

Study on Professional Commitments of Nursing Students After Completing Their Final Clinical Electives

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ABSTRACT

Research Goals: To understand the professional commitments of nursing students after completing their final clinical electives and to explore the different personal background factors affecting these commitments in the nursing profession.

Research Methods: This study made use of a cross-sectional questionnaire, which used the scale for nursing professional commitment developed by Lü (2001), for which a letter of consent was obtained from the author. The research subjects were nursing students at northern Taiwanese university who had completed their final clinical elective courses. 389 valid questionnaires were collected.

Results

(1) The four dimensions of "professional commitment" are generally ranked from high to low as recognition of value, willingness for career involvement, positive career assessment, and willingness to exert effort.

(2) The score for overall professional commitment of nursing students was relatively high for those whose responses included "personal interest" and "easy employment", "two skills", "no support", and "some support..". This was also true for those who rated their health as "excellent" and "very good," whose scores were "above 85%," whose elective hospital level was "medical center," and for whose medical department was "internal medicine," "surgery and operating room" and "emergency and intensive care".

Recommendations

(1) Helping nursing students during their studies has a positive impact on their educational success, which in turn can raise the level of professional commitment of these students.

(2) In their final clinical elective units, nursing students should be provided with greater opportunities to strengthen their working abilities; this will help improve their self-confidence in their nursing work.

Introduction

Although there is sufficient cultivation of Taiwanese nursing manpower, but problems of chronic shortage of nursing manpower, new nurses, and job changes for medical institutions Hu, et al. [1], freshly graduated nurses must face the shortage of nursing

manpower, and complicated work challenges immediately thrust upon them upon entering their profession. Strengthening the practical nursing experience that students receive in school, thus allowing them to recognize the urgency of their own profession,

is crucial in helping new nurses to adapt to their new work environment, and to build their professional work skills Wu, et al. [2]. The development of commitment is an internalized process, and is thus influenced by factors such as internal personal characteristics, family background, and environment Lü, et al. [3]. Professional commitment includes “professional dedication” and “organizational commitment,” and can be an important predictive indicator of willingness to work and level of involvement Benligiray, et al. [4]. If we are able to understand the factors related to the final clinical electives of nursing students which affect their professional commitment, then it will be possible to help administrators for schools, professors, and the industry to arouse a sense of professional mission in nursing students in their design of these final clinical electives.

Although many researchers discuss in detail the phenomenon of the cultivation of professional commitment during the development process of nursing professionals, and the related factors affecting professional commitment Lu, et al. [3,5-7], there are also studies which explore the correlation between the value of work and pressure, and professional commitment Ru, Lin, 2000; Chen, et al. [8]. The research of Wen et al. (2007) revealed that the level of satisfaction in work-study experience, and self-efficacy have a statistically significant and positive effect on professional commitment. The research of Liu, et al. [9] revealed that the completion of final courses can increase the level of professional commitment of nursing students. Still, there is a lack of profound discussion of other related factors’ impact on nursing students’ professional commitment, such as: willingness to exert effort, willingness for career involvement, positive professional assessment, and recognition of professional value. As such, this study analyzes the professional commitment of nursing students

in their final clinical electives from an empirical perspective, in order to understand the factors affecting this commitment and to improve the course quality of these final clinical electives. The goals of this study are as follows:

- a) To explore the professional commitment status of nursing students who have completed their final six-week clinical electives in any medical department.
- b) To explore the relationship between variables of the differing background of nursing students and professional commitment.
- c) To understand the predictive power of variables of background for professional commitment and its component dimensions.

Literature Review

The Connotations of “Professional Commitment”

The sociologist Becker believes that commitment is the mechanism that reconciles humans’ internal traits and behavior,

and thus the term is often used to as a conceptual description to delineate the characteristics of the actions of individuals or groups; as such, from a professional perspective, the term indicates the socialization of the professional role. Speaking generally, professional commitment refers to the attitude held by the individual toward their profession and is the nucleus and spirit that comprise a profession. On an individual level, the degree of stability in one’s profession can be included in the concept, and overall, it makes it easy to achieve professional goals. Nursing professional commitment refers to the lifelong promise of nursing professionals that they are able to promote the development of the nursing profession, and that they maintain the will and act in order to improve the health and wellbeing of mankind Wang, et al. [10,11]. During their studies, nursing students are involved in both edifying and practical substantive work provided by professional nursing education; during this process, individuals’ personal internalization is continuously stimulated, the socialization of the professional role is gradually incorporated, and loyalty and commitment to the nursing identity are formed. Overall, nursing professional commitment refers to the recognition of nurses, including: willingness to exert effort, willingness for career involvement, positive professional assessment, and recognition of professional value Li, et al. [12,13].

Research Related to Nursing Professional Commitment

In international research related to nursing professional commitment, personal variables related to nursing professional commitment are consolidated below. For gender, researchers have discovered that the professional commitment of females is higher than that of males (Ru, Lin, 2000). However, studies have also revealed that there are now differences between the nursing professional commitment of males and females Jie, Guo, Zheng, Hu, et al. [14]. For age, researchers have shown that those of greater age have higher levels of nursing professional commitment Li, et al [15-17], while other researchers have pointed out that the level of nursing commitment is actually higher for those of lesser age Liu, et al. [9,18,19]. For schooling, some studies have shown that nurses graduating from vocational and technical schools have higher levels of nursing professional commitment than that of higher education system graduates (Ru, Lin, 2000), while others have shown that the professional commitment of five-year junior college nursing students is higher than that of students studying at or above the university level Chen, et al.[2,20], and that different types of education system do not affect levels nursing professional commitment Hu, et al. [1].

Considering motivation for studies, studies have revealed that students whose motivations were self-determination or personal interest had higher nursing professional commitment levels than students whose motivations were not self-determined Chen, et al. [8,9,21]. In view of family financial support, some studies indicate that the more satisfactory the economic situation, the higher the

professional commitment of the nurse Jie et al., 2013; Wang, et al. [20,22], still, some research has pointed out that a household's economic situation does not affect nursing professional commitment Hu, et al. [1]). In considering personal perception of health, health covers both physiological and psychological health; the better the health status, the higher the level of professional commitment Wang, et al. [23,24]. Additionally, with the presence of depression, anxiety, or feelings of fear, professional commitment is lower Xie, et al. [13]. Considering academic and work-study performance, those who scored above 80% in school and in their work-study experience, willingness for nursing professional involvement was higher Chen, et al. [8], while another study indicated that differences in academic performance do not affect nursing professional commitment Liu, et al. [9].

Nursing professionals who work at different levels of a hospital were not shown to have different levels of professional commitment Wang, et al. [6]; Zhang, 2008; Liu, et al. [9]. Finally, in consideration of different medical departments, some studies have shown that nursing professionals working in the women & children, and dialysis departments have higher levels of positive professional assessment and willingness for career involvement than those who work in intensive care, internal medicine, and surgical departments Wang, et al. [6]. Still, some studies have shown that there is no difference in the levels of professional commitment among nursing professionals working in different departments Cai, et al. [25]. We can see from the above literature review that personal attribute factors related to the professional commitment of nursing professionals include: gender, age, schooling, academic motivation, family financial support, academic performance, work-study performance, level within the hospital, and medical department. These are included in the personal background variables for this study to explore the effect of varying personal background factors in the professional commitment of nursing students after completing their final six-week clinical elective courses.

Research Methods

Research Subjects

This study applied purposive sampling for its research subjects, namely nursing students at university in northern Taiwan who were in their final year of either two or four year technical programs in the nursing department during the 2012-2013 school year and who had completed their final clinical elective courses. It used a census to conduct a cross-sectional survey, distributing 402 questionnaires, and receiving 392 for a return rate of 97.51%; after deducting those with incomplete responses, 389 valid questionnaires remained.

Research Tools

The research tools for this study include the two components of data on personal background, and a scale of nursing professional commitment. Data on personal background includes: gender,

age, schooling, motivation for studying nursing, family financial support, personal perception of health, average grades in the previous academic semester, average grades in the previous work-study semester, hospital level of clinical electives, medical department of clinical electives, and outside work status. The scale of nursing professional commitment used here is that developed by LüGuiyun (2001), for which a letter of consent was obtained from the author. For this scale, validity checks and factor analysis were conducted by experts, and four dimensions of questions were extracted: willingness to exert professional effort (questions 1-16), willingness for professional career involvement (questions 17-24), positive professional career assessment (questions 25-29), and recognition of professional value (questions 30-34). For these 34 questions, a four-point Likert scale was provided, with responses: "extremely certain," "certain," "uncertain," "extremely uncertain," corresponding to scores of 4, 3, 2, and 1 respectively, where higher points correspond to higher levels of professional commitment among nursing students. The Cronbach's α measuring the scale's internal consistency was valued at 0.93, indicating good internal consistency.

Data Collection Process

Planning for this study went through the review of the Taipei City Hospital Institutional Review Board (IRB) (no. 1020216-E). Before the study commenced, research subjects were solicited; after obtaining the approval of the heads of relevant academic departments and professors, the goals of the study were explained to the research subjects. It was also explained that the method of research used anonymous completion of questionnaires, from which data would be encoded for presentation, the results of the survey would be provided only for academic research and not for other purposes. Also, that the study would completely respect the preservation of personal privacy and that the subjects can freely choose not to participate, or to withdraw from the study at any time. Before the study commenced, subjects' consent was obtained, and subjects signed consent forms.

Results

Detailed Analysis of Nursing Student Types

Among the subjects of this study, women were more prevalent. Students aged between 22.00-22.99 numbered 277 (71.21%), the most common age group. For schooling, there were 213 students in a two-year program (54.77%), the most common schooling group. Students whose motivation for study was family desire totaled 95 (24.42%), the most common motivation group. Students whose families provided total financial support numbered 291 (74.81%), the most common financial support group. Students who perceived their health as good numbered 204 (52.44%), comprising the most common group. Students whose average academic performance was between 80-84.9% numbered 214 (52.4%), the most common

group. Students whose average work-study performance was between 80-84.9 numbered 267 (68.64%), comprising the most common group. Students whose elective course placed them in the medical center hospital level numbered 310 (79.69%), comprising the most common group. Students whose elective courses belonged

to the internal medicine department numbered 114 (29.31%), comprising the most common group. Students whose outside work status was “none” numbered 346 (88.95%), comprising the most common group; the average time spent engaged in outside work was 9.87 hours (Table 1).

Table 1: Personal Background Information.

Personal Background	Two-Year Program (N=213)			Four-Year Program (N=176)			Overall (N=389)		
	People	(%)	M(SD)	People	(%)	M(SD)	People	(%)	M(SD)
Gender									
Male	2	0.9		24	13.6		26	6.7	
Female	211	99.1		152	86.4		363	93.3	
Age									
			22.48(1.71)			22.49(1.82)			22.49(1.76)
			20.25-24.6			20.25-25.25			20-25.60
Motivation for Study									
Family Wishes	37	17.4		58	33		51	15.1	
Decided by Test Scores	30	14.1		29	16.5		50	14.8	
Ease of Employment	36	16.9		27	15.3		64	19.0	
Personal Interest	39	18.3		28	15.9		67	19.9	
Other	24	11.3		8	4.5		104	31.2	
Two or More Motivations	47	22.1		26	14.8		73	26.9	
Family Financial Support									
Full Support	152	71.4		139	79		291	74.8	
Only Tuition	38	17.8		27	15.3		65	16.7	
No Support	18	8.5		8	4.5		26	6.7	
Some Support	5	2.3		2	1.1		7	1.8	
Perception of Personal Health									
Higher scores indicate worse Health	213		2.39(0.84)	176		2.65(0.87)	389		2.52(0.86)
Academic Performance									
85 and above	93	43.7		25	14.2		118	30.3	
80 – 84.9	106	49.8		96	54.5		202	51.9	
75 – 79.9	13	6.1		38	21.6		51	13.1	
70 – 74.9	0	0		16	9.1		16	4.1	
69.9 and below	1	0.5		1	0.6		2	0.5	
Average Work-Study Performance									
85 and above	58	27.2		29	16.5		87	22.4	
80 – 84.9	147	69		120	68.2		267	68.6	
75 – 79.9	7	3.3		18	10.2		25	6.4	
70 – 74.9				9	5.1		9	2.3	

69.9 and below	1	0.5					1	0.3	
Hospital Level									
Medical Center	170	79.8		140	79.5		310	79.7	
Regional Teaching Hospital							71	18.3	
	38	17.8		33	18.8				
District Hospital	5	2.3		3	1.7		8	2.1	
Medical Department of Elective									
Internal Medicine	61	28.6		45	25.6		106	27.2	
Surgery, Operating Room	55	25.8		40	22.7		95	24.4	
Intensive Care	57	26.8		29	16.5		86	22.1	
Respiratory Care, Long-term Care, Gynecological Cancer, Rehab, Psychiatry	9	4.2		19	10.8		28	7.2	
Other, Pediatrics	31	14.6		43	24.4		74	19.0	
Outside Work Status									
None	185	86.9	10.20(6.16)	161	91.5	9.27(4.53)	346	88.9	9.87(5.61)
Some	28	13.1	2-28	15	8.5	1.1-16	43	11.1	1.1-28

Analysis of Professional Commitment after Completion of Final Electives

The average overall score for professional commitment of nursing students in this study was 96.08, with a standard deviation (SD) of 15.03. A higher score indicates higher levels of professional commitment, with scores falling between 52 and 131. Within the questionnaire, the three items receiving the highest scores were, respectively: "Because nursing work helps others, it is very interesting" with a mean score (M) of 3.32, and an SD of 0.61; "I'm embarrassed to tell others that I study nursing (reverse-scoring question)" (M=3.32, SD=1.01); "Nursing work makes a clear contribution to the quality of human society" (M=3.21, SD=0.64). The three items

receiving the lowest scores were, respectively: "I am willing to do nursing work for my entire life" (M=2.11, SD=0.81); "I would tell my friends that: 'nursing is a pretty ideal job.'" (M=2.43, SD=0.78); "If in the future I were to undertake further study or training, I would change to a discipline other than nursing" (M=2.48, SD=0.78).

This study discovered that for the four dimensions of professional commitment: "willingness to exert professional effort," "willingness for career involvement," "positive career assessment," and "recognition of professional value," average scores for professional commitment were respectively 2.71, 2.93, 2.72, and 3.11. The overall level of professional commitment was 2.87. For the four dimensions of this scale and for the scale overall, mean scores were generally higher than the median (2.5).

After completing their final clinical electives, nursing students' professional commitment scores were in the mid-range level.

Relationship Between Background Variables and Professional Commitment

This study discovered that for "overall nursing professional commitment," nursing students in two-year programs had higher scores than those in four-year programs for the two dimensions of "willingness for career involvement," and "positive career assessment." Students whose motivation for study was "personal interest" and "ease of employment" had higher levels of professional commitment than those who responded "family desire" and "decided by test-scores." For family financial support, students whose family financial support situation was "only provides school tuition and partial support" and "no support" had higher levels of nursing professional commitment than those who responded "full support." Students who had a good perception of their personal health had higher levels of professional commitment. For students whose academic performance was "85% and above," "overall nursing professional commitment" and "willingness to exert professional effort" were higher than those whose performance was "80-84.9%," and "79.9% and below."

For nursing students whose work-study performance was "85% and above," levels of "overall nursing professional commitment," "willingness to exert professional effort," "recognition of professional value," and "willingness for career involvement" were higher than those who scored "80-84.9%" and "79.9% and below."

For students whose elective belonged to the “Medical Center,” levels of “overall professional commitment,” “willingness to exert professional effort,” and “recognition of professional value” were all higher than students whose electives belonged to “regional teaching hospitals or district hospitals.”Nursing students whose electives were in the “surgical ward, operating room,” “internal

medicinedepartment,” and “emergency, intensive care ward” had higher levels of “willingness for careerinvolvement” compared to those in the “respiratory care ward, long-term care ward, gynecological cancer, rehabilitation department, or psychology department”(Table 2).

Table 2: Relationship Analysis for Person Type and Professional Commitment(N=389).

Variable	N	Overall Professional Commitment		Willingness to Exert Professional Effort		Willingness for Career Involvement		Positive Professional Assessment		Recognition of Professional Value	
		M (SD)	t/F/r	M (SD)	t/F/r	M (SD)	t/F/r	M (SD)	t/F/r	M (SD)	t/F/r
Schooling^a			3.37**		.99		6.41***		2.48*		.53
①Two-year-Program	213	98.38(15.09)		43.86(8.63)		24.98(4.01)		13.92(2.93)		15.60(2.54)	
②Four-year-Program	176	93.28(14.51)		43.00(8.33)		21.47(6.27)		13.21(2.62)		15.47(2.40)	
Motivation for Study^b		11.76*** ③>①, ④>①, ④>②, ⑥>①			4.02*** ④>①	25.91*** ②>①, ③>①, ④>①, ④>②, ⑤>①, ⑥>① ⑥>②		6.26*** ④>①, ⑥>①			5.06*** ④>①
①Family Wishes	95	88.51(13.45)		41.87(7.74)		19.05(5.95)		12.47(2.68)		14.90(2.47)	
②Determined-by Test Scores	59	93.79(14.73)		42.89(10.2)		22.25(5.65)		13.25(2.67)		15.39(2.35)	
③Ease of Employment	63	96.31(12.26)		42.09(7.06)		25.09(3.16)		13.85(2.25)		15.27(2.20)	
④Personal Interest	67	104.07(15.42)		46.77(8.82)		26.16(3.87)		14.62(2.98)		16.50(2.45)	
⑤Other	32	94.81(15.60)		41.59(8.58)		24.84(4.45)		13.50(2.98)		14.87(2.84)	
⑥Two or More Motivations	73	100.75(13.83)		45.01(7.82)		25.34(4.05)		14.24(2.83)		16.15(2.34)	
Financial Support^b			2.62		.49	6.81*** ②>①, ③>①			3.03**		1.03
①Full Support	295	95.10(14.57)		43.31(8.26)		22.84(5.63)		13.40(2.80)		15.47(2.44)	
②Tuition Only and Partial-Support	68	99.47(16.41)		44.38(9.34)		24.92(4.47)		14.23(2.83)		15.92(2.50)	
③No Support	26	98.15(15.50)		42.92(9.05)		25.73(4.21)		14.19(2.69)		15.30(2.79)	
Perception of Personal Health ^c	389	96.07(15.03)	-.180***	43.47(8.50)	4.52**	23.39(5.44)	-.25***	13.60(2.81)	-.08	15.54(2.48)	-.08
Academic Performance^b		5.65** ①>②, ①>③		5.88** ①>②, ①>③			2.40		.66		2.18

①85分↑	120	99.69(16.26)		45.54(9.39)		24.28(5.36)		13.85(2.98)		15.85(2.78)	
②80-84.9	214	94.92(13.95)		42.84(7.77)		23.07(5.46)		13.49(2.74)		15.50(2.18)	
③79.9↓	55	92.65(15.06)		41.41(8.41)		22.72(5.40)		13.49(2.76)		15.01(2.80)	
Work-Study Performance^b		7.20*** ①>②, ①>③		7.08*** ①>②, ①>③		4.54* ①>③		2.14		4.47* ①>②	
①85↑	84	100.92(15.86)		46.39(8.72)		24.26(5.56)		14.03(3.03)		16.23(2.55)	
②80-84.9	263	95.31(14.31)		42.87(8.14)		23.47(5.18)		13.57(2.74)		15.39(2.36)	
③79.9↓	42	91.14(15.56)		41.38(9.03)		21.21(6.28)		12.95(2.77)		15.11(2.81)	
Hospital Level^a			1.99*		2.31*		-0.34		1.42		2.04*
①Medical Center	310	96.83(14.69)		44.04(8.00)		23.35(5.60)		13.70(2.80)		15.67(2.42)	
②Regional Teaching Hospital and District Hospital	79	93.07(16.03)		41.25(9.96)		23.58(4.79)		13.20(2.87)		15.03(2.63)	
Medical Department of Elective^b			.53		1.13	5.69*** ①>④, ②>④, ③>④		.75		1.08	
①Internal Medicine	106	96.01(15.94)		42.55(9.34)		24.32(4.41)		13.64(2.89)		15.31(2.73)	
②Surgery, Operating Room	95	96.69(14.24)		43.25(8.06)		24.21(4.22)		13.83(2.49)		15.40(2.43)	
③Intensive-Care	86	95.67(15.25)		43.15(8.10)		23.47(5.37)		13.55(3.02)		15.48(2.44)	
④Respiratory Care, Long-term Care, Gynecological Cancer, Rehab, Psychiatry	28	92.53(11.78)		44.28(7.45)		19.53(7.23)		12.78(2.60)		15.92(2.14)	
⑤Other	74	97.16(15.64)		45.14(8.55)		22.40(6.69)		13.62(2.94)		15.98(2.30)	

Note: *p< .05. **p< .01.***p< .001 ; Statistical test method: a: Independent sample t test; b: One-way ANOVA (If F-test shows significance, Scheffe’s method for post-hoc analysis is used) ; c: Person’s correlation

Stepwise Regression Analysis of Personal Background Variables

Using stepwise regression analysis, the variance inflation factor (VIF) for personal background variables on nursing professional commitment overall and in each dimension was calculated for each predictive variable, which all fell between 1.00-1.02. Regression coefficient tolerance values were all between 0.97-0.99, and the residuals (using the Durbin-Watson Test) were between 1.20-1.95, near to the ideal value of 2. This shows compliance with non-multilinear basic assumptions. From Table 3, we can see that

the predictive variables proved to be statistically significant with respect to the regression coefficients for “overall professional commitment;” these were: academic performance (t = -4.10, p < 0.001), perception of personal health (t = -3.81, p < 0.001), family financial support (t = 2.94, p < 0.01), and motivation for study (t = 2.33, p < 0.05).For the dimension “willingness to exert professional effort,” variables which reached statistical significance were: motivation for study (t = 2.57, p < 0.01), perception of personal health (t = -4.79, p < 0.001), academic performance (t = -3.75, p < 0.001), and medical department of clinicalective (t = 2.57, p < 0.05).

Table 3: Analysis of Research Subject Professional Commitment N=389.

Type (No. of Questions)	Highest Value	Lowest Value	Average Value	Standard Deviation	Rank
Overall Level of Nursing Professional Commitment (34)	131	52	2.87	0.78	
Willingness to Exert Professional Effort (16)	64	17	2.71	0.74	4
Willingness for Career Involvement (8)	32	8	2.93	0.89	2
Positive Career Assessment (5)	20	6	2.72	0.84	3
Recognition of Professional Value (5)	20	9	3.11	0.65	1

For the dimension "willingness for career involvement," significant variables were: school system ($t = -6.09, p < 0.001$), family financial support ($t = 2.73, p < 0.05$), and medical department of elective ($t = -2.91, p < 0.01$). For the dimension "positive professional assessment," variables that achieved statistical significance were: family financial support ($t = 2.56, p < 0.05$), perception of personal health ($t = -2.66, p < 0.01$), and academic performance ($t = -2.13, p < 0.05$). For "recognition of professional value," variables achieving statistical significance were: motivation for study ($t = 3.20, p < 0.001$), academic performance ($t = -2.23, p = 0.05$), and hospital level ($t = -2.07, p < 0.05$). The F values for overall significance tests for the overall regression model were, respectively: 12.37, 13.63, 19.87, 6.01, 7.45 (all p values were: $p < 0.001$).

Discussion

Current Status of Professional Commitment

The results of this study reveal that for "professional commitment" overall, and for each dimension, values fell between 2.71 and 3.11. Of the four dimensions, the score for "recognition of professional value" was highest. For overall professional commitment, the average score for each question was 2.87, a mid-level score. From this we can see that nursing students who have completed their final clinical electives have a positive perception of overall professional commitment, which is similar to the findings of Lü, et al. [5,1,8], that nursing students have a mid-level of professional commitment. For the subjects of this study, who have completed their final clinical electives, scores for "recognition of professional value" were highest, followed by "willingness for career involvement," "positive career assessment," and "willingness to exert professional effort"; these results are consistent with related Taiwanese studies which have also found that recognition of professional value received the highest scores, and willingness to exert professional effort the lowest Wang, et al., [5,6,8,20]. So, nursing students recognize the value of the nursing profession, but are less willing to exert effort in carrying out nursing work.

Primarily, this could be due to a poor work environment, low wages, frustration, severe work pressure, few opportunities for advancement, not being respected, and an increase in medical disputes Chen, et al. [8,26]. Additionally, due to the high turnover rate of nurses in the current working environment, the workload of nurses is excessively large (Zhou, 2012); this causes nursing

students to have a low willingness to exert professional effort. The results of this study found that the three items measuring nursing professional commitment were, in descending order: "Because nursing work helps others, it is very interesting," "I'm embarrassed to tell others that I study nursing (reverse-scoring question)," and "Nursing work makes a clear contribution to the quality of human society"; this reveals that nursing students approve of the work done by nurses after graduation Lü, et al.[5,27]. The three items measuring nursing professional commitment that received the lowest scores were, in ascending order: "I am willing to do nursing work for my entire life," "I would tell my friends that: 'nursing is a pretty ideal job,'" and "If in the future I were to undertake further study or training, I would change to a discipline other than nursing"; this could be due to the fact that clinical work pressure exceeds individuals' physical and mental capacity, causing a decrease in the willingness of nursing students to exert effort (Cai et al., 2012).

The results of this study reveal that with regard to schooling systems, nursing students in two-year programs have higher overall professional commitment, "willingness for career involvement," and "positive career assessment" than students in four-year programs; this is consistent with other Taiwanese studies Chen, et al. [8,23,20]. Furthermore, Chen, et al. [8] and Cai et al. (2001) have pointed out that different school systems do not affect "willingness to exert professional effort," "positive career assessment," or "recognition of professional value"; this is similar to the results of this study, and is because students in two-year programs undergo five years of specialized study, then take on advanced training, causing their relatively high recognition of professional commitment. Differing motivations for study had a statistically significant effect on scores for overall professional commitment and each of its component facets; this result is consistent with the findings of Chen, et al. [8,9,21]. For students whose motivation for study is personal interest, the higher the positive assessment, the higher the level of nursing professional commitment. Family financial support did not prove to have significant effects on "willingness for career involvement" or "positive professional assessment," we propose that this may be due to the fact that the subjects of the study were nursing students, and those who were not, or only partially supported bore responsibility for their finances; thus, these students had a relatively high willingness for career involvement. For perception of personal health, those students who perceived

their health to be “very good” and “good” had higher levels of willingness to exert professional effort and positive professional assessment than those students who perceived their health as “poor” and “very poor.”

Another Taiwanese study pointed out that nurses with tough personalities and who perceive their health as good have higher levels of professional commitment (Han, 2007); this is consistent with the results of this study. For variation in the academic performance of nursing students, overall, and for “willingness to exert professional effort,” grades had a statistically significant relationship with professional commitment; a Taiwanese study showed that nursing students whose academic grades were higher than 80% had higher levels of professional commitment than those students who scored below 79% Chen, et al. [8], a result consistent with the results of this study. Still, Chen, et al. [8] further proposed that the higher the grades of a nursing student, the greater their professional commitment dimension “willingness for career involvement.” The results of this study show that the higher a nursing student’s grades, the higher the professional commitment dimension “willingness to exert professional effort,” inconsistent with Chen’s results. Our result could be because nursing students with higher academic results have higher expectations for their results, and are more willing to make attempts Huang, et al. [28]. Considering variation in work-study performance, this variable reached the significant level for professional commitment overall, and for the dimensions of “willingness to exert professional effort,” “recognition of professional value,” and “willingness for professional involvement.”

Other Taiwanese studies have revealed that previous grades are not significantly related with nursing professional commitment Liu, et al. [9], which is inconsistent with the findings of this study. Still, a study has shown that students whose grades were 80% and higher had higher levels of nursing professional commitments when compared with students whose grades were 79% and below Chen, et al. [8]. For students, electives in different hospital levels were shown to have significantly effects on overall professional commitment, as well as the dimensions “willingness to exert professional effort,” and “recognition of professional value;” this shows that the level of nursing professional commitment for nursing students in the “medical center” was higher than those in “regional teaching hospitals and district hospitals.” A study

by Chen et al. (2010) showed that the hospital level of nursing student electives does not affect levels of nursing professional commitment; these results are inconsistent with our own, and we propose that our results may be due to the fact that the degree of care that nursing students in the medical center experience is high, which causes them to have a correspondingly higher willingness to exert effort Liao [29]. For nursing students whose electives belong to different medical departments, the dimension “willingness for career involvement” was shown to be significantly affected. Those students with electives in “internal medicine,” “surgery and operating room,” and “emergency and intensive care unit” had higher levels of professional commitment, which we propose may be due to the fact that the working abilities of students in these departments improved rapidly, causing a rise in their self-confidence towards their nursing work Ye, et al. [30]; Lin, Zhang, Chen, Cai, Huang, 2000. A Taiwanese study has pointed out that nurses in dialysis rooms and women and children departments have higher levels of professional commitment than those in internal medicine and surgery Wang, et al. [6], while another study shows that there is no significant difference in the levels of nursing professional commitment between nurses working in different medical departments Liu, et al. [9]; the results of these studies are inconsistent with our own results.

Predictive Factors for Professional Commitment

Through its stepwise regression analysis, this study discovered that the four variables of academic performance, perception of personal health, family financial support, and motivation for study can predict overall professional commitment. This shows that for nursing students with better grades and better perception of personal health, no family financial support, and who are motivated by personal interest or ease of employment can be predicted to have better professional commitment (Table 4). Further, academic performance, perception of personal health, family financial support, motivation for study, and medical department of elective are all predictive variables for “willingness to exert professional effort.” This shows that nursing students whose elective belongs to the chronic long-term care ward can be predicted to have better willingness to exert professional effort. School-system, family financial support, and medical department of elective are predictive variables for “willingness for career involvement.”

Table 4: Stepwise Regression Analysis for Personal Characteristics and Professional Commitment.

Variable Name	Willingness to Exert Professional Effort			Willingness for Career Involvement		
	β(SE)	t-value	VIF	β(SE)	t-value	VIF
Schooling				-3.20(.52)	-6.09***	1.01
Family Financial Support				.90(.38)	2.37*	1.01
Motivation for Study	.36(.14)	2.57**	1.01			

Perception of Personal Health	-2.26(.47)	-4.79***	1.01			
Academic Performance	-1.92(.51)	-3.75***	1.01			
Medical Department of Elective	.60(.28)	2.11*	1.01	-.53(.18)	-2.91**	1.01
F-Value	13.633***			19.872***		
Adjusted R ²	.115			.127		
Variable Name	Positive Professional Assessment			Recognition of Professional Value		
	β(SE)	t-value	VIF	β(SE)	t-value	VIF
Family Financial Support	53(.20)	2.56*	1.00			
Perception of Personal Health	-.43(.16)	-2.66**	1.01			
Motivation for Study				.14(.04)	3.20***	1.00
Academic Performance	-.37(.18)	-2.13*	1.01	-.35(.16)	-2.23*	1.02
Hospital Level				-.55(.27)	-2.07*	1.02
F-Value	6.013***			7.452***		
Adjusted R ²	.037			.048		
Variable Name	Overall Professional Commitment					
	β(SE)	t-value	VIF			
Academic Performance	-3.71(.91)	4.10***	1.01			
Perception of Personal Health	3.21(.84)	-3.81***	1.01			
Family Financial Support	3.10(1.06)	2.94**	1.01			
F-Value	12.368***					
Adjusted R ²	.105					

This shows that students in two-year programs, those in internal medicine, surgery, and in the intensive care unit can be predicted to have better “willingness for career involvement.” Predictive variables for “positive professional assessment were academic performance, perception of personal health, and family financial support. For “recognition of professional value,” predictive variables included motivation for study, academic performance, and hospital level; this shows that for students whose final clinical electives belong to the medical center, better “recognition of professional value” can be predicted. This is largely in line with the results of Lü et al. (1998), Lu, et al. [7,5,8], with regard to the motivation for study, school system, hospital level, and academic performance of nursing students[31-34].

Conclusion

- a) The average level of professional commitment for nursing students who have completed their final clinical electives was 2.87, a mid-level score. Considering each dimension of commitment, scores for “recognition of professional value” were highest.
- b) For variables of different backgrounds and professional commitment, eight variables caused statistically significant

variation. Two-year school system, motivation by personal interest or ease of employment, no or only partial family financial support, and better perception of personal help all resulted in better professional commitment. In addition, academic and work-study grades of 85% and above, electives in the medical center, and those in internal medicine, intensive care, and operating rooms were also shown to have better professional commitment.

- c) Considering the predictive value of variables for different personal backgrounds for professional commitment, the best predictive variables were academic performance, perception of personal health, family financial support, motivation for study, medical department of elective, school system, and hospital level.

Suggestions

The results of this study reveal that as academic and work-study performance increase, so to do the overall and component dimensions of professional commitment. Thus, this study recommends that nursing students be assisted in their studies to achieve positive academic success, which will increase their professional commitment. Additionally, electives in internal

medicine, surgery, and intensive care yielded higher willingness for career involvement than other departments. For this reason, we suggest that final clinical electives offer opportunities for nursing students to improve their working skills; this will improve the self-confidence of students in their work. This study, like many others, shows that of all dimensions of professional commitment, willingness to exert professional effort received the lowest score. Thus, this study suggests that when nursing students return to school, professors use this time to address problems and conflicts encountered in their final clinical electives, provide appropriate counseling, and clarify doubts and flawed conceptions of their future nursing work. At the same time, we suggest that the government request medical institutions to implement reasonable nurse-patient ratios to avoid over-working clinical nurses. This over-work causes fatigue, poor work environments, and reduces the willingness of nursing students to enter the profession.

Limitations

This study faced manpower, material, and time constraints, and used only the nursing students of the nursing program at a northern Taiwan university as its subjects and scope. Thus, its results cannot yield comprehensive conclusions. In order to improve the sense of mission of graduated nursing students, we recommend that future studies expand the scope and subjects of research, and understand the influencing factors for the professional commitment of students who have completed their final clinical electives. At the same time, future research can move towards longitudinal studies to better understand how the professional commitment of nursing students varies at different points in time during their final clinical electives, as well as factors which influence these differences.

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