

Nursing Students' Learning Motivation Toward Technical Knowledge and Their Ethics Regarding Patients' Rights

Yasushi Kudo,¹ Sachiko Hayashi,² Emiko Yoshimura,³ Akitaka Shibuya^{1,4} and Yoshiharu Aizawa⁵

¹Department of Health Care Management, Kitasato University School of Medicine, Sagamihara City, Kanagawa, Japan

²Faculty of Nursing, Mejiro University, Saitama City, Saitama, Japan

³Kawasaki City College of Nursing, Kawasaki City, Kanagawa, Japan

⁴Department of Risk Management and Health Care Administration, Kitasato University School of Medicine, Sagamihara City, Kanagawa, Japan

⁵The Kitasato Institute, Kitasato University, Tokyo, Japan

Nursing students must develop their abilities to provide appropriate nursing services. They need to acquire the level of nursing knowledge to pass the national examination according to Japanese law. Moreover, even if the awareness of the rights of people who receive nursing services increases, students must not have a sense of resistance toward those rights. Therefore, we investigated the factors associated with students' motivation to pass their examination and such a sense of resistance. We produced items related to reasons students wanted to become registered nurses with reference to job satisfaction and their learning environment (e.g., teachers' manners and school events unrelated to the examination). There were 3,417 female nursing students analyzed in 29 vocational schools that allow graduation after a 3-year study period (average age, 21.93 years [standard deviation, 5.44]). Older and third-year students had a stronger motivation to pass the examination and a weaker sense of resistance to people's rights compared with younger and first- to second-year students. Students who answered a "Lack of enthusiasm for becoming a registered nurse" had a weakened motivation and a strengthened sense of resistance. Factors enhancing students' motivation to pass their examination were "Professional commitment," "Desire for companionship," and "School events unrelated to the national examination." Factors strengthening students' sense of resistance to people's rights were "Living stability" and "Social appraisal." Teachers must develop methods to teach ethics so that their students respect the rights of people who receive nursing services and to ensure that they acquire the necessary nursing knowledge.

Keywords: ethics; motivation; nurse education; nursing student; questionnaire

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Introduction

It is essential for nursing students to develop their abilities so that they can provide appropriate nursing services. Therefore, they must acquire the technical knowledge required of registered nurses. According to Japanese law, they must graduate from an accredited nursing educational institute (Health, Labor and Welfare Statistics Association 2012a). Teachers in such institutes must instruct students so that they acquire the level of technical knowledge to pass the national examination for registered nurses. Moreover, the patients' rights must always be respected (American Hospital Association 1972; World Medical Association 1981; Saito et al. 2011). Therefore,

nursing teachers must also develop the proper education to promote their students' ethical growth so that they will be able to respect the rights of people who receive nursing services.

Saito et al. (2011) reported that if the awareness of patients' rights increases, medical students may expect that patients might make various demands of them that may be difficult to comply with. However, students must not have a sense of resistance to those rights. With this awareness, they investigated the factors associated with medical students' sense of resistance to patients' rights. They discovered that excessive measures to pass the national examination for medical practitioners significantly increase medical students' sense of resistance to patients' rights. This

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Correspondence: Yasushi Kudo, Department of Health Care Management, Kitasato University School of Medicine, 1-15-1 Kitasato, Minami-ku, Sagamihara, Kanagawa 252-0374, Japan.
e-mail: ykudo@med.kitasato-u.ac.jp

research is also helpful as it relates to nursing students' education. There may also be an adverse association between nursing students' sense of ethics regarding respecting people's rights and their learning motivation. If so, nursing teachers must reconsider their educational methods.

Saito et al. (2011) only investigated the factors associated with "A sense of resistance to patients' rights" among medical students. However, to become professionals such as registered nurses and physicians, students must learn the requisite technical knowledge, and pass the national examination (Health, Labor and Welfare Statistics Association 2012a). Therefore, in the present study, we focused on nursing students and investigated the factors to increase the "Motivation to pass the national examination in addition to "A sense of resistance to people's rights."

Regarding the factors associated with these 2 items, we focused on the reasons nursing students wanted to become registered nurses. Regarding these reasons, we made the items with reference to the concept of job satisfaction (Maslow 1954; Herzberg et al. 1959; McGregor 1960; Robbins 2004). In these studies, the contents of job satisfaction were generally classified into intrinsic (those intrinsic to the nature and experience of working) and extrinsic facets. Concrete examples of intrinsic facets are: achievement, recognition, responsibility, decision making, challenging jobs, and self-actualization. On the other hand, concrete examples of extrinsic facets are: supervision, salary, working conditions, job security, and security from harm. We think that there are close links between the reasons nursing students want to become registered nurses and their expectations toward future jobs. Therefore, we applied the concept of job satisfaction to this study.

In this study, it was assumed that the learning environment also influences the "Motivation to pass the national examination" and "A sense of resistance to people's rights." If teachers and students have bad manners, the environment is not conducive for students to acquire nursing knowledge and a sense of ethics. We, therefore, asked questions about both the teachers' and the students' manners. In addition, a learning environment aimed at only passing the national examination for registered nurses may produce adverse effects on the development of the students' sense of ethics. The mental burdens on students may augment and discourage them from learning technical knowledge. Therefore, we think that school events unrelated to the national examination are important for students' growth. According to our interviews with the nursing teachers in accredited educational institutes, each school conducts certain events (e.g., a capping ceremony and a culture festival), although the kinds of events vary from school to school. We asked the students' opinions regarding the degree of importance their schools place on such events. We examined whether or not that degree of importance was associated with the items, "Motivation to pass the national examination" and "A sense of resistance to people's rights."

When nursing teachers teach their students, it is impor-

tant that they know what kind of students lack the ethical sense to respect the rights of people who receive nursing services. Teachers must also know which students have the motivation to acquire the requisite technical knowledge. Therefore, we focused on students in many accredited nursing vocational schools in Kanagawa and Chiba prefectures in Japan, and attempted to investigate the factors associated with the "Motivation to pass the national examination" and "A sense of resistance to people's rights." To our knowledge, there are no such studies in the literature to date.

Subjects and Methods

Participating nursing educational institutes and subjects

In Japan, the most common way to become a registered nurse is for a nursing student to study at an accredited nursing educational institute for 3 or more years after graduating from senior high school (Health, Labor and Welfare Statistics Association 2012a). After graduation from such an institute, it is necessary to pass the national examination for registered nurses. Those nursing educational institutes can be classified into 3 types: vocational schools, junior colleges, and colleges and universities.

Regarding vocational schools, students at these schools most commonly graduate after 3 years of study. However, there are a few vocational schools where students can take the national examination to become a public health nurse or a midwife after 4 years of study. There are also some evening courses in which students in vocational schools can take the national examination to become a registered nurse after 4 years of study.

The nursing students in vocational schools who graduate after 4 years of study, and those from junior colleges, colleges and universities may have various facets of the reasons they want to become registered nurses (e.g., nursing teachers and scientists). Therefore, the present study focuses on the nursing students in vocational schools that allow graduation after only a 3-year study period. According to our interviews with nursing teachers in accredited vocational schools, most nursing students in Japan are females. Therefore, this study focuses on female nursing students. Students who had taken a temporary leave from school were excluded.

This study was carried out in Chiba and Kanagawa. In each of those prefectures, there is 1 organization in which the teachers of accredited nursing institutes discuss the education for registered nurses. With the help of these 2 organizations, we requested vocational schools to participate in this study. According to those organizations, at the time of the present survey, there were 19 vocational schools that allow graduation after a 3-year study period in Kanagawa and 18 such schools in Chiba. There were 16 schools that participated in this survey from Kanagawa and 14 schools from Chiba. However, in 1 school in Chiba, the person in charge of the present study mistakenly distributed questionnaires to both the male and female students. This was not according to our study protocol. Therefore, we excluded all the students in that school from the subjects of the present study. Thus, there were 5,108 female students from 16 schools in Kanagawa and 13 schools in Chiba as the subjects of this study.

Questionnaire Contents

The contents of the questionnaire are classified into the following parts: 1) the characteristics of subjects, 2) the reasons the nursing

students wanted to become registered nurses, 3) learning environment, 4) motivation for studying and a sense of ethics, and 5) whether or not students have completed the subject of public health, and 6) nursing students' attitudes toward public health. Because the items regarding "whether or not students have completed the subject of public health" and "nursing students' attitudes toward public health" were not related to the present study, we did not use them. Regarding "the reasons the nursing students wanted to become registered nurses," "learning environment," and "motivation for studying and a sense of ethics," the contents of the questionnaire are shown in the Appendix (original version in Japanese).

Subjects' characteristics

Regarding the subjects' characteristics, we only asked about age and academic year. Saito et al. (2011) analyzed whether or not the academic year was significantly associated with "A sense of resistance to patients' rights" by using multiple linear regression analysis. As a result, there were no significant differences. However, Saito et al. (2011) made a profound statement in her paper in the discussion. She noted that the academic year can influence the students' sense of ethics, because they have more opportunities to directly contact patients in hospital wards as the year progresses. Therefore, in the present study, we assumed that the academic year was a factor that influences their sense of ethics. In addition, as students advance in academic years, the time to take the national examination gets nearer. Accordingly, we hypothesized that upper-year students have more "Motivation to pass the national examination."

Reasons nursing students wanted to become registered nurses

We made the items regarding the reasons the nursing students wanted to become registered nurses with reference to the study concept of job satisfaction and our previous study of professional nurses' job satisfaction (Maslow 1954; Herzberg et al. 1959; McGregor 1960; Robbins 2004; Kudo et al. 2010). We assumed that the facets of these reasons were: "Living stability," "Desire for companionship," "Lack of enthusiasm for becoming a registered nurse," "Social appraisal," "Professional commitment," and "Self-actualization." Each facet was composed of 4 items (see the Appendix). Each item in these facets was rated on a 7-point scale from "Definitely agree" to "Definitely disagree."

The contents of job satisfaction were generally classified into intrinsic and extrinsic facets. The intrinsic facets (those intrinsic to the nature and experience of working) are a higher order than extrinsic facets. "Living stability," "Desire for companionship," and "Lack of enthusiasm for becoming a registered nurse" are extrinsic facets. "Social appraisal," "Professional commitment," and "Self-actualization" are intrinsic facets.

However, "Social appraisal" can be interpreted in various ways. When we conducted the job satisfaction study in hospitals (Kudo et al. 2010), some of the registered nurses in those hospitals told the first author, "Professional nurses should be pleased to help people; and the pleasure felt by the people they help should be sufficient reward for their services. Those who work for only their own fame are not suited for this occupation." In the case of registered nurses, this facet can be considered as a lower order extrinsic facet.

We hypothesized that the factors significantly associated with "A sense of resistance to people's rights" and "Motivation to pass the national examination" considerably differ. Especially, we hypothesized that the extrinsic facets significantly increase the effect of "A

sense of resistance to people's rights." For instance, the nursing shortage is currently a very serious problem in Japan (Sawada 1997; Takahashi 2008). Therefore, once the students obtain a registered nurse's certification, they will most likely find jobs easily even in an economic depression. When the primary purpose in choosing a job is to ensure their own living stability, there is not the concern for others' physical and mental wellbeing. Therefore, we think that such students may not have sufficiently nurtured the respect for people's rights.

Learning environment

We made the following 3 items: "Students' manners," "Teachers' manners," and "School events unrelated to the national examination." These items were rated on a 7-point scale from "Definitely agree" to "Definitely disagree."

Motivation for studying and a sense of ethics

"Motivation to pass the national examination" was determined by, "I study hard daily to pass the national examination for registered nurses." This item was rated on a 7-point scale from "Definitely agree" to "Definitely disagree." As we mentioned in the introduction, nursing students must pass the examination for their certification by acquiring technical knowledge.

"A sense of resistance to people's rights" was determined by, "If the awareness of the rights of people who receive nursing services increases, it may become more difficult to offer nursing services." This item was rated on a 7-point scale from "Definitely agree" to "Definitely disagree." Saito et al. (2011) reported that if patients insist on their rights strongly, medical students may imagine that patients might make various demands of them that may be difficult to comply with. In that case, they may consider patients' rights negatively. In the present study, we also created the item with reference to Saito et al.'s study (2011).

Questionnaire distribution and collection

During the period of June to September 2012, anonymous self-administered questionnaires, with return envelopes and Japanese explanatory literature of the present study, were distributed to 5,108 nursing students. Approximately 1 week after the distribution, the questionnaires were collected in the sealed envelopes that were provided to ensure obtaining truthful answers. The participants could either place the questionnaires in the collection boxes or hand them directly to the persons in charge.

Statistical analyses

We calculated the Pearson's correlation coefficient between "A sense of resistance to people's rights" and "Motivation to pass the national examination." Factor analysis (the principal factor method and promax rotation) of the 24 items concerning the reasons the nursing students wanted to become registered nurses was then performed. Factors with eigenvalues of ≥ 1 were retained. The Cronbach's alpha of each facet of the reasons the nursing students wanted to become registered nurses was also calculated.

To investigate the factors associated with "Motivation to pass the national examination" and "A sense of resistance to people's rights," standard partial regression coefficients were computed using multiple linear regression analyses. The "Motivation to pass the national examination (Statistical Model 1)" and "A sense of resistance to people's rights (Statistical Model 2)" were dependent variables.

Age, academic year, the reasons the nursing students wanted to become registered nurses, and learning environment were independent variables in both models. We also calculated the Pearson's correlation coefficients between the dependent and independent variables in both models.

PASW[®] Statistics 18.0 was used for all statistical analyses. The level of significance was set at $P < 0.05$.

Analyzed subjects

Questionnaires from 3,668 respondents among the 5,108 subjects were collected for a return ratio of 71.8%. The questionnaires which had one or more missing values in the items used in this study were excluded for the analyses. Consequently, 3,417 questionnaires were analyzed (effective response rate, 66.9%).

Ethics

We distributed the Japanese explanations of the study with the anonymous self-administered questionnaires and return envelopes to the 5,108 subjects. The explanations of this study were given, e.g., clarification of the concept of voluntary cooperation in the study, the

fact that submitting the questionnaire indicates the respondent's consent to cooperate, and a statement of privacy protection. The Ethics Committee of Kitasato University approved this study without having to undergo an ethical review proceeding.

Results

The distributions of the analyzed subjects' characteristics, "A sense of resistance to people's rights," and "Motivation to pass the national examination" are shown in Table 1. The average age (standard deviation [s.d.]) of the 3,417 nursing students was 21.93 (5.44) years old. The range was from 18 to 48 years old. We also calculated the Pearson's correlation coefficient between "A sense of resistance to people's rights" and "Motivation to pass the national examination." To do that, for these 2 items, 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree." There was a significant correlation (Pearson's correlation coefficient = 0.037, $P = 0.031$).

Table 2 shows the 6 factors extracted by factor analy-

Table 1. Distributions of analyzed subjects.

Variable	<i>n</i>	%
Age		
≤ 19	1,426	41.7
20-29	1,599	46.8
30-39	326	9.5
≥ 40	66	1.9
Academic year		
1st	1,147	33.6
2nd	1,150	33.7
3rd	1,120	32.8
Motivation to pass the national examination		
Definitely agree	83	2.4
Agree	216	6.3
Somewhat agree	645	18.9
Neither agree nor disagree	795	23.3
Somewhat disagree	673	19.7
Disagree	565	16.5
Definitely disagree	440	12.9
A sense of resistance to people's rights		
Definitely agree	101	3.0
Agree	235	6.9
Somewhat agree	765	22.4
Neither agree nor disagree	1,662	48.6
Somewhat disagree	301	8.8
Disagree	194	5.7
Definitely disagree	159	4.7
Total	3,417	100

Table 2. Factor loadings of the reasons the nursing students wanted to become registered nurses.

Factor	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Factor 1 (Living stability)						
3. Stable salary that is not affected by economic situations	0.948	-0.013	-0.013	-0.019	-0.017	0.036
1. Adequate salary	0.901	0.025	-0.030	-0.011	-0.027	-0.020
2. Higher salary than other occupations	0.862	-0.044	0.034	-0.011	0.011	0.019
4. Security of employment	0.771	0.019	0.020	0.029	0.052	-0.005
Factor 2 (Professional commitment)						
19. Deeply pursuing their specialty	-0.001	0.973	-0.005	-0.004	0.018	-0.089
18. Work using professional skills	0.016	0.954	0.004	0.033	-0.020	-0.018
17. Nursing specialty	-0.030	0.758	0.026	-0.012	-0.011	0.070
20. Developing occupational skills	-0.005	0.678	0.003	-0.073	0.011	0.136
Factor 3 (Social appraisal)						
15. Good public image	0.003	-0.024	0.896	<0.001 ^a	-0.034	-0.023
14. Respected occupation	-0.077	-0.056	0.846	-0.038	-0.003	0.139
13. High social status	0.071	0.035	0.738	0.026	<0.001 ^b	-0.130
16. Socially credible occupation	0.025	0.089	0.713	-0.015	0.056	0.038
Factor 4 (Lack of enthusiasm for becoming a registered nurse)						
11. Not such a strong desire to become a registered nurse	-0.013	0.005	-0.015	0.890	-0.017	-0.040
10. Considering becoming a registered nurse	-0.014	0.021	-0.003	0.867	0.047	0.012
12. Can no longer change my career choice at this late date	0.074	0.007	0.103	0.710	-0.062	-0.029
9. To become a registered nurse or not	-0.041	-0.055	-0.083	0.661	0.022	0.101
Factor 5 (Desire for companionship)						
7. Registered nurses as mature people	-0.013	0.002	0.036	-0.031	0.794	-0.015
5. Friendly atmosphere	0.034	-0.020	-0.044	0.022	0.785	-0.027
6. Registered nurses as thoughtful people	-0.001	-0.012	-0.075	0.020	0.784	0.105
8. Making close friends easily	-0.010	0.031	0.106	-0.004	0.696	-0.075
Factor 6 (Self-actualization)						
24. An occupation that is helpful to others	0.023	-0.013	-0.095	0.035	-0.035	0.881
23. A proud occupation	0.015	0.085	0.025	-0.057	-0.037	0.784
22. An occupation that allows personal growth	0.005	0.197	-0.055	0.022	0.031	0.678
21. An occupation people appreciate	-0.017	-0.112	0.211	0.057	0.054	0.660
Interfactor correlations						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Factor 1 (Living stability)	1					
Factor 2 (Professional commitment)	-0.116	1				
Factor 3 (Social appraisal)	0.380	0.113	1			
Factor 4 (Lack of enthusiasm for becoming a registered nurse)	0.344	-0.523	0.220	1		
Factor 5 (Desire for companionship)	0.196	0.288	0.453	-0.078	1	
Factor 6 (Self-actualization)	-0.084	0.638	0.226	-0.410	0.410	1

Bold-faced type shows factor loadings ≥ 0.4 .

^{a, b} As factor loadings can become either positive (+) or negative (-), absolute values were used.

For the factor analysis (the principal factor method and promax rotation), for each item of the reasons the nursing students wanted to become registered nurses, 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree." Factors with eigenvalues of ≥ 1 were retained. These 6 factors accounted for 75.41% of the total variance of the 24 items before the rotation, and the eigenvalues of factors 1 to 6 were: 6.530, 5.291, 2.070, 1.661, 1.424, and 1.123, respectively.

sis of the items concerning the reasons the nursing students wanted to become registered nurses. These 6 factors were: Factor 1 (Living stability), Factor 2 (Professional commitment), Factor 3 (Social appraisal), Factor 4 (Lack of enthusiasm for becoming a registered nurse), Factor 5 (Desire for companionship), and Factor 6 (Self-actualization). These 6 factors accounted for 75.41% of the total variance of the 24 items before the rotation, and the eigenvalues of factors 1 to 6 were: 6.530, 5.291, 2.070, 1.661, 1.424, and 1.123, respectively.

The mean, SD, and Cronbach's alpha of each facet of the reasons the nursing students wanted to become registered nurses is shown in Table 3. The mean (s.d.) regarding "Students' manners," "Teachers' manners," and "School events unrelated to the national examination" are also shown in Table 3. The Cronbach's alphas were 0.925 for "Living stability," 0.921 for "Professional commitment," 0.877 for "Social appraisal," 0.856 for "Lack of enthusiasm for becoming a registered nurse," 0.849 for "Desire for companionship," and 0.844 for "Self-actualization." The mean (s.d.) of "Students' manners," "Teachers' manners," and "School events unrelated to the national examination" were 4.28 (1.50), 4.61 (1.50), and 4.88 (1.51), respectively.

Pearson's correlation coefficients and standard partial regression coefficients are shown in Table 4. To conduct the multiple linear regression analyses, independent variables were: Age, 2nd year, 3rd year, Factor 1 (Living stability), Factor 2 (Professional commitment), Factor 3 (Social appraisal), Factor 4 (Lack of enthusiasm for becoming a registered nurse), Factor 5 (Desire for companionship), Factor 6 (Self-actualization), "Students' manners," "Teachers' manners," and "School events unrelated to the national examination." All of these independent variables were fixed in both models.

"Motivation to pass the national examination" had significant correlations with age, 2nd year, 3rd year, "Living stability," "Professional commitment," "Lack of enthusiasm

for becoming a registered nurse," "Desire for companionship," "Self-actualization," "Students' manners," "Teachers' manners," and "School events unrelated to the national examination." In the results of the multiple regression analysis (Statistical Model 1), "Motivation to pass the national examination" was significantly associated with age, 3rd year, "Professional commitment," "Lack of enthusiasm for becoming a registered nurse," "Desire for companionship," and "School events unrelated to the national examination." The variance inflation factors were < 2 in all variables. The adjusted R^2 value was 0.114.

"A sense of resistance to people's rights" had significant correlations with age, 3rd year, "Living stability," "Social appraisal," "Lack of enthusiasm for becoming a registered nurse," and "Desire for companionship." In the results of the multiple regression analysis (Statistical Model 2), "A sense of resistance to people's rights" was significantly associated with age, 3rd year, "Living stability," "Social appraisal," and "Lack of enthusiasm for becoming a registered nurse." The variance inflation factors were < 2 in all variables. The adjusted R^2 value was 0.041.

Discussion

This study focused on the reasons nursing students wanted to become registered nurses and their learning environments. We studied how these factors influenced their "Motivation to pass the national examination" and "A sense of resistance to people's rights."

Among previous studies related to the reasons nursing students wanted to become registered nurses (Beck 2000; Ichiyani et al. 2009), Beck (2000) investigated the themes that emerged describing choosing nursing as a career in a university in New England. She discovered 8 themes: "1. An intense desire and genuine love of helping others was a predominant motive for choosing nursing as a career," "2. Nursing is perceived of as a profession in which not only the patient reaps the benefits but also the nurses," "3. Prior

Table 3. Means, standard deviations, and Cronbach's alphas.

Variable	Number of items	Mean	Standard deviation	Cronbach's alpha
Factor 1 (Living stability)	4	19.30	5.62	0.925
Factor 2 (Professional commitment)	4	19.79	5.44	0.921
Factor 3 (Social appraisal)	4	11.91	5.74	0.877
Factor 4 (Lack of enthusiasm for becoming a registered nurse)	4	12.66	6.22	0.856
Factor 5 (Desire for companionship)	4	12.95	5.13	0.849
Factor 6 (Self-actualization)	4	21.24	4.86	0.844
Students' manners	1	4.28	1.50	—
Teachers' manners	1	4.61	1.50	—
School events unrelated to the national examination	1	4.88	1.51	—

To calculate the means, standard deviations, and Cronbach's alphas, the following system was used. Regarding the items for each facet of the reasons the nursing students wanted to become registered nurses, 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree." As shown in Table 2, each facet was composed of 4 items. Therefore, the range of the score of each facet per analyzed subject could be from 4 to 28. Regarding "Students' manners," "Teachers' manners," and "School events unrelated to the national examination," 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree."

Table 4. Factors associated with "Motivation to pass the national examination" and "A sense of resistance to people's rights."

Independent variable	Motivation to pass the national examination (Statistical Model 1)				A sense of resistance to people's rights (Statistical Model 2)			
	r	P	β	VIF	r	P	β	VIF
Age	0.109	< 0.001	0.052	1.228	-0.086	< 0.001	-0.064	0.001
2nd year	-0.076	< 0.001	-0.024	1.411	0.027	0.110	-0.029	0.143
3rd year	0.043	0.012	0.050	1.459	-0.093	< 0.001	-0.096	< 0.001
Factor 1 (Living stability)	-0.079	< 0.001	-0.034	1.264	0.140	< 0.001	0.091	< 0.001
Factor 2 (Professional commitment)	0.273	< 0.001	0.157	1.969	-0.025	0.140	0.017	0.467
Factor 3 (Social appraisal)	0.024	0.153	0.019	1.443	0.142	< 0.001	0.101	< 0.001
Factor 4 (Lack of enthusiasm for becoming a registered nurse)	-0.267	< 0.001	-0.169	1.554	0.102	< 0.001	0.051	0.014
Factor 5 (Desire for companionship)	0.134	< 0.001	0.099	1.423	0.060	< 0.001	-0.011	0.588
Factor 6 (Self-actualization)	0.171	< 0.001	-0.024	1.880	0.006	0.737	-0.023	0.313
Students' manners	0.049	0.004	0.021	1.248	0.008	0.631	-0.022	0.241
Teachers' manners	0.087	< 0.001	-0.006	1.379	< 0.001	0.988	0.004	0.834
School events unrelated to the national examination	0.116	< 0.001	0.061	1.134	-0.002	0.906	0.014	0.425
	Adjusted R ² = 0.114				Adjusted R ² = 0.041			

r, Pearson's correlation coefficient; β , standard partial regression coefficient; VIF, variance inflation factor

To calculate Pearson's correlation coefficients and standard partial regression coefficients, the following system was used. Concerning "Motivation to pass the national examination" and "A sense of resistance to people's rights," 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree." Concerning age, the actual age was used as a continuous variable. Regarding the academic year, dummy variables representing the 2nd year and the 3rd year were produced. Namely, 1 point was given for 2nd-year students, and 0 points were given for 1st- and 3rd-year students. One point was given for 3rd-year students, and 0 points were given for 1st- and 2nd-year students. For 1st-year students, these 2 dummy variables were both set to 0. Regarding the items for each facet of the reasons the nursing students wanted to become registered nurses, 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree" (see Table 2 and the Appendix). And the 6 summed scores of the items for each facet were used. The summed score of "Living stability" was the total of the 1 to 7 points given for each item: 1. "Adequate salary" + 2. "Higher salary than other occupations" + 3. "Stable salary that is not affected by economic situations" + 4. "Security of employment." The summed score of "Professional commitment" was the total of the 1 to 7 points given for each item: 17. "Nursing specialty" + 18. "Work using professional skills" + 19. "Deeply pursuing their specialty" + 20. "Developing occupational skills." The summed score of "Social appraisal" was the total of the 1 to 7 points given for each item: 13. "High social status" + 14. "Respected occupation" + 15. "Good public image" + 16. "Socially credible occupation." The summed score of "Lack of enthusiasm for becoming a registered nurse" was the total of the 1 to 7 points given for each item: 9. "To become a registered nurse or not" + 10. "Considering becoming a registered nurse," + 11. "Not such a strong desire to become a registered nurse" + 12. "Can no longer change my career choice at this late date." The summed score of "Desire for companionship" was the total of the 1 to 7 points given for each item: 5. "Friendly atmosphere" + 6. "Registered nurses as thoughtful people" + 7. "Registered nurses as mature people" + 8. "Making close friends easily." The summed score of "Self-actualization" was the total of the 1 to 7 points given for each item: 21. "An occupation people appreciate" + 22. "An occupation that allows personal growth" + 23. "A proud occupation" + 24. "An occupation that is helpful to others." Regarding "Students' manners," "Teachers' manners," and "School events unrelated to the national examination," 1 to 7 points were given in the order from "Definitely disagree" to "Definitely agree."

work experiences and hands on caring for family and friends confirmed in students their inclination towards nursing,” “4. Exposure to family and friends in the health care professions sparked students’ interest in a career choice of nursing,” “5. Observing nurses in action had a potent and lasting influence on the choice of nursing as a career,” “6. Sensing something was missing from their original career choice, students turned to nursing to fill the gaps,” “7. For some students the profession of nursing was not their first choice for a career,” and “8. A fascination with science and the human body helped steer some students to a choice of nursing.” Ichiyanagi et al. (2009) also investigated the facets choosing nursing as a career among Japanese nursing students in a junior college. They discovered 5 facets: “Intrinsic motivation,” “Economic independence,” “Past experience,” “Lifelong dream,” and “External motivation.”

Although we read the above studies by Beck (2000) and Ichiyanagi et al. (2009), we made the items regarding the reasons nursing students wanted to become registered nurses with reference to the study of the concept of job satisfaction and our previous study of professional nurses’ job satisfaction (Maslow 1954; Herzberg et al. 1959; McGregor 1960; Robbins 2004; Kudo et al. 2010). We discovered the 6 facets as shown in Table 2.

“Lack of enthusiasm for becoming a registered nurse” was significantly associated with the students’ “Motivation to pass the national examination” and “A sense of resistance to people’s rights.” According to our interviews with the nursing teachers in accredited vocational schools, some of their students enter their schools even though their reasons for becoming a registered nurse are vague. Teachers strive to develop their students into professionals. Therefore, instead of criticizing their students, they must work on the methods to instruct them. For example, teachers may be able to motivate such nursing students by praising them when they get good scores on examinations in their schools and/or do good deeds in their daily lives. By studying teaching techniques, teachers may be able to improve their students’ attitudes toward becoming registered nurses. Discussions on how to educate such students are warranted.

“Living stability” was significantly associated with “A sense of resistance to people’s rights.” In the studies of job satisfaction (Maslow 1954; Herzberg et al. 1959; McGregor 1960; Robbins 2004), facets of job satisfaction are usually classified into intrinsic and extrinsic facets. The intrinsic facets (those intrinsic to the nature and experience of working) are a higher order than the extrinsic facets. “Living stability” is an extrinsic facet. Workers need to make a living, so they naturally cannot ignore living standards. However, if professional nurses are only interested in their living stability, their hearts are not in helping people.

In Japan, there is currently a harsh employment situation such as the high unemployment and non-regular employment rates (Health, Labor and Welfare Statistics Association 2012b). Despite this situation, because the current nursing shortage is serious in Japan (Sawada 1997;

Takahashi 2008), Japanese professional nurses can find jobs easily. Moreover, according to our interviews with the nursing teachers in accredited vocational schools, they think that the number of nursing students who want to become registered nurses to ensure their living stability is exponentially increasing. When they start working as professional nurses, they may lack a genuine dedication to provide nursing services. If so, the quality of health care decreases. The nursing teachers must instruct their students that they need to acquire a sincere sense of dedication for people.

“Social appraisal” was significantly associated with “A sense of resistance to people’s rights.” “Social appraisal” is an intrinsic facet. However, when we investigated professional nurses’ job satisfaction in many hospitals (Kudo et al. 2010), some of the registered nurses told the first author, “Professional nurses should be pleased to help people; and the pleasure felt by the people they help should be sufficient reward for their services. Those who work for only their own fame are not suited for this occupation.” We think that “Social appraisal” can be interpreted as a lower order extrinsic facet for professional nurses. Nursing students need to learn to have sincere feelings for the people they care for.

If the awareness of those who receive nursing services toward their rights increases, it may be natural for nursing students to expect that people might make various demands of them that may be difficult to comply with. However, because the job of registered nurses is to protect the health and life of people, they need to personally deliver their nursing services for people. Because the extrinsic facets (i.e., “Lack of enthusiasm for becoming a registered nurse,” “Living stability,” and “Social appraisal”) involve the students’ egoism, nursing teachers need to educate their students, so that they will become altruistic.

“Motivation to pass the national examination” was significantly associated with “Professional commitment.” Professional nurses value the intrinsic nature of their jobs, e.g., they work as specialists and care about professional development (McClure et al. 1983; Kramer 1990; Scott et al. 1999; McClure and Hinshaw 2002; Kudo et al. 2010). Moreover, the nursing assistants in hospitals also value the intrinsic nature of their jobs even if the contents of their jobs are more limited than those of professional nurses (Kudo et al. 2011). The present study focused on nursing students showed the same results. Teachers need to educate nursing students while confirming that they value “Professional commitments.”

“Motivation to pass the national examination” was significantly associated with “Desire for companionship.” If companionship is not sufficient, teamwork breaks down. In such situations, professional nurses cannot provide high-quality nursing services. Moreover, there are various difficulties when working as a professional nurse. If there is insufficient companionship available to help nurses overcome these difficulties, they may burn out. Registered nurses need to set an example for nursing students by

developing good relationships among nurses. This would increase the possibility of helping to relieve some of the anxieties about their future.

"Motivation to pass the national examination" was significantly associated with "School events unrelated to the national examination." Education only focused on passing the national examination may produce mental burdens on students and discourage them from learning. Events such as the capping ceremony and cultural festival may not directly contribute to passing the national examination. However, these events can be encouraging for nursing students and enhance their willingness to learn in the long term. In future studies, we will investigate what kinds of events influence students' growth.

As students became older, their "Motivation to pass the national examination" significantly became stronger, and "A sense of resistance to people's rights" also significantly became weaker. As they mature, their sense of humanity increases, increasing their learning motivation and their dedication to help people. It is important to instruct young students in consideration of these points.

Third-year students significantly had a stronger "Motivation to pass the national examination." They also significantly had a weaker appreciation of "A sense of resistance to people's rights." As this is their last academic year, they are likely to be more diligent toward studying because it is the year in which they will take the national examination. Moreover, they have more clinical experiences in classes to contact patients on hospital wards than they did in previous years. Therefore, we think they are likely to respect people's rights more.

Regarding the reasons the nursing students wanted to become registered nurses, we conducted factor analysis (the principal factor method and promax rotation) for the analyzed subjects for each of the academic years. As a result, we could find the same 6 facets in the present study for each academic year. However, this study focused on the nursing students in vocational schools that allow graduation after only a 3-year study period. We hypothesize that the nursing students in vocational schools who can graduate after 4 years of study, and those from junior colleges, colleges, and universities have different facets. These issues warrant further study.

We also would like to investigate those reasons of nursing students in vocational schools that can graduate after only a 3-year study period in more detail. Regarding "Professional commitment" and "Self-actualization," we produced the items with reference to our previous study of job satisfaction among Japanese professional nurses (Kudo et al., 2010). In that study, we produced the 2 different facets of "Professional commitment" and "Self-actualization." However, we discovered the facets related to "Professional commitment" and "Self-actualization" were inseparable; and, therefore, named that facet, "Work as specialists." However, in the present study, "Professional commitment" and "Self-actualization" were extracted as 2 different facets

using factor analysis. Because nursing students do not work as professional nurses, they do not have opportunities to receive gratitude from patients for using their nursing skills. Whether or not "Professional commitment" and "Self-actualization" can be separated in the future warrants further study.

Nursing teachers can determine their students' levels of nursing knowledge. However, regarding ethics, it is difficult for teachers to grasp their students' sense of ethics. Moreover, we think teachers also feel that it is difficult to develop appropriate methods in nursing educational programs to teach ethics. For example, the term "*Shurei-keijin*" in Japanese was taken from the teachings of the Chinese philosopher, Mencius (Saito et al. 2011; Aizawa 2007). This philosophical term conveys the meaning of "Treating others with decency and respect" and has been passed down for generations as the concept best expressing the ideal for human beings. Kitasato University School of Medicine has focused on the Mencian philosophical idea of "*Shurei-keijin*" and has conducted educational programs on it. Teachers, as well as the students, need to examine their own "*Shurei-keijin*" attitudes toward daily living. We think that such education can help improve the students' personal growth. In the future, we will seek out the nursing schools that educate students in a unique way such as "*Shurei-keijin*" and study the resulting influences on those students' ethics.

There were two limitations in this study. The first limitation was that because a cross-sectional design was used, it was difficult to identify causal relations. The second limitation was that the participating vocational schools in the present study were only in Chiba and Kanagawa. In 1 school in Chiba, the person in charge of distributing questionnaires distributed them to both the male and female students by mistake. Therefore, the subjects in that school were not analyzed. Thus, the generalizability of our results was limited.

In conclusion, "Lack of enthusiasm for becoming a registered nurse" significantly weakened the nursing students' motivation to pass the national examination and strengthened their sense of resistance to people's rights. The students who wanted "Living stability" and "Social appraisal" significantly had a strengthened sense of resistance to people's rights. "Professional commitment," "Desire for companionship," and "School events unrelated to the national examination" significantly strengthened the students' motivation to pass the national examination. The older and third-year students significantly had a stronger motivation to pass the national examination for registered nurses and a weaker sense of resistance to people's rights. Teachers must develop the appropriate educational methods to adequately teach their students ethics so that they will respect the rights of people who receive nursing services and to ensure that they acquire the necessary nursing knowledge.

Conflict of Interest

The authors declare no conflicts of interest.

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Appendix

Questionnaire items (original version in Japanese)

Reasons nursing students wanted to become registered nurses

Living stability

1. Registered nurses can earn an adequate salary for daily life.
2. Registered nurses can earn a relatively large salary compared with other occupations.
3. Registered nurses can earn a stable salary even in an economic recession.
4. It is relatively easy for registered nurses to secure employment compared with other occupations.

Desire for companionship

5. I think that there is a friendly atmosphere among registered nurses.
6. I think that most registered nurses are thoughtful of others.
7. I think that most registered nurses are mature people.
8. I think that by becoming a registered nurse, I can make close friends easily.

Lack of enthusiasm for becoming a registered nurse

9. I sometimes wonder whether I should become a registered nurse or not.
10. Without thinking deeply about it, I want to become a registered nurse.
11. I do not have such a strong desire to become a registered nurse.
12. I can no longer change my career choice at this late date.

Social appraisal

13. Registered nurses have a high social status.
14. Registered nurses have an occupation that people respect.
15. Registered nurses have a good public image.
16. Registered nurses have high social credibility.

Professional commitment

17. I am attracted by the specialty of nursing.
18. Registered nurses can work using professional skills.
19. Registered nurses can deeply pursue their specialty.
20. Registered nurses can develop their occupational skills on a daily basis.

Self-actualization

21. Registered nurses have an occupation people appreciate.
22. Registered nurses can develop their personal growth.
23. Registered nurses can be proud of their occupation.
24. Registered nurses have an occupation that is helpful to others.

Learning environment

1. The students' daily manners in this school generally seem good.
2. The teachers' daily manners in this school generally seem good.
3. This school places importance on the school events unrelated to the national examination for registered nurses as part of their education.

Motivation for studying and a sense of ethics

1. I study hard daily to pass the national examination for registered nurses.
2. If the awareness of the rights of people who receive nursing services increases, it may become more difficult to offer nursing services.