A STUDY OF THE PROFESSIONAL COMMITMENT CHANGES FROM NURSING STUDENTS TO REGISTERED NURSES

Kuei-Yun Lu, Shiang-Lan Chiou and Yong-Yuan Chang*

The purposes of this longitudinal study were to understand the professional commitment changes from nursing students to registered nurses. A total of 890 subjects completed the questionnaires of the nursing professional commitment and personality test before their graduation, and nursing professional commitment one year after their graduation, respectively. The data were analyzed by mean, correlation, t-test and repeated measures ANOVA. The results showed that: (1)the nurses exhibited a medium-high degree of professional commitment-the average score was 2.99 before graduation and 2.85 after graduation; (2)there was a highly significant correlation between professional commitments for nursing students and registered nurses; (3)The scores of overall commitment and four factors of professional commitment decreased from nursing students to registered nurses significantly; (4)personality traits were positively correlated with professional commitment for nursing students and registered nurses; and (5)there was no significant relationship between nurses' work backgrounds and the changes of professional commitment from nursing students to registered nurses. Implications for nursing education and for hospital management are suggested.

Key words: professional commitment, nursing students, registered nurses

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In Taiwan, the turnover rate for nursing professionals has been relatively high with forty percent of registered nurses not practicing nursing. Sixty-three percent of the present nursing professionals are thinking about changing careers [1,2]. According to the Department of Health's data in 1992, the turnover rate of nurses has been between fifteen and forty percent during the past several years. Such a high turnover rate results in attrition of nursing education and a waste of hospital resources. In the past, most research mainly focused on areas of working environment, administrative management, and organizational systems [1,3,4], while fewer studies have concentrated on nurses' professional commitment. Commitment contains an implicit explanation of one mechanism producing consistent human behavior [5]. The forms of commitment are as follows: attitudinal commitment and behavior commitment; normative commitment and exchange commitment; and affective commitment and continuance commitment [6-8]. Among these, the career commitment, job commitment, and organizational commitment were mostly related or overlapped with professional commitment [9-11], and these commitments were frequently used as variables by researchers to explore the improvement of professional productivity [5,12-15]. These researchers used them in the analysis of a wide variety of phenomena: power, belief,

occupational recruitment, bureaucratic behavior, and so on.

There were a few research projects studying the related factors which may affect professional commitment to nursing. Teng found a significant correlation between personality traits and professional commitment in nursing junior college graduates[16]. The students with higher challenge and motivation in achievement have higher professional commitment. Dunkelberger and Aadland found that students who did not attain the goals in a nursing career were more often from low socioeconomic background[17]. Connelly reported that baccalaureate students indicated that parent were the most influential people in helping them choose a nursing career[18].

According to most of the literature reviewed, the characteristics of commitment include: belief in goals and values[3,6,13-16,19,20], willingness to make an effort [3,6,14-16,19-21], desire to stay in the profession[3,6,13-16,19-21], and intrinsic positive value of work[13-14,19-21]. There have been many studies that have indicated that nursing graduates' professional commitment encountered many conflicts and challenges after employment, and this might result in changes in their professional commitment[9,11,22-25]. Some of the variables which influenced nursing students' professional commitment are as follows: family background[17,26], personality traits[16,19,26], aptitude[17,19], role awareness, reason for admission, academic achievement[19,24,26], learning satisfaction, instructor role modeling, student-instructor interaction [8], and instructors' values toward professionalism[27]. The professional commitment of nursing students acts as a powerful predictor for nurses' professional commitment[24]. The importance of the professional commitment can be seen from its significant positive correlation with organizational commitment[28,29]; and in its influence on nursing professionals' job performance[9,30], job satisfaction, and in their willingness to stay in their job or leave it[3,30]. Thus, the purposes of the study were to investigate the changes of the professional commitment from nursing students to registered nurses and the related factors.

MATERIALS AND METHODS

Sample and data collection

All of the 890 nursing graduates at Fooyin Institute of Technology were asked to participated in this study. On the first test, before graduation, 806 subjects(90%) completed the "Scale of Nursing Commit-

ment" questionnaire and 841 subjects(94%) completed the "Lai's Personality Test"[31]. Then, on year, after graduation, the "Scale of Nursing Commitment" questionnaire was mailed to the subjects. The tests were mailed back to the researcher by the subjects voluntarily. There were a total of 267 (30%)copies of valid questionnaires collected during the pre- and post-test period.

Measurements

Scale of Nursing Commitment: this questionnaire was developed by the researcher in 1998[19]. The rating, reliability, validity and factor analysis of the scale bas been described in Lu's previous study[19].

Personality traits: this instrument adopted Lai's "Lai's Personality Test" one-hundred-and-thirty-question items questionnaire, which was developed in 1996 for students ranging from junior high school to college level. The pre- and post- correlation coefficient was between 0.78—0.92. The "Ji's Personality Test" was used to test for construct validity, and its correlation coefficient was 0.64—0.85. The testing results classified personality traits as follows: type A-neutral, average ability to adjust to society and emotional stability; type B—extroverted, unable to adjust to society and emotionally unstable; type C-introverted, well-adjusted to society and emotionally stable; type D-extroverted, well-adjusted to society and emotionally stable; type E-introverted, poorly adjusted to society and emotionally unstable; and type F-unable to classify[31]. This study arranged personality traits according to psychologists' suggestions into a type DCABE sequence and assigned a 54321 code accordingly.

Statistical analysis

Frequency distributions, means, standard deviations, the Pearson's correlation coefficient, paired t-test, and repeated measure ANOVA were used to analyze these data.

RESULTS

The frequencies of the characteristics of subjects are shown in Table 1. Most of the subjects worked in the clinical hospital setting and had obtained their license of Registered Professional Nurse(RPN) or Registered Nurse(RN).

The mean of the nursing students' professional commitment was 101.82 with an average of 2.99 per item, which was close to the "positive" score on our scale. Among the four factors, factor 2 "stay in the profession" had a mean of 3.35; factor 3 "intrinsic posi-

Table 1. Characteristics of the subjects (n=267)

Variable	n	%	Variable	n	%
Job categories			Personality traits		
Clinical	210	79.85	E type	59	7.02
Community	2	0.76	B type	32	3.80
Occupational	1	0.35	A type	74	8.80
Continuous education	3	1.11	C type	342	40.67
Non	47	17.87	D type	228	27.11
			F type	106	12.60
Categories of work unit			Work duration		
Medical-surgery	106	40.30	>10months	16	5.99
Maternity-pediatrics	46	17.49	7-9months	77	28.84
Emergency-intensive	33	12.55	4-6months	92	34.46
Others	31	11.79	1-3months	36	13.48
Non	47	17.87	0	46	17.23
Types of hospital			Professional qualification		
Medical center	50	18.73	PRN and RN	176	65.92
Regional hospital	88	32.96	RN only	78	29.21
District hospital	70	26.22	Non	13	4.87
Others	12	4.49			
Non	47	17.60			
Types of organization					
Public	25	9.58			
Private	129	49.43			
Others	60	22.99			
Non	47	18.01			

*n: indicates the numbers of subject in each category

tive value of work" had a mean of 3.14; factor 4 "belief in goals and values" had a mean of 3.07; while factor 1 "willingness to make an effort" had the lowest mean at 2.74. The mean of the professional commitment after having become registered nurses was 96.84 with an average of 2.85 per item which was in the range between "positive" and "negative." The four factor scoring sequence was the same as when they were nursing students, when their means were 3.04 for factor 2; 3.00 for factor 3; 3.00 for factor 4; and 2.85 for factor 1. The standard deviations of overall professional commitment and factors 1,2, and 4 at post- test were greater those in the pre-test (Table 2). The overall professional commitment and four factors' means decreased after the subjects had become registered nurses. The results show a significant difference in the paired t-test. Among them, the overall professional commitment (p=.000), the "willingness to make an effort"(p=0.002), the "stay in the profession"(p=.000), the "intrinsic value of work"(p=.000), and the "belief in goals and values"(p=0.014) showed significant decrease after the subjects became registered nurses (Table 2).

Both the pre- and post-test overall professional commitment and the four factors showed a significant positive correlation, which indicates that those subjects who had a higher professional commitment as students maintained this higher commitment one year post-graduation as well (Table 3). Personality traits and professional commitment held by the subjects, both while students and after becoming registered nurses, showed a significant positive correlation (Table 4).

The results indicate that the research subjects arranged D, C, A, B, E sequence according to their personality traits, and their professional commitments also decreased according to the sequence arrangement. However, based on the repeated measure ANOVA analysis, the changes of the pre- and post-test professional commitment did not correspond to the personality traits differences (Table 5).

The findings showed that there were no significant relationships between professional commitment changes in the pre- and post-test results and subjects'

Table 2. The test of the changes in professional commitment from nursing students to registered nurses (n=267)

Variable Number of items	Nursing students		Registered nurses		Mean difference	SD of mean difference	Paired t	P-value
	Mean	SD	Mean	SD				
A 34	101.82	12.34	96.84	13.05	5.04	12.08	6.52	.000
B 16	43.78	6.93	42.35	7.75	1.43	7.29	3.11	.002
C 8	26.78	3.50	24.35	3.69	2.43	3.85	10.07	.000
D 5	15.71	2.39	15.00	2.38	4.17	.71	2.71	.000
E 5	15.38	2.12	14.99	2.13	2.47	.38	2.47	.014

A: overall Commitment, B:Make an effort, C:stay in the profession, D:Intrinsic value of work, E:Belief in goals and values

Table 3. The Pearson's correlation coefficients between the changes of professional commitment from nursing students to registered nurses (n=267)

Variable (Nursing students)	post-A (	post-B Become	post-C registered	post-D nurses	post-E)
pre-A	.55***				
pre-B		.51***			
pre-C			.43***		
pre-D				.35***	
pre-E					.33***

A:overall Commitment, B:Make an effort, C:Stay in the profession, D:Intrinsic value of work, E:Belief in goal and value
***p<0.001 **p<0.01 *p<0.05

Table 4. The Pearson's correlation coefficients between professional commitments and personality traits (n=267)

Variable Personality traits	Nursing students	Registered nurses
	.21*** (n=678)	.20** (n=267)

***p<0.001 **p<0.01 *p<0.05

working background: the job categories; categories of work unit; type of hospital; type of organization; work duration and professional qualification (Table5).

DISCUSSION

The pre-test professional commitment findings had an average of 2.99 points on the four-point scale and the post-test average was 2.85; both exhibited a medium-high degree. Based on a five point scales, Teng obtained an average of 3.34 points from nursing students before their graduation [16]. Gardner obtained an average of 3.70 points from newly graduated nursing professionals, and 3.39 points six months post-graduation, and 3.49 points one year post-graduation [9]. The similarity was that the professional commitments were at upper-median level. To avoid subjects answering the middle or neutral choice, the researcher used a four point scale. The findings of pre-test in this project were higher than Lu's 2.93 of the first-, third- and fifth-year nursing students[19]. Most of the literature described concepts of professional commitment or studied organizational commitment. A few studies investigated professional commitment. Further, studies about nursing professional commitment is expected.

The low return rate at post-test may have resulted from the fact that subjects had moved to many different areas after graduation. The t-test was used to compare the professional commitment at pre-test of the subjects who returned the questionnaire and those who did not. There was no significant difference (p=.073) between the two groups. However, there was significant difference of personality traits between the two groups(p=.008). The subjects of the returning group were those with better personality traits.

The sequence of the four factors remained un-

Table 5. Repeated measures ANOVA of professional commitment among personality traits and work backgrounds (N=267)

Variable	Source of variation	SS	DF	MS	F	P-value
Personality traits	Personality	4181.21	4	1045.30	4.55	.002
	Pre-and-Post	865.51	1	865.51	12.71	.001
	Personality*Pre-and-Post	111.26	4	27.81	.39	.815
Job categories	Job category	1197.69	2	598.85	2.59	.077
	Pre-and-Post	650.48	1	650.48	9.17	.003
	Job category* Pre-and-Post	7.16	2	3.58	.05	.951
Types of hospital	Hospital	683.18	4	170.79	.72	.576
	Pre-and-Post	1941.48	1	1941.48	27.55	.000
	hospital*Pre-and-Post	245.24	4	61.31	.87	.483
Categories of work unit	Work unit	879.61	4	219.90	.94	.444
	Pre-and-Post	1915.18	1	1915.18	27.67	.000
	Work unit*Pre-and-Post	504.07	4	126.02	1.82	.126
Types of organizational	Organization	1385.58	3	461.86	2.00	.115
	Pre-and-Post	729.09	1	729.09	10.42	.001
	Organization* Pre-and-Post	281.01	3	93.67	1.34	.263
Work duration	Work duration	2062.03	4	515.51	2.25	.065
	Pre-and-Post	2995.55	1	2995.55	43.01	.000
	duration*Pre-and-Post	417.65	4	104.41	1.50	.204
Professional qualification	Professional	736.91	2	368.46	1.58	.208
	Pre-and-Post	564.90	1	564.90	8.02	.005
	qualification*Pre-and-Post	108.42	2	54.21	.77	.465

changed in this study, both pre- and post-test, which was the same as in Lu's study which investigated the difference between first-year and third-year nursing students [19]. Based on this finding, it may be thought that the research tool in this study was stable and independent in each factor. In both pre- and post-test, the "stay in the profession" and the "intrinsic value of work" sub-scales were higher than the other sub-scales. The content of the prior two sub-scales was about work and career, and the posterior sub-scales were about professional value and attitude . Although many studies viewed professional commitment and career commitment as the same, this research, indicates that they may be different in the view of nursing students. Also, Tetreault pointed out that there was no direct relationship between professional attitudes and career choice[27]. In addition, because the subjects of our research project were junior college students who had little professional training experience, and whose personalities were still quite immature, they may have had a lessened understanding of professionalism. As Gardner indicated, the higher the educational background of the nursing professional, the higher the professional identity [9]. Another factor has been the competitive-

ness in the nursing job market over the past several years, which may have resulted in nursing professionals having a greater job concern. On the other hand, Lazar et al. had different results as they found belief in professional value ranged higher than stay in the profession according to the senior social work students' survey [8].

After the subjects became nurses, the overall professional commitment and the four factors both showed a significant decrease. These findings were consistent with those of McCliskey and McCain who found that the professional attitude of newly nursing graduates decreased substantially six months post-graduation[20], and Gardner also found that, among graduate nurses with associate degree, professional commitment decreased six months post-graduation [9].

The level of "stay in the profession" and "intrinsic value of work" decreased greatly after the subjects became registered nurses. This indicates that there was great disappointment and an inability to identify with nursing career goals after becoming employed and working in actual clinical settings. After graduation, the subjects became co-workers with nursing professionals who had come from different backgrounds, and

the professional identity that they had established as students now faced new challenges [25]. The conflicts between their professionalism and bureaucratic values at work had a great impact on their attitudes toward professionalism as well. Tetrault believes that nursing instructors with a sound professional attitude have a significant impact on their students [27]. However, the co-workers in hospital also influence the way the students view their roles as females, in marriage, and in the family which thus negatively affects their professional commitment [23,24]. Continuous education, good leadership and management may be the components in maintaining and improving employee commitment. Such a concept will continue to develop and change into the future. This surely deserves further study.

Although the level of willingness to make an effort and value identity decreased after the subjects graduated, it was a less serious decrease than the decrease in career-related factors. The researcher has noted that there have been many studies that out the impact between professional commitment and organizational commitment; however, the conceptualization of the formation of professional commitment is a complicated one. It is easy to see that the impact of the professional commitment on the nursing staff turnover rate or on the job satisfaction level should be less than the impact on the organizational commitment level. Taylor and Covaleski pointed out that job satisfaction could only explain twenty percent of the nursing professionals' turnover rate [32]. Even though nursing professionals may dislike their working conditions or environment in their unit, they nevertheless value work ethics and career development. Therefore, if they were allowed to rotate to other units or wards to work, it might decrease the high turnover rate [32]. Gardner also found that the correlation between the turnover rate and nursing professional commitment was relatively low [9]. Generally, each individual's identity started forming while each person was still in school. The professional career values component occured after they had started gaining working experience.

The changes of professional commitment from nursing school to being a registered nurse showed a significant positive correlation as shown in Young [24]. The above finding indicates the significant function nursing education plays in enabling students to cultivate a sound professional identity, professional loyalty, and a positive nursing career value perspective.

In the researcher's former study of nursing students' professional commitment, it was found that per-

sonality traits are an important variable which influences nursing students' professional commitment[19]. From the results of this study, it can be seen that personality traits not only affected students' professional commitment before they had graduated, but also one year post-graduation. The researcher adopted ANOVA and post hoc comparison analysis to further examine the data. The results showed that different personality traits exhibited significant differences toward professional commitment. Finally, after comparison of the personality types, the researcher found type B and type E personality types had lower levels of professional commitment than the other personality types in both pre- and post-test results. This finding suggests that the nursing education and health care practices might consider providing special counseling to those students and nurses whose personality traits are emotionally unstable with an inability to cope with their social environment. This intervention might help prevent some of the nursing staff drain.

There was no significant relationship between the working background of the nursing professionals and a decreased level of professional commitment. What then the factors which affected nurses' professional commitment, causing it to decrease after being employed? This question needs to be studied further. Many researchers have focused on management-related factors. According to Brewer and Lok, the style of the manager can influence nurses' professional commitment [29]. McFarlane, Shore and Wayne found that the way in which employees perceived their managers was the best predictor for commitment and willingness to stay [7]. Saks claimed that the orientation program for new employees working as nurses and continuing education programs affected their professional identity and working attitudes [30]. In conclusion, the above findings reveal that no matter what the nurses' work background-job categories, work unit, type of hospital- there is little impact on newly employed nursing staff. A longitudinal follow-up study and a deeper exploration of the nursing environment may offer an alternative and new insight into factors related to professional commitment.

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從護生到成為護理人員專業承諾改變
之研究

呂桂雲　　邱香蘭　　張永源*

本研究之目的在探討護理專科學生畢業前及畢業一年時的專業承諾及其改變。研究對象為某學院護理科應屆畢業生 890 人。資料收集，前測在研究對象畢業前，以「護理專業承諾量表」及人格測驗為問卷；後測在研究對象畢業一年時，以「護理專業承諾量表」及其工作背景之資料，由研究對象自願填寫。所得資料以平均值、相關檢定、t 檢定、重複量數ANOVA等統計方法處理。結果顯示：(1)護理專業承諾畢業前平均為 2.99 分，畢業一年時為 2.85 分，具中上程度，(2)在護生時期專業承諾高的人畢業後的專業承諾也較高，(3)畢業一年時整體專業承諾及四個因素均顯著降低，(4)人格特質較好者其護生時期及成為護理人員後的專業承諾均較高。(5)畢業一年後專業承諾的降低不因人格特質及各項工作背景之不同而有顯著差異。研究結果對護理教育界及業界提出意見，可做為護理界的參考。

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