



A STUDY ON THE FACTORS INFLUENCING THE CAREER CHOICE OF NURSING STUDENTS

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ABSTRACT

Objectives: The career choice of nursing students is to have professional recognition and commitment to the nursing work, strengthen presentation, and continue choosing nursing career after experiencing socialized internship. **Purpose:** The main purpose is to explore the relevant influencing factors of nursing career choice. The sample of this study comprises 162 fifth-grade five-year-diploma students of the nursing department, and they have all completed the annual internship. **Design:** With cross-sectional research, the data were collected with the structured questionnaire survey method. The main contents included students' personal background, internship experience, professional commitment, and nursing career choice. The SPSS 20.0 statistical software package was used to establish files and analyze the data. Statistical methods, such as descriptive statistics, independent sample *t*-test, ANOVA analysis, chi-square test, Pearson product-difference correlation, and logistic regression analysis, were used. **Results:** Results corroborated that the average score of internship experience was 3.20 ± 0.31 , and that of professional commitment was 3.07 ± 0.50 . A significant difference was found in whether tutors have a nursing background ($t = -2.310, p < .05$) and in professional commitment ($t = -2.507, p < .05$). A significant relationship with career choice was also found (X^2 value = 10.37, $p < .05$). Internship results affirmed significant difference with internship experience ($F = 9.440, p < .001$) and professional commitment ($F = 20.232, p < .001$). The decision maker to study nursing confirmed significant difference with professional commitment ($F = 6.058, p < .01$). The correlation coefficient between internship experience and professional commitment total scores affirmed a significant moderate positive correlation ($r = 0.57, p < .001$), indicating that the better the internship experience, the higher the professional commitment. Career choice showed a significant difference with professional commitment ($t = 2.652, p < .01$). The important predictors affecting the career choice of nursing students include three independent variables: whether tutors have a nursing background ($p < .05$), whether family members are engaged in nursing work ($p < .05$), and professional commitment ($p < .05$). **Conclusions:** The nursing education unit must establish a system of associate tutors, implement tutoring and care mechanism, arrange emergency and severe disease courses and related internship units according to the needs of students, strengthen the positive concept of nursing internship experience and professional commitment during the school period, and establish exclusive counseling mechanism for career choice.

KEYWORDS: nursing student, internship experience, professional commitment, career choice.

INTRODUCTION

Technical education in science and technology universities aims to encourage students to enter the employment market. Therefore, students under vocational education should be positive and significant to career planning and selection.^[1] According to the research, approximately 50% of junior college students in Taiwan still suffer from ignoring their career choices after graduation. To continue exploring the direction of life or out of the unwillingness to face huge competitive pressures and possible employment dilemmas, many students escape from reality. They prefer to extend or continue their studies and delay employment.^[2] Focusing

on diplomas in the current society, most junior college students continue their studies as their future goal.^[3]

The growing shortage of nursing manpower is a global issue, and the recruitment and retention of nursing manpower are considered global priority concerns.^[4] The International Council of Nurses proposed that the shortage of nurses is global and is expected to become serious in the coming years. A major factor affecting the global nursing workforce shortage is the decline in the number of young people choosing nursing as a career.^[5] Many European countries and other developing countries, such as Israel and Australia, do not have enough nurses to serve those in need of care.^[4,6] Toren et

al. (2010)^[6] confirmed that Israel has 5.7 nurses per thousand population and that Australia has 8.4 per thousand population. The reasons for this inequality are that nurses have migrated to countries with high care needs and that their professional skills are well compensated and respected.^[7] The shortage of nursing manpower in Africa is serious. Nigeria has 0.28 nurses per thousand population, while Zimbabwe has 0.72 nurses per thousand population. Lyu et al. (2016)^[8] found a high-rate shortage of new nursing graduates. Europe reported that nearly half of nursing undergraduates have considered quitting nursing work.^[9] Approximately 40% of newly graduated nursing staff have changed their job (Yuan et al., 2016).^[10]

According to the statistics of nurses in the Taiwan Union of Nurses Association (2018),^[11] The license rate of national nurse practitioners was 58.9% in June 2018. According to the survey of nursing manpower performed by medical institutions at all levels in 2014, 87.92% of them indicated that the recruitment of nursing staff was difficult, among which 39.13% thought that it was difficult. The number of nursing staff in Taiwan was more than 5,400.^[12] Statistics validated that, in June 2017, the total number of five-year-diploma nursing graduates was 6,269.^[11] Among the 8,118 nurses who have passed the examinations, 5,527 five-year-diploma students accounted for 68%.^[13] Therefore, they are the largest group of nursing graduates who have obtained the nursing license, but only 20% of the professionals entered the workplace. This percentage still cannot alleviate the plight of nursing manpower and make up for the shortage of manpower in various medical systems. Taiwan's nursing industry has been in a shortage of nursing manpower for a long time. Certain nursing graduates are still unwilling to choose nursing work or change their career track. They also have difficulty in making decisions for further studies or employment. The possible factors for this discussion include lack of interest, poor internship experience, fear of clinics, parental pressure, and poor salary and welfare system.^[14,15]

After clinical internship, these graduates may feel the impact of reality due to the inconsistency between work requirements and their idealized views. Clinical nursing practice is the most important learning course in the nursing professional course. Such practice is also the first experience course for nursing students to understand the essence of nursing profession. They can apply the professional knowledge and skills learned in the classroom to clinical practice. Many nursing students can also feel the true meaning of nursing work from it, thereby endowing students' positive internship experience in participating in the patient care process.^[16-18] Lin (2012)^[19] asserted that, if nursing students can achieve a sense of accomplishment in an internship, the performance relative to the internship experience and happiness can also be improved. This sense of achievement comes from the affirmation of patients,

internship teachers, nursing staff, and internship institutions. Through positive encouragement, the enthusiasm of nursing students to continue to work in the nursing profession can be strengthened, thereby enhancing their willingness to stay in the nursing career. Su (2004)^[20] proposed that tutors' nursing professional background can offer appropriate assistance in the internship experience of nursing students. By sharing the experience in interpersonal relationship and events encountered in nursing clinics, students can imagine the working situation and adapt to the internship to increase the experience of internship for timely intervention.^[21] Certain research has proved that students' professional commitment in school can predict whether they can become nursing workers and continue to work in the future. If nursing students are guided to regard nursing as a career goal worth pursuing for life, then they can have a positive evaluation on the adaptation process in the future.^[22]

Klein et al (2013)^[23] verified that professional commitment is individuals' attitude toward their occupation, which is regarded as an important link between individuals and their profession. Professional commitment can be used to assess whether individuals are suitable for their profession^[23] and whether they have professional commitment and autonomy to make the right decision in the professional field.^[24] Presently, the clinical internship experience of nursing students is mostly based on fresh graduates or basic nursing students and first-time clinical internships.^[19, 25-27] Research on the integration discussion of annual internship experience and professional commitment to the choice of nursing career is still lacking. Given the different backgrounds of students in different generations, the self-awareness of family members in clinical practice is rising, the medical profession is ignored, and the health insurance payment system is changed, thereby leading to various difficulties in hospital management strategies. With the emphasis on high education in the country, the choice of nursing students for future nursing career should be different from that in the past. Therefore, this study is motivated and conducted. Its purpose is to understand the current situation of nursing students' internship experience, professional commitment, and career choice and its related factors and predictors.

RESEARCH METHOD

Research architecture

Figure 1: Shows the research architecture.

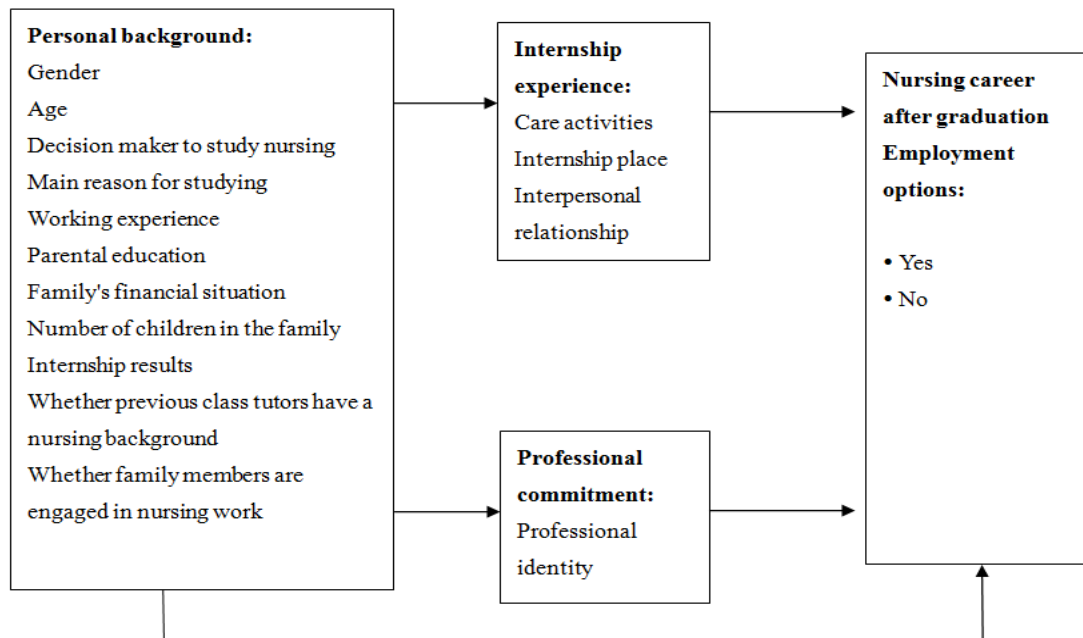


Figure 1: Research architecture.

Research design

This study is a cross-sectional study using a purposive sampling method.

Research object

Among the fifth-grade five-year-diploma students of the nursing department of a science and technology university in the central part, those who have completed the annual internship experience and agreed to receive the questionnaire survey were the research objects. A total of 162 questionnaires were issued in this study, and 162 effective questionnaires were received, with a recovery rate of 100%.

Research tools

The research tools of this research were structured questionnaires, and the main contents included students' personal background, internship experience scale, professional commitment scale, and nursing career choice. The internship experience scale was based on the "internship experience scale" by Lin (2012),^[19] which was the reference basis for this research questionnaire. It was adapted into four facets to meet the need of this research. The content had seven questions for "caring activities," eight questions for "internship place," 12 questions for "interpersonal relationships," and six questions for "professional knowledge," with a total of 33 items. Scored by the four equal scales of Likert, the content was scored from 4 to 1 in the order of strongly agree, agree, disagree, and strongly disagree. The scores of the scale ranged from 33 to 132 points, and the high score indicated good clinical internship experience. The "nursing professional commitment scale" developed by Lin et al. (2007)^[28] was mainly referred to. The content included three facets: eight questions for "professional identity," seven questions for "professional input," and three questions for "professional retention," with a total

of 18 questions. The scale was scored by Likert four equals. "1" means very uncertain, "2" means uncertain, "3" means certain, "4" means very certain, and the scale scores ranged from 18 to 72. The higher the score, the higher the professional commitment.

Reliability and validity check

Validity check: In this study, the internship experience and nursing professional commitment scales were checked using expert content validity. Five nursing clinical experts and educational scholars were invited by letter. With the content validity index (CVI) scoring method, the average CVI value of the result scale was between .6 and 1, which affirmed that the validity of the questionnaire was good.

Reliability check: The reliability of this research scale was based on the internal consistency of Cronbach's α to measure whether the content of the test tended to consistency and stability. Wu (2009)^[14] believed that the Cronbach's α coefficient in the range of .70 to .80 was acceptable, and above .80 was the optimum. Cronbach's α coefficient of internship experience overall scale was .93, and Cronbach's α coefficient of each sub-facet was .77–.93. Cronbach's α coefficient of professional commitment overall scale was .91, and Cronbach's α coefficient of each sub-facet was .80–.91. The internal consistency results showed that all Cronbach's α were greater than .70, indicating that the content of this questionnaire was consistent.

Research ethics

This study adopted Institutional Review Board (CRREC-106-025), and the researchers sought for the consent of the receiving school. After the students completed the annual internship and returned to school, the questionnaires were distributed from the research of each

class and in group. The research purpose, process, and basic rights were explained to the students before the study to respect participants' willingness to join the research. After asking for students' independent consent, the questionnaires were filled out by an anonymous method. The content was only used for research and analysis, and the ethical laws and regulations were clearly observed to protect the individual rights of cases.

Data analysis

This study used SPSS 20.0 for Windows software package for data analysis, and descriptive statistical analysis was carried out for the distribution situation of personal basic data, internship experience scale, and professional commitment scale. Inferential statistics used the *t*-test and one way ANOVA to analyze the differences of personal background, internship experience, and professional commitment on the career choice of nursing students. The Pearson product-moment correlation coefficient was used to analyze the relationship between nursing internship experience and professional commitment. Logistic regression analysis was used to identify the factors that influence the career choice of nursing students.

RESULTS

Sample characteristics analysis

The sample of this study comprised 162 fifth-grade five-year-diploma students of the nursing department, including 153 females (94.4%). Most of the students decided to study nursing by themselves, accounting for 113 (69.8%), and 43 students were dominated by their parents (26.5%). A total of 104 students (20.6%) chose to study nursing mainly because of the large job opportunities, 87 students (17.2%) for the acquisition of skills, and the others were suggested or encouraged by

friends and family members or only for interest. Each group accounted for 82 (16.2%). Among the nursing students interviewed, 54 students (33.3%) had no work experience related to medical or nursing, whereas 50 (30.9%) had experience in medical or nursing-related work. The average internship result was mainly 86–89 points, reaching 91 students (56.2%), while 64 students received 80–84 points (39.5%). The number of students whose tutors have a nursing background was up to 122 (75.3%). The family members of 95 students (58.6%) did not have a nursing background, whereas family members of 67 students (41.4%) had a nursing background, in which sisters of 13 students (19.4%) were nursing workers and mothers of 12 students (17.9%) were engaged in nursing.

Status analysis of internship experience, professional commitment, and career choice

Analysis of internship experience status

The sub-facets of internship experience scales with high average score included “interpersonal relationship-interaction with colleagues, internship instructors, and nursing staff,” and the average score was 3.35 ± 0.39 . The lowest was “internship place: traffic, environment, equipment, atmosphere,” with the average score of 3.01 ± 0.39 . “Internship place: satisfied with the communication and cooperation atmosphere of the professional team” obtained the highest score (average = 3.22 ± 0.52). “Satisfied with the convenience of transportation of round-trip internship” received the lowest score (average = 2.75 ± 0.74). “Interpersonal relationship: feel professional about the teaching attitude of internship teachers” obtained the highest score (average = 3.55 ± 0.52), whereas “my clinical performance is affirmed by unit nursing staff” earned the lowest score (average = 3.20 ± 0.50) (Table 1).

Table 1: Overall and facet analysis of internship experience (N = 162).

Variable name	Average score	Standard deviation	Sorting
Total internship experience	3.20	0.31	
Care activities: care relationship, disease care	3.15	0.32	3
Internship place: traffic, environment, equipment, atmosphere	3.01	0.39	4
Interpersonal relationship: colleagues, internship instructors, and nursing staff Relationship	3.35	0.39	1
Professional knowledge and ability: application of technology and academic theory	3.27	0.39	2

Analysis of professional commitment status

“Professional input” received the highest average score of the professional commitment scale sub-facet, which was 3.49 ± 0.41 , whereas the lowest average score was earned by “professional retention” 2.65 ± 0.80 (Table 2). “Professional input: I will do my best to care for the patients to help them recover” obtained the highest score (average = 3.62 ± 0.49). “Professional retention: I will choose to work in nursing after graduation” garnered the

highest score (average = 3.05 ± 0.96), followed by “Even if I get married in the future, I will continue to work in the nursing field” (average = 2.45 ± 0.89). “I will still be engaged in nursing work even if the future salary is not satisfactory” obtained the lowest score (average = 2.44 ± 0.87) (Table 2).

Table 2: Overall and facet analysis of professional commitment (N = 162).

Variable name	Average score	Standard deviation	Sorting
Professional commitment total	3.07	0.50	
Professional identity	3.07	0.55	2
Professional input	3.49	0.41	1
Professional retention	2.65	0.80	3

Analysis of the career choice status

Whether the nursing students choose nursing work after graduation indicated that 54 students (33.3%) would be nursing workers immediately after graduation, whereas 108 (66.7%) would not be employed immediately. Among the latter, 105 students (73.9%) wanted to pursue further education. Eight students (5.6%) considered the three shifts: students employed in non-nursing jobs, those with no interest in nursing, and those who only wanted the degree or nursing certificate. Each group accounted for five students (3.5%). Four students (2.8%) perceived that the working environment and location do not meet their expectation. Those whose salary and benefits are not in line with expectation and those who perceive that the working hours are too long accounted for three students (2.1%). Two students thought no promotion opportunity is available, and two students had other reasons (1.4%).

Among the students who would be engaged in nursing work immediately after graduation, 36 (23.4%) hoped to get nursing work by self-employment and 34 (22.1%) through career fairs. A total of 32 (21.5%) students wanted to work in the emergency department in the future, 29 (19.3%) in surgery, and 25 (16.8%) in ICU department. A total of 27 students (50.0%) expected that the first monthly salary for the first job is 27,000–50,000 yuan, while 22 (40.7%) students expected 30,001–40,000 yuan. The following are the most important factors in finding the first job. A total of 41 (16.0%) students considered salary the most important, while 32 (12.5%) students cared for the working environment and location. Professional skills and strengths were important for each

30 (11.7%) students. Twenty-nine (11.3%) students considered working departments, 23 (9.0%) students paid attention to welfare system, and 16 (6.3%) students focused on working stability. Shifting system and promotion opportunity each accounted for 10 (3.9%) students, self-realization and interpersonal relationship each accounted for nine (3.5%) students, seven students (2.7%) concerned the sense of achievement, and 4 (1.6%) depended on the ideas of family members.

Analysis of the difference between personal background, internship experience, and professional commitment**t-test analysis of whether tutors have a nursing background and nursing internship experience**

From the *t*-test analysis results, whether tutors have a nursing background showed a significant difference in the internship experience of nursing students ($t = -2.310$, $p = .022 < .05$). According to the comparison of the averages, the internship experience of students whose tutors have a nursing background (3.23 ± 0.29) was significantly higher than that of others (3.10 ± 0.34). Whether tutors have a nursing background also affirmed significant differences in interpersonal relationship ($t = -2.648$, $p = .009 < .01$) and professional knowledge and ability ($t = -2.811$, $p = .006 < .01$) of nursing internship experience. Therefore, students whose tutors have a nursing background had better interpersonal relationship (3.39 ± 0.38) than those whose tutors have no nursing background (3.21 ± 0.39). In addition, the nursing professional application of students whose tutors have a nursing background was significantly higher than that of others (3.13 ± 0.38) (Table 3).

Table 3: T-test analysis of tutors and internship experience (N = 162).

Facet	Sub-facet	Item	Number of samples	Average	Standard deviation	<i>t</i> value	<i>p</i> value
Internship experience		No	40	3.10	.34	-2.310	.022
		Yes	122	3.23	.29		
	Interpersonal relationship	No	40	3.21	.39	-2.648	.009
		Yes	122	3.39	.38		
	Professional knowledge and ability	No	40	3.13	.38	-2.811	.006
		Yes	122	3.32	.38		

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

ANOVA analysis of internship results and experience

ANOVA analysis affirmed that internship results and experience were significantly different ($F = 9.440$, $p < .001$). That is, internship experience was different if

internship results were different. With the Scheffe comparison, the internship experience of students with “85–89 points” was higher than that of students with “70–79 points” and “80–84 points” (Table 4).

Table 4: ANOVA analysis of internship results and experience (N = 162).

Background factor	Category	Number of samples	Average	Standard deviation	F value	p value	Scheffe post mortem comparison
Internship results	(1) 70–79 points	7	2.97	.31	9.440	.000	(3)>(1) (3) > (2)
	(2) 80–84 points	64	3.10	.26			
	(3) 85–89 points	91	3.28	.32			

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

Correlation analysis of internship experience and professional commitment

On the basis of the Pearson product–moment correlation analysis, the correlation coefficient between internship experience and professional commitment total scores had a significant moderate positive correlation ($r = .57, p .001$). According to the results of the correlation analysis of the professional commitment subscale and internship

experience, facets such as “professional identity,” “professional input,” and “professional retention” were moderately positively related to “internship experience” ($r = .51, p .001$; $r = .58, p .001$; $r = .42, p .001$). Thus, the better the internship experience, the higher the professional commitment. By contrast, the higher the professional commitment, the better the internship experience (Table 5).

Table 5: Correlation analysis of internship experience and professional commitment (N = 162).

Facet	Professional commitment r value	Subscale			
		Professional identity r value	Professional input r value	Professional retention r value	
Internship experience	.57**	.51**	.58**	.42**	
Subscale	Care activities	.35**	.28**	.45**	.24**
	Internship place	.47**	.44**	.43**	.36**
	Interpersonal relationship	.55**	.50**	.50**	.44**
	Professional knowledge and ability	.49**	.43**	.55**	.33**

t-test analysis of employment career choice and professional commitment

Career choice affirmed a significant difference on professional commitment ($t = 2.652, p = .009 < .01$). By comparing the averages, the professional commitment of employed students (3.20 ± 0.39) was higher than that of the unemployed (3.00 ± 0.54). Career choice also

confirmed a significant difference on professional retention in the facet of professional commitment ($t = 3.264, p = .0014 < .01$). The professional retention of employed students (2.91 ± 0.66) was higher than that of the unemployed (2.52 ± 0.83) (Table 6).

Table 6: Difference analysis between career choice and professional commitment (N = 162).

Facet	Sub-facet	Employment	Number of samples number	Average	Standard deviation	t value	p value
Professional commitment		Yes	54	3.20	.39	2.652	.009
		No	108	3.00	.54		
	Professional identity	Yes	54	3.12	.51	.894	.373
		No	108	3.04	.57		
	Professional input	Yes	54	3.56	.36	1.794	.075
		No	108	3.45	.43		
	Professional retention	Yes	54	2.91	.66	3.264	.0014
		No	108	2.52	.83		

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

Predictor of career choice

In the logistic regression analysis of whether nursing students choose nursing work after graduation, the overall model significance test was significant ($X^2 = 58.133, p = .004 < .05$). From the correlation strength coefficient, the Cox–Snell correlation strength value was .302, and the Nagelkerke correlation strength index was .419. Thus, a medium-low intensity correlation exists

between independent and dependent variables. From the saliency indicators of individual parameters, the Wald indicators of the three self variables (i.e., whether tutors have a nursing background, whether family members are engaged in nursing work, and professional commitment) were 6.81 ($p = .009 < .01$), 3.87 ($p = .049 < .05$), and 6.92 ($p = .009 < .01$), respectively. These factors were up to the .05 significant level, indicating that the three

independent variables can effectively predict the career choice of nursing students. The odds ratio of the self variable whether tutors have a nursing background was 5.54 (95% CI 1.53–20.05), and the chance of students whose tutors have a nursing background was 5.54 times that of the students whose tutors have no nursing background. Therefore, students whose tutors have a nursing background had a higher chance than others. In

addition, the odds ratio of whether family members are engaged in nursing work was .38 (95% CI .15–1.00). Moreover, the odds ratio of professional commitment was .17 (95% CI .50–.64) (Table 7).

The percentage formula for the overall forecast classification is as follows: $(32 + 97) \div 162 \times 100 = 79.6\%$ (Table 8).

Table 7: Test summary table of the overall mode adaptation test and the individual parameter saliency (N = 162).

Name of input variable	Estimated value of BS	Standard Error	Wald value	df	p value	Odds ratio Exp (B)	95% CI	
Tutor	1.71	.66	6.81**	1	.009	5.54	1.53–20.05	
Members engaged in nursing	-.965	.49	3.87*	1	.049	.38	0.15–1.00	
Professional commitment	-1.78	.68	6.92**	1	.009	.17	0.50–0.64	
Constant term	63.26	50718.95	.000	1	.999			
Overall mode Adaptation test	$X^2 = 58.133^{**}$ Hosmer–Lemeshow test value = 9.613 n.s.							
Correlation strength	Cox–Snell $R^2 = .302$ Nagelkerke $R^2 = .419$							

* $p < .05$ ** $p < .01$ *** $p < .001$ n.s. $p > .05$

Table 8: Crosstab of prediction classification accuracy rate (N = 162).

Actual group		Prediction group		
		Employment		Correct percentage (%)
		Yes	No	
Employment	Yes	32	22	59.3
	No	11	97	89.8
Total prediction accuracy				79.6

DISCUSSION

Status of internship experience, professional commitment, and career choice

The study contended that the average score of internship experience scale was 3.20 ± 0.31 , indicating that students had good internship experience. “Interpersonal relationship: interaction with colleagues, internship instructors, and nursing staff” obtained the highest average score. Nursing students expressed good feelings about interpersonal relationships in internship experience. Most nursing students in internship experience agreed that they can learn from interpersonal relationship. In the internship and hospital work, positive team atmosphere, communication, support and counseling of internship teachers or senior nursing staff, work team, and colleagues can help nursing students have good experience in the career.^[21,27,29,30] Sedgwick and Rougeau (2010)^[31] also validated that the atmosphere of communication and cooperation among professional team members in the internship process can affect the sense of belonging of nursing students. “Satisfied with the convenience of transportation of round-trip internship” obtained the lowest score. Results of this study are similar to those of Xu et al. (2015).^[32] The nursing internship sites were not all near the school. Sometimes, students must change the place of

residence or travel cross counties or cities every four weeks. Therefore, they are prone to feel pressured when finding the place of residence near the internship or the transportation and making route planning.

Although the results of this study are different from those of Chen et al. (2012), Liao (2011), and Zheng (2014),^[33-35] the findings of scholars' research “professional career involvement” were the most recognized, followed by “professional value identification.” The “willingness to work hard for professionalism” was the lowest, but the score of “I will choose to engage in nursing work after graduation” in the professional retention facet was still the highest with 3.05 ± 0.96 . Therefore, the commitment of graduates to the nursing profession after graduation is from medium to high degree. However, given the real economy and conditions after marriage, if the future salary is slightly different from their expectation or many other factors were considered in terms of whether to stay in the workplace after marriage, professional commitment is reduced, and the current trend of education in Taiwan is further studied, and then most college graduates also aim to continue their studies. Thus, the proportion of direct employment in the cultural environment where diploma is deemed to be supreme is affected.

In addition, nursing students in the professional identity facet, "I am willing to take nursing work as a lifelong career" obtained the lowest score, which is similar to the result of Liao (2011). "I am willing to work in nursing for life" earned the second last score (average = 2.36 ± 0.77). Rheaume, Clement, and Swanson (2011)^[36] also contended that 4.9% decided to leave the nursing workplace after one year of employment, and 45.5% said they could not decide whether to continue their nursing work. The survey results of Lai (2008)^[15] also validated that 86.3% of nursing students believed that nursing work is very stressful, and 36.1% perceived that nursing "is not a career for a lifetime." Lyu et al. (2016)^[37] verified that nearly half of nursing undergraduates have considered leaving the nursing workplace.^[9] Moreover, 40% of newly graduated nursing staff changed their job,^[10] which are all consistent with the results of this study.

Furthermore, 54 nursing students (33.3%) could be engaged in nursing work immediately after graduation, and 108 (66.7%) would not be employed immediately. Most of their reasons were continuing further studies, which is related to the fact that the academic qualification of Taiwan society is mostly bachelor's degree. The higher the academic qualifications, the better the future is. Therefore, most students choose to continue their studies after graduation to achieve a bachelor's degree. The reasons include the following. Eight (5.6%) students considered the three shifts (i.e., students employed in non-nursing jobs, those with no interest in nursing, and those who only wanted the degree or nursing certificate). Each group accounted for five (3.5%) students, thus consistent with the results in the study of Xu et al. (2015).^[32] In addition, the main reason for the unwillingness to engage in nursing work was pursuing further studies (59.7%), followed by changing jobs (34.9%), which is similar to the result in the research of Chen et al. (2012).^[33] Approximately 50% to 60% of nursing students were unwilling to be nursing workers after graduation mainly for the lack of interest and three shifts. These shifts are the significant factors that affect the willingness to engage in nursing work after graduation ($p < .05$).

For the departments nursing students want to work in the future, the emergency, surgery, and intensive care departments tied in the top three. Emergency care accounted for 20.7%, intensive care unit for 17.2%, and operating room for 16.6%. Such findings are inconsistent with the results of Lai (2008)-general ward, outpatient, and emergency department. The interviews with the students revealed that no critical units, such as emergency departments and intensive care units, exist in the internship units arranged by the school. Students are curious about them and long for high salaries for these units. Influenced by television series and the sharing of clinical nursing staff in their daily lives, they feel that they can face challenges in working in these units, which may be helpful for promotion in the future. Intensive

care units only handle a few cases of care, and facing family members is no longer necessary. In addition, the chores are fewer than those in wards; thus, students are encouraged to choose emergency and severe units. Lai's research also affirmed that the willingness to be nursing workers of nursing students who wanted to work in intensive care units was significantly positively correlated ($p < .05$).

Results corroborated that the most important consideration for finding the first job is salary, accounting for 41 students (16.0%), the most concerned factor of science and technology university students when choosing a career is also salary. Chen et al. (2012)^[33] asserted that salary was a significant factor affecting the willingness to work in nursing after graduation ($P < .05$). Moreover, the working environment and location accounted for 12.5%. Furthermore, nursing students gave the lowest scores in the internship experience to "internship place: traffic, environment, equipment, atmosphere," and the item "satisfied with transportation convenience in the round-trip internship" obtained the lowest among all the average scores. The working environment, equipment, transportation location, and other factors that nursing students have experienced during the internship experience were negative. Therefore, among the considerations for choosing future work, a good and convenient working environment and location are also two of the driving forces for nursing work.

Difference between personal background, internship experience, and professional commitment

Whether tutors have a nursing background can affect the difference in scores of internship experience. The internship experience of students whose tutors have a nursing background was evidently higher than that of others, especially in interpersonal relationship and professional knowledge. The number of tutors with a nursing background was higher than that in the interpersonal relationship and professional knowledge application of nursing students. Su (2004)^[20] confirmed that, if tutors share their own experience in nursing clinics, students can imagine the situation, adapt to the internship, and increase internship experience. Tutors should also understand students' perceptions, pressures and feelings, professional knowledge, and ability during the internship. In addition, they should take intervention and counseling measures for students who feel the great gap from or pressure of clinical reality. In the process of developing nursing employment expectation and career choice, the role of tutors is an important factor that affects the choice of the nursing career of nursing students and early professional socialization.^[38,9]

Results affirmed a significant difference between internship results and internship experience. The internship experience of the "85–89 points" group was higher than that of the "70–79 points" and "80–84 points" groups, which is consistent with research results obtained by

Wang and Gao (2010).^[40] Those with high internship results had good preparation in self-professional ability, their clinical practice learning was less troubled than others, and the internship experience was good. Thus, the internship results can affect the learning outcomes and adaptation of internship experience. Vanhanen and Janhonen (2000)^[41] proved that the academic learning problems of Finnish nursing students can affect the degree of career intention of students. Therefore, in the nursing course or internship, career outlook should be paved to strengthen or prepare employment counseling. Moreover, the correlation coefficient between internship experience and professional commitment total scores affirmed a significant moderate positive correlation ($r = .57, p < .001$). Therefore, the better the internship experience, the higher the professional commitment, and the higher the professional commitment, the better the internship experience. Such findings are consistent with the results of previous research.^[42]

Influencing factors related to career choice

According to the results of career choice and internship experience analysis, no significant difference was found between career choice and internship experience. Nonetheless, the internship experience of students choosing employment after graduation was (3.22 ± 0.31), which is better than those choosing not to work (3.18 ± 0.31). This result is different from Luo's study (2014)^[42] that career planning had a significant difference in internship satisfaction ($F = 4.35, p < .01$). The results of interviews with students in this study confirmed that 73.9% of them chose to be unemployed to further their studies, not because of bad feelings toward the internship experience. In addition, literature deduced that nursing students have developed a high sense of life after internship and have become willing to invest in nursing-related work in the future.^[43] Lai (2008)^[15] argued that 48.1% of fresh graduates believed that internship experience have a positive or extremely positive impact on nursing employment. Moreover, the internship experience reached a significant difference with the willingness to engage in nursing work ($P < .05$). Lamont *et al.* (2015)^[16] validated that most nursing students who completed clinical internship have satisfactory internship experience, and 75% of them said that they can consider the internship hospital as a future workplace after graduation. Foreign scholars have asserted that the main influencing factors of the career choice of nursing students are based on their pastor work experience (48%) and clinical internship (42%). The experience of clinical internship can improve and ignite the learning motivation of nursing students. Such motivation is conducive to the choice of future nursing career.^[44] Internship experience allows students to demonstrate what they have learned and the actual tempering skills in the workplace, strengthens students' determination to choose the nursing career, and models the future nursing career.^[45,46]

Career choice had significant differences in professional commitment and professional retention in the facet. The

average number of professional commitments of employed students was higher than that of unemployed, and the professional retention was higher than that of unemployed students. These findings are consistent with the results of Luo's study (2014).^[42] Career planning had a significant difference in professional commitment, that is, those with high professional commitment had low willingness to choose other careers and low turnover intention.

Predictor of career choice

(1) Whether tutors have a nursing background

This facet is one of the most important predictors of career choice, thus consistent with the results obtained by many scholars.^[19,20,47] Su (2004)^[20] proposed that tutors with a nursing background can share their own social experience and guide the career choice planning of students, thereby reducing their uncertainty of career choice after graduation. Li *et al.* (2006)^[47] confirmed that more than 60% of nursing students have high expectations for the role and function of nursing tutors. "Nursing-related training programs and opportunities after graduation" and "employment counseling and career planning" reached 96.4% and 90.8%, respectively. According to the results of Lai's research (2012),^[48] undergraduate tutors can provide professional advice and career experience that meet the needs of students for study and career planning.

(2) Whether family members are engaged in nursing work

Whether family members are nursing workers is another important predictor of career choice, thus consistent with the results many scholars^[28] obtained from their studies. Lin and Liu (2012)^[28] asserted that the career intention of nursing students can be influenced by their families. Results of this study proved that family members with nursing background are mostly their sisters.

(3) Professional commitment

Professional commitment is also an important predictor of career choice, thus consistent with the results obtained by many scholars.^[15,35,42] Luo (2014)^[42] asserted that career planning has significant differences in professional identity, intention to invest, and overall professional commitment. In addition, Lai's research (2008)^[48] deduced that 48.1% of nursing students believed that professional commitment has a positive impact on future nursing work, while 10.5 % perceived it to be a negative influence. Zheng (2014)^[35] also highlighted that the professional commitment of nursing students received the score of 2.90, which is a middle-upper grade. Among them, "involving intention of professional career" obtained the most scores, indicating that nursing students choose the profession and can continue to work in the nursing field after graduation.

CONCLUSIONS AND APPLICATION

CONCLUSIONS

In this study, the overall internship experience of nursing

students gave the highest score to the sub-facet “interpersonal relationship: communication with colleagues, internship instructors, and nursing staff.” The overall professional commitment sub-facet “professional input” earned the highest score. Most students would not be engaged in nursing work immediately after graduation because they would continue to study. The overall internship experience of students whose tutors have a nursing background was higher than that of others, and nursing students had significant differences in the application of interpersonal relationship and professional knowledge. The internship experience of the “85–89 points” group was higher than that of the “70–79 points” and “80–84 points” groups. The better the internship experience, the higher the professional commitment. The important predictors that affect the career choice of nursing students include whether tutors have a nursing background, whether family members are engaged in nursing work, and professional commitment.

Application

I. Nursing education

1. Class tutors

(1) Tutors in areas related to the nursing profession must be managed, and a dual tutor system with the same deputy tutor to allow students to connect with tutors in real time must be established. Tutors can also deal with their doubts and understand the realities and the source of stress faced by students.

(2) The care mechanism of tutors to nursing students must be implemented, regular class meetings arranged, internship situations understood or students guided to share the positive feelings during the internship, and the referral counseling room for the special situation of students assisted.

(3) Tutors and internship instructors should provide career planning advice and counseling measures timely.

2. Arrangement of internship location convenience

Nursing students had the lowest score for internship place. Thus, assisting in arranging accommodation or providing route information is necessary to reduce the time and effort spent on daily transportation and enhance the internship experience.

3. Arrangement of emergency and severe units and internship route selectivity

Most nursing students hope to work in the emergency department. According to the needs of students, we can arrange emergency units and internship routes for selection. Moreover, the elective course descriptions can be arranged to enhance the motivation of professional elective courses and promote diversity studies.

4. Regular career lectures

Nursing students had the lowest scores for “professional retention,” among which “I will still be engaged in nursing work even if I am slightly dissatisfied with the salary” obtained the lowest score. The most important factor for finding a job is salary, and students have

higher expectation than the current monthly salary. Regularly assigning clinical work seniors to return to the school to share their experience in lectures is recommended. Supervisors in the hospital must explain the salary and welfare system in a unified manner to increase the sense of professional reality, avoid expectation gap, and enhance the intention of professional retention.

II. Clinical practice

Nursing students find patients' condition change, treatment, and medical record reading difficult to grasp. Intern teachers must lead students to read and look up patients' medical record in the clinical practice, get them involved in the care implementation process, and provide them opportunities of real practical nursing. Teachers should also give positive encouragement timely and gradually implement the shifting assignments of their own cases. Doing so can train students to think about the overall condition of the cases, processes, and methods of problem handling; effectively grasp the changes in such cases; and enhance professional competence.

Limitations

Given the limited time, manpower, and resources, this study used a cross-sectional study and purposive sampling to investigate about the five-year-diploma nursing students who have completed the internship experience in the fifth grade of science and technology universities in the central part. Nursing students of different ages and academic systems may have different career choices. Therefore, the results obtained in this study are insufficient to be inferred to different educational systems in Taiwan.

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