nursing students. However, there can be seen differences on career decision types compared to students with other majors, in which the decided-uncomfortable type ranged between 40.9 and 53.0% (Choi, 2010; Kim, Gao, & Kim, 2013; Kim & Kim, 2016), and the decided-comfortable type was reported at 42.5% (Jones, 1989). Normally, nursing students are assumed to be employed in hospitals from the time they enter college and are expected to have an easier career decision-making process compared to students with other majors (Park, 2014; Zhongmei, Jinsha, & Bin, 2015). However, 43.5% of the study subjects had not made a career decision, representing less than half of the total subjects. Moreover, 46.5% of the students perceived their present status to be uncomfortable, regardless of whether they had made a career decision or not. This indicates that their nursing identity has not yet been established, and that those who had made their career decision could be emotionally

immature. Therefore, this study supports the previous research results showing a low level of decision-making maturity among those who make career decisions at the college stage (Choi, 2010; Gao, 2008). When those who have made career decisions have an unclear professional concept of self, they tend to experience discomfort in their career decisions (Kim et al., 2013), and they experience discomfort in the state of their career decisions when their careers are decided without sufficient research. Typically, the decided-uncomfortable type has a lower level of career decision-making autonomy compared to the decided-comfortable type; that is, the decided-uncomfortable type is more likely to decide their career based on external factors instead of internal motives (Wang et al., 2018). With the rapid rise of nursing students in the past decade, it was found that a large proportion of nursing students choose nursing not because of individual aptitudes and interests, but instead due to employment potential or active persuasion by their parents

TABLE 4 Correlations between career identity, satisfaction with major, and career stress

	Career identity <i>r</i> (P)	Satisfaction with major <i>r</i> (P)
Satisfaction with major	0.38 (<.001)	
Career stress	−0.77 (<.001)	−0.37 (<.001)

TABLE 5 Differences in career identity, satisfaction with major, and career stress by career decision type

Variable	Career decision type	n	Mean (SD)	F (P)	Scheffé
Career identity	Undecided-uncomfortable ^a	79	3.36 (.40)	26.13 (<.001)	c,d > a,b
	Undecided-comfortable ^b	32	3.38 (.36)		
	Decided-comfortable ^c	75	3.95 (.49)		
	Decided-uncomfortable ^d	14	3.79 (.58)		
	Total	200	3.61 (.52)		
Satisfaction with major	Undecided-uncomfortable ^a	79	3.82 (.42)	8.10 (<.001)	c > b
	Undecided-comfortable ^b	32	3.79 (.38)		
	Decided-comfortable ^c	75	4.13 (.48)		
	Decided-uncomfortable ^d	14	4.07 (.48)		
	Total	200	3.95 (.47)		
Career stress	Undecided-uncomfortable ^a	79	3.29 (.51)	24.28 (<.001)	a,b > c a > d
	Undecided-comfortable ^b	32	3.10 (.44)		
	Decided-comfortable ^c	75	2.55 (.62)		
	Decided-uncomfortable ^d	14	2.79 (.59)		
	Total	200	2.95 (.64)		

(Ko & Kim, 2011; Park & Han, 2017). In this study, the proportion of subjects choosing nursing due to aptitude and preference was 32.5%, while those doing so due to employment rate and due to recommendations from their parents and other surrounding people were 44.0 and 14.5%, respectively. This appears to reflect the uncertain state of career direction, as they entered school without considering their aptitudes and interests in the career selection process. Therefore, it appears important to provide individual career counseling to lower-grade nursing students who have not yet decided their career path.

Among the nursing students who answered that they had already decided on their career path, 7% of the total subjects responded that their decision was causing them discomfort. Comfort here refers to the degree to which one is comfortable with career progress decisions or future career decisions (Hwang & Ko, 2015). This indicates that emotional comfort on one's career does not simply change based on making career decisions, but instead that this emotional state is influenced by individual emotions such as own attitude/perception toward the career (Kim & Kim, 2016). This study indicated that even if some nursing students have made their career choices, some fall under the “concerned decider” type from a psychological standpoint, indicating that customized career counseling reflecting the individual emotional state is necessary. Future studies should explore the characteristics and types of nursing students with psychological discomfort around their career choice, as well as factors influencing comfort.

In this study, the differences in general characteristics according to career decision types indicated significant

differences in terms of grade, religion, and nursing major selection motive. In particular, regarding career decision type according to grade, the undecided-uncomfortable and decided-uncomfortable types were the highest in the fourth grade. The undecided-comfortable type had the highest proportion in first and second grades, and the decided-comfortable type was the highest for third grade. These findings show some differences with existing literature that has reported that the undecided-uncomfortable type was highest in first and fourth grades, decided-uncomfortable type was led by third grade, and decided-comfortable type was led by fourth grade (Choi, 2010). One notable aspect of this study was that students in the fourth grade had a high degree of discomfort regardless of whether career decisions were made, and the undecided-comfortable type was high in first and second grades. This appears to be due to students in the fourth grade experiencing the burden and stress of employment irrespective of their career decisions and recognizing their emotional state to be that of discomfort. Moreover, more than half of the first and second grades were of the undecided type, indicating that career exploration and aptitude development education need to be provided beginning from a lower grade. In terms of nursing major selection motive, 45.6% of the undecided-uncomfortable type cited employment rate after graduation and 45.3% of the decision-comfort type cited aptitude and preference. These results are similar to those of existing studies that indicate that students choosing their nursing major from aptitude and interest had higher career identity (Jung et al., 2014; Kim, 2012), and suggest that students with high self-belief and motive have

higher satisfaction with their major and their task confidence.

In this study, when career identity was high, satisfaction with major was high, while career stress was low. Moreover, higher career stress was related with low career identity. These results were similar to those of studies that have reported a positive correlation between career identity and satisfaction with major in nursing students (Jung et al., 2014; Kim, 2012), and high satisfaction with major being associated with low career stress (Jung & Yang, 2013). As such, to improve career identity and satisfaction with their major and to reduce career stress in nursing students, it is important for the school and the nursing departments to increase communication on learning methods for the field of nursing, and to provide continued advice from guiding professors and from seniors and alumni working in various clinical fields.

This study has classified career decision types into two dimensions, decision and comfort, in order to observe the differences in characteristics among types, and has concluded that there were statistically significant differences in career identity, career stress, and satisfaction with major. The decided-comfortable type had the highest levels of career identity and satisfaction with major and the lowest career stress; moreover, the undecided-uncomfortable type had the highest career stress and lowest career identity and the undecided-comfortable type had the lowest satisfaction with major. These results are similar to those of studies that have reported that undecided types have high anxiety, while types with determined careers have higher career identity and lower career stress and anxiety (Choi, 2010; Kim et al., 2013), as well as to those of a study that has reported that the decision-comfort type has the highest level of career identity and career preparation activities (Kim & Kim, 2016). The rational, mature career decision-maker acquires career information through various career preparation activities, determines his/her career based on such information, and acquires comfort as a result (Kaur, 2016; Kim & Kim, 2016). Therefore, career-related courses should be established and career exploration programs should be added to curricula and outside them to help nursing students engage in rational career decisions and career preparation activities; the effects and changes to grade-specific career development from such efforts should be tracked over the long term. Moreover, groups with determined careers are not homogeneous, and some individuals may experience discomfort with their career decision or may not actively prepare for their career (Angelo, Claudia, Helga, & Alvisa, 2013). This is because the group that has made their career decision do not share the same psychological characteristics, and complex individual factors such as perception, emotion, and attitude are relevant to most career issues. In other

words, in career-related cognition the emotions and actions experienced by the individual are interpreted, and such interpretation then impacts the individual emotions or actions again (Lee, Choi, & Park, 2002). Therefore, the dysfunctional cognition and ways of thinking of nursing students cause confusion in the career decision-making process, which then leads to negative emotions such as depression and anxiety; thus, it is paramount to specifically identify the emotional state of nursing students and the influential factors for career decision-making when providing career counseling to nursing students.

The results of this study indicate that it is necessary to search for methods to improve career identity and satisfaction with major as well as to reduce career stress depending on specific career decision type; it is important to set aside a period of time for self-exploration and self-understanding to enhance one's own character and aptitudes, beginning at lower grades. Moreover, students should be provided with specific information on clinical nursing and nursing career paths as well as mentoring through regular meetings with alumni working in various fields during career education, instead of merely simple information such as specific hospital introductions and working conditions.

5 | LIMITATIONS OF THE STUDY

This study has some limitations. It cannot be generalized to all nursing students, as it was a cross-sectional survey research with subjects collected from a single college using convenience sampling. Moreover, career decision was investigated using two factors, decision and comfort, thus presenting limitations to understanding the emotional and cognitive difficulties in the career decision-making process, factors behind such difficulties, and coping mechanisms. In addition, 93% of the subjects were female, rendering it difficult to compare career decision types according to gender. Despite these limitations, this study is academically significant, as it has classified career decision types and examined career development methods for these types, providing basic data for customized career education program development, even though there is a lack of similar studies.

6 | CONCLUSIONS

In this study, the decided-comfortable type had the highest mean scores for satisfaction with major and career identity, and the undecided-uncomfortable type had the highest mean scores for career stress. It should be possible to increase career identity and satisfaction with major while lowering career stress by developing customized career education programs for nursing students, using the findings of this study

as well as career decision-comfort and decidedness, in addition to reasons why certain types find career decisions emotionally discomfoting. Education programs should include interventions that help nursing students in searching for career values, evaluating career barriers or support, establishing career plans and developing a roadmap, and networking, by finding a mentor related to their career. Nursing educators should also assess nursing students' expectations and demands for a nursing major choice, and perform the appropriate career guidance according to individual aptitude. This study recommends large-scale research on career maturation and level of development according to different career decision types, by researching career decision types, including emotional and cognitive factors, and setting regional, institution-specific (public and private), and gender quotas on the population.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

AUTHOR CONTRIBUTIONS

Y. J. was fully involved in the study's conception and design, data collection and analysis, and drafting of the manuscript.

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REFERENCES

- Angelo, D., Claudia, M., Helga, M. & Alvisa, P. (2013). The effects of an advanced nursing education course on professional and career development. *L'Infermiere*, 50(4), 54–61.
- Bullock-Yowell, E., McConnell, A. E. & Schedin, E. A. (2014). Decided and undecided students: Career self-efficacy, negative thinking and decision-making difficulties. *NACADA Journal*, 34(1), 22–34.
- Choi, E. Y. (2010). *A typology of university students' career decision and the effectiveness of career efficacy enhancement program*. (Unpublished doctoral dissertation). Sook-Myung Women's University, Seoul, South Korea (in Korean).
- Gao, H. Y. (2008). An analysis of career decision-making difficulties by career decision-making maturity level of college students in Korea. *Korea Journal of Counseling*, 9(3), 1137–1149 (in Korean).
- Holland, J. L., Daiger, D. C. & Power, P. G. (1980). *My vocational situation*. Palo Alto, CA: Consulting Psychologists Press.
- Hwang, J. Y. & Ko, M. N. (2015). Differences of career stress coping strategy and commitment to career choice among the career types for college students. *Journal of Fisheries and Marine Sciences Education*, 27(4), 1041–1052 (in Korean).
- Hwang, S. W. (1998). *A study on employment stress of university students*. (Unpublished master's thesis). Dong-A University, Busan, South Korea (in Korean).
- Jones, L. K. (1989). Measuring a three-dimensional construct of career indecision among college students: A revision of the vocational decision scale-the career decision profile. *Journal of Counseling Psychology*, 36(4), 477–486.
- Jung, J. S., Jeong, M. J. & Yoo, I. Y. (2014). Relations between satisfaction in major, career decision-making self-efficacy and career identity of nursing students. *Journal of Korean Academic Society of Nursing Education*, 20(1), 27–36 (in Korean).
- Jung, Y. H. & Yang, J. H. (2013). The effect of major satisfaction and career decision-making self-efficacy on employment stress of the pre-service teachers who majored early childhood education. *Journal of Future Early Childhood Education*, 20(3), 229–248 (in Korean).
- Kader, H. S. A., Bacaksiz, F. E. & Baykal, U. (2017). Career orientations of nursing students: A comparison of state and private universities. *International Journal of Caring Sciences*, 10(1), 273–284.
- Kang, H. C., Yeon, K. P. & Han, S. T. (2015). A review on the use of effect size in nursing research. *Journal of Korean Academy of Nursing*, 45(5), 641–649 (in Korean).
- Kaur, S. (2016). Career decision making of secondary students in relation to their peer group influence. *International Education and Research Journal*, 2(1), 119–120.
- Kim, B. W. & Kim, K. H. (1997). Career decision level and career preparation behavior of the college students. *Korean Journal of Counseling and Psychology*, 9(1), 311–333 (in Korean).
- Kim, K. E. & Kim, S. C. (2016). Differences in psychological variables across career decision status subtypes among university students: Perfectionism, emotion regulation strategies. *Journal of Human Understanding and Counseling*, 37(1), 21–40 (in Korean).
- Kim, K. H., Gao, H. Y. & Kim, K. E. (2013). Analysis of subtypes for career decision status of university students. *Korea Journal of Counseling*, 14(6), 3633–3652 (in Korean).
- Kim, K. H. & Ha, H. S. (2000). A study of department satisfaction factors of undergraduate students. *Korea Journal of Counseling*, 1(1), 7–20 (in Korean).
- Kim, N. K. (2012). *Pattern of career choice and career identity of students in nursing*. (Unpublished master's thesis). Ajou University, Suwon, South Korea (in Korean).
- Ko, Y. J. & Kim, I. K. (2011). The relationship between professional nursing values and career preparation behaviors of nursing students. *Journal of Korean Academic Society of Nursing Education*, 17(1), 62–71 (in Korean).
- Kwon, K. N. & Choi, E. H. (2010). Factors affecting career identity of nursing students. *Journal of Korean Academy of Public Health Nursing*, 24(1), 19–28 (in Korean).
- Lee, J. C., Choi, I. H. & Park, M. J. (2002). Effects of dysfunctional career thoughts on career indecision. *Korean Journal of Counseling and Psychotherapy*, 14(2), 401–414 (in Korean).

- Lee, Y. J. & Kim, Y. S. (2017). Relationship between major satisfaction, career decision autonomy, and career search behavior of nursing college students in clinical practice experience. *Journal of Korean Academic Society of Nursing Education*, 23(4), 474–485 (in Korean).
- Park, H. T. (2014). A study on the effect of emotional intelligence on adjustment to college life in first year nursing college students. *Journal of the Korea Academia-Industrial Cooperation Society*, 15(3), 1576–1583 (in Korean).
- Park, I. S. & Han, Y. J. (2017). A study on the difference in career attitude maturity, career identity, stress management, and satisfaction for major classes of nursing students according to demographic characteristics. *The Journal of Employment and Career*, 7(1), 145–167 (in Korean).
- Park, S. H. & Park, H. J. (2009). Coping as a mediator between career-related stress and career decision-making in college students. *The Korean Journal of School Psychology*, 6(1), 67–81 (in Korean).
- Park, S. J. (2012). The effects of career education on career development for nursing students. *Journal of Korean Academic Society of Nursing Education*, 18(2), 259–267 (in Korean).
- Repetto, J. & Andrews, A. (2012). Career development and vocational education. In: M. L. Wehmeyer & K. W. Webb (Eds), *Handbook of adolescent transition education for youth with disabilities* (pp. 156–170). New York, NY: Routledge.
- Wang, J., Guo, R., Liu, M., Zhang, X., Ren, L., Sun, M. *et al.* (2018). Career decision-making self-efficacy and professional commitment among master nursing students. *Western Journal of Nursing Research*, 40(3), 327–345.
- Xia, H., Jialin, P. & Mengjie, Q. (2015). Study on gender difference of career expectation and career decision-making self-efficacy of nursing undergraduates and correlation between them. *Chinese Nursing Research*, 29(4), 1427–1430.
- Zhongmei, Z. M., Jinsha, Z. & Bin, Y. (2015). Application of attribution theory in career development education of higher vocational nursing students. *Chinese Nursing Research*, 29(3), 855–858.

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