

## Enhancing Work Motivation for Japanese Female Nurses in Small to Medium-Sized Private Hospitals by Analyzing Job Satisfaction

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Proper work environments are important for nurses to feel motivated. We examined the associations between work motivation and job satisfaction among Japanese nurses to improve their motivation. In Japan, relatively small and medium-sized private hospitals play a central role in the healthcare industry. In the present study, the subjects were nurses working in 23 small and medium-sized private hospitals that had 65 to 326 beds. We analyzed 1,116 registered and licensed practical female nurses (average age, 38.3 years; standard deviation, 11.3 years). Many nurses with their specialized nursing skills dedicate themselves to patient care. However, many of these nurses may not be interested in contributing to their hospitals. Nurses may have different opinions regarding dedication to patient care and contribution to their hospitals. Therefore, concerning work motivation, we produced these two different items, "Nurses' dedication to patients" and "Nurses' contribution to their hospitals." We also produced our own original new job satisfaction questionnaire. We found 7 facets of job satisfaction: "Work as specialists," "Workplace safety," "Relationships with superiors," "Work-life balance," "Relationships among nurses," "Communications with physicians," and "Salary." Multiple linear regression analyses show that both "Nurses' dedication to patients" and "Nurses' contribution to their hospitals" were significantly associated with "Work as specialists." Nurses feel their jobs of protecting people's lives and health are valuable. They do not feel motivated only by money. They value the intrinsic nature of their jobs. Creating proper work environments is important for nurses to be able to work as specialists.

**Keywords:** nurse; work motivation; job satisfaction; intrinsic job; questionnaire

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Evidence suggests that it is necessary to improve job satisfaction among nurses in order to improve the satisfaction of patients receiving healthcare (Weisman and Nathanson 1985; Tzeng et al. 2002). For example, Tzeng et al. (2002) examined the associations between aggregative job satisfaction among nurses who work in inpatient units and their patients' satisfaction. The aggregative job satisfaction among nurses positively affects patient satisfaction with information about home care and follow-up. Moreover, such satisfaction with that type of information also positively affects general patient satisfaction with nursing care. Weisman and Nathanson (1985) examined the associations between aggregative job satisfaction among nurses and client outcome in family planning clinics.

Eligible clients were unmarried women who, under age 20, were making their first visit concerning contraception. Nurses' job satisfaction is the strongest determinant of satisfaction of those clients. Moreover, the degree of clients' satisfaction improves their contraceptive compliance.

It is likely that improving nurses' job satisfaction enhances their work motivation, and that subsequently improves the satisfaction of those who receive healthcare (Weisman and Nathanson 1985; Tzeng et al. 2002). However, from this evidence alone (Weisman and Nathanson 1985; Tzeng et al. 2002), we do not think that it can be concluded that improving the nurses' job satisfaction is absolutely necessary to improve the quality of healthcare. In the past research regarding patient satisfaction (Cleary

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and McNeil 1988; Hasegawa and Sugita 1993; Imanaka et al. 1993) and worker satisfaction with worksite health checkups (Kudo et al. 2009), various predictors (e.g., such as those related to physicians' work, privacy protection, and, in some cases, cleanliness) can also affect the degree of satisfaction with healthcare. Although these studies investigated healthcare provided by nurses (Weisman and Nathanson 1985; Tzeng et al. 2002), various predictors other than nursing could affect patient and client satisfaction.

Therefore, the associations between nurses' job satisfaction and work motivation must be investigated directly, before the associations between nurses' job satisfaction and satisfaction of those who received healthcare are made. We investigated these associations in the present study. There have been some useful studies examining each domain of job satisfaction and work motivation (Gouldner 1957, 1958; Herzberg et al. 1959; Robbins 2004). These studies were used in the present study.

Ozaki and Tadamasa (1988) translated the job satisfaction questionnaire of healthcare providers, produced by Stamps et al. (1978), from English to Japanese. That questionnaire consists of the 7 facets: "Pay," "Professional status," "Doctor-nurse relationship," "Administration," "Autonomy," "Task requirements," and "Interaction." This Japanese version has been used in studies of job satisfaction among Japanese nurses (Fukazawa and Kusakari 1992; Takada et al. 1995; Sekiya et al. 1996; Muto and Yamamoto 2007; Nakanishi 2009). However, when the importance of job satisfaction studies is taken into consideration (Herzberg et al. 1959; Robbins 2004), it is necessary to investigate the Japanese nurses' facets of job satisfaction. Such data should be accumulated and compared with Stamps' survey. Therefore, we produced our own original job satisfaction questionnaire for the present study with reference to past studies of job satisfaction (Herzberg et al. 1959; Robbins 2004; Kudo et al. 2006).

In the studies of job satisfaction (Herzberg et al. 1959; 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) included: achievements, recognition, work itself, and responsibility. On the other hand, the extrinsic facets included: company policy, administration, supervision, salary, working conditions, and relationships with others. In the present study, items regarding job satisfaction are also produced with reference to these concepts.

Regarding work motivation among nurses, the two traditional concepts, *cosmopolitans* and *locals*, reported by Gouldner (1957, 1958) are useful to produce the new items concerning work motivation. The term *cosmopolitans* refers to those low on loyalty to the employing orientation, high on commitment to specialized role skills, and likely to use an outer reference group orientation; and the term *locals* refers to those high on loyalty to the employing orientation, low on commitment to specialized role skills, and likely to use an inner reference group orientation. This theory,

reported by Gouldner (1957, 1958), was applied to various studies to examine the human resources in various industries (Reichers 1985; Larwood et al. 1998; Rhoades et al. 2008). To the best of our knowledge, there are few studies that apply to the work motivation of nurses.

Because nurses are professionals regarding nursing, they can be considered cosmopolitans. Considering Gouldner's (1957, 1958) concepts, many nurses with their specialized nursing skills in hospitals may dedicate themselves to patient care. However, many of them may be not interested in contributing to their hospitals. To improve the healthcare quality, it is important to enhance nurses' dedication to their patients. However, it is also important to improve their motivation to contribute to their hospitals. If nurses lack such motivation, they might decide to look for another hospital. Or if they stayed, some might take the hospital's policies and work rules too lightly, which would disrupt nursing management and consequently reduce the quality of healthcare. When many nurses have different opinions regarding "dedication to patient care" and "contribution to their hospitals," the facets of job satisfaction significantly associated with "Nurses' dedication to patients" and "Nurses' contribution to their hospitals" may also differ. Therefore, we examined that hypothesis to pursue the resultant ideas to improve work motivation among nurses.

In Japan, the healthcare delivery system has unique traits that are different from those in other countries (Hasegawa and Kato 2003; Ministry of Health, Labour and Welfare 2008). There were 8,943 hospitals in Japan (Ministry of Health, Labour and Welfare 2008). Among these, 3,482 (38.94%) had fewer than 100 beds; 2,709 (30.29%) had 100-199 beds; 1,153 (12.89%) had 200-299 beds; 758 (8.48%) had 300-399 beds; 362 (4.05%) had 400-499 beds; 201 (2.25%) had 500-599 beds; 123 (1.38%) had 600-699 beds; 57 (0.64%) had 700-799 beds; 32 (0.36%) had 800-899 beds; and 66 (0.74%) had 900 beds or more. Thus, the Japanese healthcare system has a relatively high percentage of small and medium-sized hospitals.

Moreover, many of those hospitals are managed privately (Hasegawa and Kato 2003; Ministry of Health, Labour and Welfare 2008). From a historical perspective regarding Japanese hospitals, the Japanese system of healthcare delivery depended on private clinics at the time of the Meiji Restoration in the later half of the 1800s (Hasegawa and Kato 2003). After World War II, those clinics were developed into private hospitals. Therefore, those relatively small and medium-sized private hospitals play a central role in the modern Japanese healthcare industry. We investigated the nurses in those hospitals.

In the present study, the subjects were Japanese female nurses working in 23 small and medium-sized private hospitals that had 65 to 326 beds. We first examined facets of job satisfaction among nurses by the analyses using our own original questionnaire of job satisfaction. We subsequently examined the comparison with those facets associated with "Nurses' dedication to patients" and "Nurses' contribution

to their hospitals.”

## Methods

### *Participants*

From December 2007 to February 2008, the nursing director of each hospital distributed the anonymous self-administered questionnaires (original version in Japanese, see the Appendix) with return envelopes and the Japanese explanations of the study. These were distributed to 1,439 female nurses (843 registered nurses, 242 licensed practical nurses, and 354 assistant nurses) in 12 private hospitals with from 88 to 276 beds.

Subsequently, in December 2008, we also conducted the same type of questionnaire survey in 11 other private hospitals with from 65 to 326 beds in order to increase the generalizability of the present study. In this survey, some nursing directors asked us to distribute the questionnaires to both female and male nurses. Therefore, we complied with their request and added gender in the questionnaire, even though male nurses were not included in the analyses of the present study. The nursing director of each hospital distributed the Japanese anonymous self-administered questionnaires with the return envelopes and Japanese explanations of the study to 810 nurses (female:male, respectively, 323:36 registered nurses, 170:29 licensed practical nurses, 207:45 assistant nurses).

Therefore, excluding nursing director of each hospital, there were 2,249 subjects in the present study. However, male and assistant nurses were excluded from the analyzed subjects. Each of their hospitals was made up of several clinical departments. The types of assistant nurses' jobs are considerably different from those of registered nurses and licensed practical nurses. Therefore, assistant nurses were not included in the analyses. The data from the assistant nurses were gathered for future investigations of their work environment.

Approximately 2 weeks after the distribution, the questionnaires were collected in the sealed envelopes provided to ensure obtaining candid opinions. The respondents could either place the questionnaires in the collection boxes or hand them directly to the persons in charge.

### *Measured variables*

#### *1. Nurses' dedication to patients*

“Nurses' dedication to patients” was determined by the question, “I am working while maintaining my motivation to offer high-quality nursing services to patients in this hospital.” The subjects selected their responses from “Definitely disagree” to “Definitely agree” on a 5-point scale (original version in Japanese).

#### *2. Nurses' contribution to their hospitals*

“Nurses' contribution to their hospitals” was determined by the question, “I would like to actively contribute to this hospital to make it better.” The subjects selected their responses from “Definitely disagree” to “Definitely agree” on a 5-point scale (original version in Japanese).

#### *3. Job satisfaction scale items*

For our past research (Kudo et al. 2006), an original questionnaire regarding job satisfaction among Japanese nurses was developed. The following 6 facets were extracted from the results of the factor analyses: “Work as specialists,” “Relationships with superiors,” “Comfortable life,” “Relationships among nurses,” “Communications with physicians,” and “Working conditions.” In the present study,

regarding the facets of job satisfaction among Japanese nurses with reference to the opinions of experienced clinical nurses and our past research (Kudo et al. 2006).

In that research (Kudo et al. 2006), we hypothesized that there were two different facets of “Professional commitment” and “Self-actualization” among Japanese nurses. However, we extracted the facets related to “Professional commitment” and “Self-actualization” as an identical facet. We named that facet, “Work as specialists.” In the present study, we produced the facets of “Professional commitment” and “Self-actualization” and examined whether or not they were extracted as “Work as specialists” by the analyses.

Also in that study (Kudo et al. 2006), “Comfortable life” was composed of the 3 items: “Adequate rest,” “Free time,” and “Sleep.” However, they were related to fatigue and did not include a life-related item. To make it a more comprehensive facet by including the life-related item, “Although I work in this hospital, I can lead a comfortable life (item 8 in the Appendix)” was added, and the name of the facet was changed from “Comfortable life” to “Work-life balance.”

Moreover, there are many occupational risks such as work-related violence and needlestick injuries in hospitals (Aiken et al. 1997; Smith et al. 2006; Nachreiner et al. 2007). Therefore, we hypothesized that there was a “Workplace safety” facet among nurses.

The facets of job satisfaction are classified into the following 8 facets: “Work conditions,” “Work-life balance,” “Workplace safety,” “Relationships with superiors,” “Relationships among nurses,” “Communications with physicians,” “Self-actualization,” and “Professional commitment.”

Each item in the facets of job satisfaction was also produced as an original with reference to opinions of experienced clinical nurses. We subsequently produced the items and sent them to the nurses to get their suggestions. We then revised the items accordingly (see the Appendix). For each of the items, the subjects selected their responses from a 5-point scale from “Definitely disagree” to “Definitely agree.”

### *4. Nurses' characteristics*

The nurses' characteristics were age, job type (registered nurse, licensed practical nurse, or assistant nurse), marital status (married or single), and employment status (full-time or part-time nurse). As previously explained, the questionnaire survey conducted in December 2008 added gender even though male nurses were excluded from the analyses in the present study.

### *Statistical analyses*

Factor analysis (the principal factor method and promax rotation) of the 30 items concerning job satisfaction was performed. Factors with eigenvalues of  $\geq 1$  were retained. If there were any items that did not have factor loadings of  $\geq 0.4$ , they were excluded. And, subsequently, factor analysis (the principal factor method and promax rotation) was performed again. Cronbach's alpha of each facet of job satisfaction was also calculated.

To investigate predictors associated with “Nurses' dedication to patients” and “Nurses' contribution to their hospitals,” standard partial regression coefficients were computed using forced-entry multiple linear regression analyses. The “Nurses' dedication to patients (Statistical Model 1)” and “Nurses' contribution to their hospitals (Statistical Model 2)” were dependent variables. And the nurses' characteristics and job satisfaction were independent variables in both models. We concurrently obtained the Pearson's correlation coefficient

Table 1. Distribution of analyzed subjects.

Characteristic	<i>n</i>	%
Age		
-29	283	25.4
30-39	380	34.1
40-49	242	21.7
50-59	160	14.3
60-	51	4.6
Job type		
Registered nurse	842	75.4
Licensed practical nurse	274	24.6
Marital status		
Married	651	58.3
Single	465	41.7
Employment status		
Full-time nurse	861	77.2
Part-time nurse	255	22.8
“Nurses’ dedication to patients”		
Definitely agree	47	4.2
Somewhat agree	302	27.1
Neither agree nor disagree	488	43.7
Somewhat disagree	195	17.5
Definitely disagree	84	7.5
“Nurses’ contribution to their hospitals”		
Definitely agree	186	16.7
Somewhat agree	373	33.4
Neither agree nor disagree	399	35.8
Somewhat disagree	103	9.2
Definitely disagree	55	4.9
Total	1,116	100

cients between the dependent and independent variables in both models.

PASW<sup>®</sup> Statistics 17.0 was used for all statistical analyses. And values of  $P < 0.05$  were considered to indicate statistical significance.

#### Subjects analyzed

The questionnaires of 1,815 respondents from the 2,249 subjects were collected. Among the 1,815 respondents, there were 86 men and 24 subjects who did not respond as to their gender. The questionnaires of those 86 men and 24 subjects were excluded from the analyses. Among the questionnaires of the remaining 1,705 respondents, there were 947 registered nurses, 342 licensed practical nurses, 393 assistant nurses, and 23 subjects who did not respond as to their job type. Therefore, those 23 questionnaires and the 393 assistant nurses’ questionnaires were also excluded.

Among the questionnaires of those 1,289 respondents (i.e., registered nurses and licensed practical nurses), 171 questionnaires had one or more missing values in age, marital status, employment status, or items of job satisfaction, so those 171 questionnaires were excluded

from the analyses. And because 2 subjects did not answer the “Nurses’ dedication to patients,” those 2 questionnaires were excluded as well. Thus, 1,116 questionnaires were analyzed in the present study. The average age of the respondents was 38.3 years (standard deviation, 11.3 years) (see Table 1).

#### Ethics

The Japanese explanations of the study in addition to the anonymous self-administered questionnaires with return envelopes were distributed to the 2,249 subjects. Those explanations included: 1. the purpose and methods of the study, 2. clarification of the concept of voluntary cooperation in the study, 3. the fact that submitting the questionnaire indicates the respondent’s consent to cooperate, 4. a statement of privacy protection, 5. the fact that the information collected in this study will be disclosed to workers invoked in this study unless there is a risk that such disclosure would infringe on someone’s privacy, 6. the fact that the outcome of this study will be published in academic journals and/or presented at academic conferences, 7. the method for managing the data, 8. the fact that examinees will not incur any charges related to this study, 9. the names and positions of the researchers, and 10. the first author’s contact information. The Kitasato University Medical Ethics Committee (B section) judged that this study does not need an ethical review committee.

## Results

### Factor analyses of job satisfaction

Table 2 shows the 7 factors extracted by factor analyses of the items concerning job satisfaction. Because the factor loadings of “A good welfare system” (item 2 in the Appendix) and “Opportunities to receive nursing education” (item 29 in the Appendix) were  $< 0.4$ , these two items were excluded. We subsequently conducted factor analysis (the principal factor method and promax rotation) again for 28 items concerning job satisfaction. These factors were interpreted as factor 1 (Work as specialists), factor 2 (Workplace safety), factor 3 (Relationships with superiors), factor 4 (Work-life balance), factor 5 (Relationships among nurses), factor 6 (Communications with physicians), and factor 7 (Salary).

### Cronbach’s alpha of each facet of job satisfaction

The Cronbach’s alpha of each facet of job satisfaction is shown in Table 3. Cronbach’s alphas were 0.865 for “Work as specialists,” 0.882 for “Workplace safety,” 0.873 for “Relationships with superiors,” 0.847 for “Work-life balance,” 0.860 for “Relationships among nurses,” 0.851 for “Communications with physicians,” and 0.772 for “Salary.”

### Predictors associated with nurses’ work motivation

Pearson’s correlation coefficients and standard partial regression coefficients are shown in Table 4. “Nurses’ dedication to patients” had significant correlations with age, marital status, “Work as specialists,” “Workplace safety,” “Relationships with superiors,” “Work-life balance,” “Relationships among nurses,” “Communications with physicians,” “Salary,” “A good welfare system,” and



Table 2. Factor loadings of job satisfaction among Japanese nurses.

Factor	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
<b>Factor 1 (Work as specialists)</b>							
26. Telling others about my job proudly	<b>0.869</b>	-0.077	-0.028	0.052	-0.017	-0.036	-0.075
25. Contribution to society	<b>0.716</b>	0.023	-0.068	0.057	0.005	-0.007	-0.033
23. Proud of my job	<b>0.676</b>	0.032	-0.006	0.036	0.075	0.080	0.021
28. Improvement in nursing ability	<b>0.661</b>	0.072	0.072	-0.100	-0.051	0.006	0.094
24. Personal growth with the job	<b>0.653</b>	0.054	0.043	0.015	0.023	0.040	0.043
27. Job with responsibility	<b>0.637</b>	-0.077	-0.008	-0.147	-0.011	-0.057	-0.012
30. Job with variety	<b>0.616</b>	0.018	0.017	0.027	-0.024	0.011	-0.004
<b>Factor 2 (Workplace safety)</b>							
10. Procedures for responding to occupational accidents	-0.044	<b>0.940</b>	-0.064	0.006	-0.013	-0.023	-0.080
9. Preventing occupational accidents	0.013	<b>0.816</b>	-0.070	0.093	0.006	-0.036	-0.016
11. Safety-related instructions	0.004	<b>0.799</b>	0.015	-0.038	0.004	0.018	0.025
12. Appropriate measures regarding occupational safety	0.014	<b>0.721</b>	0.072	-0.058	-0.012	0.025	0.071
<b>Factor 3 (Relationships with superiors)</b>							
15. Superiors' impartialness to subordinates	-0.035	-0.024	<b>0.882</b>	0.001	0.039	<0.001 <sup>a</sup>	-0.018
14. Open communications with superiors	0.091	-0.019	<b>0.831</b>	0.032	-0.030	-0.032	-0.079
16. Superiors not taking an overbearing attitude	-0.037	-0.113	<b>0.784</b>	0.004	-0.032	0.002	0.033
13. Superiors' appropriate instructions	-0.026	0.153	<b>0.712</b>	-0.013	0.024	0.016	0.032
<b>Factor 4 (Work-life balance)</b>							
6. Adequate free time	-0.072	-0.011	0.018	<b>0.916</b>	-0.032	-0.014	-0.016
5. Adequate rest	-0.062	0.011	0.018	<b>0.796</b>	0.002	-0.011	0.069
7. Adequate sleeping time	-0.010	0.011	-0.021	<b>0.758</b>	-0.007	0.008	-0.063
8. Comfortable life	0.171	0.006	0.029	<b>0.539</b>	0.052	0.028	0.064
<b>Factor 5 (Relationships among nurses)</b>							
18. Nurses on good terms	0.008	-0.063	0.014	-0.010	<b>0.901</b>	-0.021	-0.028
19. Mutual help among nurses	-0.004	0.013	-0.059	0.021	<b>0.841</b>	<0.001 <sup>b</sup>	-0.029
17. Nurses' teamwork	-0.025	0.048	0.050	-0.031	<b>0.746</b>	0.010	0.051
<b>Factor 6 (Communications with physicians)</b>							
22. Physicians' cooperation with nurses	-0.028	-0.008	-0.034	-0.004	-0.008	<b>0.895</b>	0.017
20. Physicians' instructions	-0.055	0.011	0.041	0.005	0.027	<b>0.799</b>	0.051
21. Open communications with physicians	0.068	-0.026	-0.018	-0.005	-0.029	<b>0.775</b>	-0.085
<b>Factor 7 (Salary)</b>							
4. Salary commensurate with my job	0.026	-0.054	-0.039	0.025	0.009	-0.050	<b>0.918</b>
1. Present salary satisfaction	-0.023	-0.046	-0.031	0.010	-0.033	0.023	<b>0.774</b>
3. Fair salary raises	-0.034	0.120	0.060	-0.034	0.011	0.004	<b>0.535</b>
<b>Interfactor correlations</b>							
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	
Factor 1 (Work as specialists)	1						
Factor 2 (Workplace safety)	0.505	1					
Factor 3 (Relationships with superiors)	0.474	0.468	1				
Factor 4 (Work-life balance)	0.302	0.325	0.292	1			
Factor 5 (Relationships among nurses)	0.448	0.404	0.513	0.254	1		
Factor 6 (Communications with physicians)	0.536	0.470	0.343	0.286	0.401	1	
Factor 7 (Salary)	0.397	0.496	0.389	0.433	0.334	0.339	1

Bold-faced type shows factor loadings  $\geq 0.4$ .

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

For the factor analyses (the principal factor method and promax rotation), for each item of job satisfaction, 1 to 5 points were given in the order from "Definitely disagree" to "Definitely agree." Factor analysis (the principal factor method and promax rotation) of the 30 items concerning job satisfaction was performed. Factors with eigenvalues of  $\geq 1$  were retained. Because the factor loadings of "A good welfare system" (item 2 in the Appendix) and "Opportunities to receive nursing education" (item 29 in the Appendix) were  $< 0.4$ , these two items were excluded. We subsequently conducted factor analysis (the principal factor method and promax rotation) again for 28 items concerning job satisfaction. All 7 factors accounted for 70.02% of the total variance of the 28 items before the rotation, and the eigenvalues of factors 1-7 were: 8.812, 2.493, 2.130, 1.878, 1.604, 1.380, and 1.308, respectively.

Table 3. Mean, standard deviation, and Cronbach's alpha of each facet of job satisfaction among Japanese nurses.

Job satisfaction	Number of items	Mean	Standard deviation	Cronbach's alpha
Work as specialists	7	21.57	5.24	0.865
Workplace safety	4	10.56	3.49	0.882
Relationships with superiors	4	12.78	4.19	0.873
Work-life balance	4	11.05	3.90	0.847
Relationships among nurses	3	9.62	2.61	0.860
Communications with physicians	3	8.13	2.71	0.851
Salary	3	6.89	2.55	0.772
A good welfare system	1	2.15	1.03	
Opportunities for nursing education	1	2.93	1.06	

To calculate the means, standard deviations, and Cronbach's alphas, 1 to 5 points were given in the order from "Definitely disagree" to "Definitely agree."

"Opportunities to receive nursing education." "Nurses' contribution to their hospitals" had significant correlations with age, job type, marital status, all job satisfaction facets, "A good welfare system," and "Opportunities to receive nursing education."

"Nurses' dedication to patients" was significantly associated with age, job type, and "work as specialists." "Nurses' contribution to their hospitals" was significantly associated with age, job type, employment status, "Work as specialists," and "Relationships with superiors."

### Discussion

We conducted factor analysis of job satisfaction among Japanese nurses, resulting in the discovery of these 7 facets: "Work as specialists," "Workplace safety," "Relationships with superiors," "Work-life balance," "Relationships among nurses," "Communications with physicians," and "Salary." We also produced the facets of "Professional commitment" and "Self-actualization" for the present study as in our past research (Kudo et al. 2006). However, the items related to "Professional commitment" (excluding "Opportunities to receive nursing education," item 29 in the Appendix) and "Self-actualization" were extracted as "Work as specialists." Japanese nurses achieve self-actualization in helping patients by using their professional nursing skills. Therefore, "Professional commitment" and "Self-actualization" were not separated, which is consistent with our past study (Kudo et al. 2006). Our findings are different from those of Stamps et al. (1978). These findings may also be useful to study job satisfaction among Japanese nurses in future studies.

"Work as specialists" was significantly associated with "Nurses' dedication to patients." Moreover, "Work as specialists" was also significantly associated with "Nurses' contribution to their hospitals." This facet is an intrinsic one (Herzberg et al. 1959; Robbins 2004). Nurses feel their jobs of protecting people's lives and health are valuable.

There were studies that examined the associations between job retention and the facets of job satisfaction

among nurses (Leveck and Jones 1996; Fang 2001; Kudo et al. 2006). In our past study (Kudo et al. 2006), the economic facet, which is an extrinsic one (Herzberg et al. 1959; Robbins 2004), was significantly associated with job retention. However, "Work as specialists" was also a significant predictor of job retention. In other studies, the intrinsic facets significantly affected job retention (Leveck and Jones 1996; Fang 2001). Because nurses are working for a living, they naturally cannot ignore their salary levels. However, regarding nurses' turnover, they are not only motivated by money. This also evidences the fact that nurses value the intrinsic nature of their jobs.

"Relationships with superiors" was significantly associated with "Nurses' contribution to their hospitals." Because "Relationships with superiors" corresponds to "Relationships with others" (Herzberg et al. 1959; Robbins 2004), this facet is an extrinsic one. However, for nurses, this facet also includes intrinsic ones for the following reasons. If superiors lack leadership abilities, teamwork breaks down; and, consequently, nurses cannot provide high-quality nursing services for their patients. Moreover, nurses must learn the latest medical techniques, acquire knowledge, and experience various clinical cases. If superiors lack ability in clinical coaching, their subordinates would be deprived of opportunities to improve their own clinical skills. Nurses who have complaints about their "Relationships with superiors" may look for a new workplace to improve their nursing abilities. Therefore, hospital managers must try to help build good relationships between superiors and subordinates.

Age was significantly associated with "Nurses' dedication to patients" and with "Nurses' contribution to their hospitals." As people become older, they become more humanistic. They incur various responsibilities and gain the strength to cope with various difficulties. Therefore, older nurses tend to take on more patient care and more important responsibilities in hospitals than do younger nurses. Therefore, more instructions to younger nurses are necessary.

The degrees of "Registered nurses' dedication to their

Table 4. Predictors associated with work motivation among Japanese nurses.

	Nurses' dedication to patients (Statistical Model 1)					Nurses' contribution to their hospitals (Statistical Model 2)				
	<i>r</i>	<i>P</i>	$\beta$	<i>P</i>	VIF	<i>r</i>	<i>P</i>	$\beta$	<i>P</i>	VIF
Age	0.166	<0.001	0.055	0.036	1.245	0.209	<0.001	0.118	<0.001	1.245
Job type	-0.050	0.096	-0.051	0.041	1.108	-0.100	0.001	-0.093	<0.001	1.108
Marital status	0.106	<0.001	0.031	0.221	1.181	0.112	<0.001	0.043	0.114	1.181
Employment status	-0.030	0.316	<0.001	0.996	1.220	0.016	0.602	0.075	0.007	1.220
Work as specialists	0.606	<0.001	0.533	<0.001	1.792	0.506	<0.001	0.414	<0.001	1.792
Workplace safety	0.331	<0.001	0.051	0.098	1.660	0.286	<0.001	0.031	0.336	1.660
Relationships with superiors	0.269	<0.001	0.005	0.859	1.468	0.274	<0.001	0.067	0.028	1.468
Work-life balance	0.201	<0.001	0.017	0.549	1.388	0.194	<0.001	0.039	0.194	1.388
Relationships among nurses	0.267	<0.001	0.024	0.386	1.389	0.247	<0.001	0.035	0.237	1.389
Communications with physicians	0.317	<0.001	0.021	0.465	1.411	0.249	<0.001	-0.013	0.660	1.411
Salary	0.203	<0.001	-0.018	0.526	1.510	0.223	<0.001	0.050	0.109	1.510
A good welfare system	0.191	<0.001	0.026	0.341	1.379	0.181	<0.001	0.033	0.260	1.379
Opportunities to receive nursing education	0.334	<0.001	0.030	0.294	1.460	0.254	<0.001	-0.020	0.518	1.460
Adjusted $R^2 = 0.377$					Adjusted $R^2 = 0.293$					

*r*, Pearson's correlation coefficient;  $\beta$ , 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 "Nurses' dedication to patients," 1 to 5 points were given in the order from "Definitely disagree" to "Definitely agree." Concerning "Nurses' contribution to their hospitals," 1 to 5 points were given in the order from "Definitely disagree" to "Definitely agree." Concerning age, the actual age was used as a continuous variable. The coding of dichotomous variables was: job type (registered nurse = 1, licensed practical nurse = 0); marital status (married = 1, single = 0); and employment status (full-time nurse = 1, part-time nurse = 0). Regarding the items for each facet of job satisfaction, 1 to 5 points were given in the order from "Definitely disagree" to "Definitely agree." And the 7 summed scores of the items for each facet were used. The summed score of "Work as specialists" was the total of the 1 to 5 points given for each item: 23. "Proud of my job" + 24. "Personal growth with the job" + 25. "Contribution to society" + 26. "Telling others about my job proudly" + 27. "Job with responsibility" + 28. "Improvement in nursing ability" + 30. "Job with variety" (See the Appendix and Table 2). The summed score of "Workplace safety" was the total of the 1 to 5 points given for each item: 9. "Preventing occupational accidents" + 10. "Procedures for responding to occupational accidents" + 11. "Safety-related instructions" + 12. "Appropriate measures regarding occupational safety." The summed score of "Relationships with superiors" was the total of the 1 to 5 points given for each item: 13. "Superiors' appropriate instructions" + 14. "Open communications with superiors" + 15. "Superiors' impartialness to subordinates" + 16. "Superiors not taking an overbearing attitude." The summed score of "Work-life balance" was the total of the 1 to 5 points given for each item: 5. "Adequate rest" + 6. "Adequate free time" + 7. "Adequate sleeping time" + 8. "Comfortable life." The summed score of "Relationships among nurses" was the total of the 1 to 5 points given for each item: 17. "Nurses' teamwork" + 18. "Nurses on good terms" + 19. "Mutual help among nurses." The summed score of "Communications with physicians" was the total of the 1 to 5 points given for each item: 20. "Physicians' instructions" + 21. "Open communications with physicians" + 22. "Physicians' cooperation with nurses." The summed score of "Salary" was the total of the 1 to 5 points given for each item: 1. "Present salary satisfaction" + 3. "Fair salary raises" + 4. "Salary commensurate with my job." Concerning "A good welfare system" and "Opportunities to receive nursing education" (items 2 and 29 in the Appendix), 1 to 5 points were given in the order from "Definitely disagree" to "Definitely agree."

patients" and "Registered nurses' contribution to their hospitals" were significantly lower than those for licensed practical nurses. Registered nurses receive more advanced education compared with licensed practical nurses. Accordingly, various staffs expect a very high standard of work from registered nurses. Further follow-ups with registered nurses are warranted.

The degree of "Full-time nurses' contribution to their hospitals" was significantly higher than that of part-time nurses. Part-time nurses usually have a lower sense of commitment and attachment to their hospitals than do full-time nurses. To improve hospitals, it is necessary to motivate part-time nurses to contribute more actively. Creating work

environments for part-time nurses in which to feel more committed and attached to their hospitals becomes imperative.

### Limitations

The first limitation to the present study was that the sampling method did not employ random sampling. Therefore, the generalizability of our results is not confirmed. The second limitation was that because a cross-sectional design was used, it was difficult to identify causal relations. The third limitation was that all the questionnaires were not collected. Moreover, questionnaires that had one or more missing values were not analyzed.

Therefore, those nurses' opinions were not reflected in the analyses.

The questionnaire survey was first conducted for 12 hospitals in December 2007 to February 2008. After that, the survey was conducted for 11 additional hospitals in December of 2008 to improve the generalizability of the study. As the interim analyses, statistical analyses were conducted for the analyzed subjects ( $n = 774$ ) of the first 12 hospitals. Factor analysis (the principal factor method and promax rotation) was conducted on job satisfaction for the analyzed subjects of the 12 hospitals. The factor loadings of "A good welfare system" (item 2 in the Appendix) and "Opportunities to receive nursing education" (item 29 in the Appendix) were  $< 0.4$ . Therefore, after these 2 items were excluded, we subsequently conducted factor analysis again (the principal factor method and promax rotation). We could find the same 7 facets of job satisfaction in the present study.

Moreover, to investigate the predictors significantly associated with "Nurses' dedication to patients" and "Nurses' contribution to their hospitals," forced-entry multiple linear regression analyses were conducted. As the results of these statistical analyses show, "Nurses' dedication to patients" was significantly positively associated with "Work as specialists" and "Workplace safety." "Nurses' contribution to their hospitals" was positively significantly associated with age, job type, employment status, and "Work as specialists."

Although we did not employ random sampling, "Work as specialists" was a consistent key variable. If this survey were conducted in other Japanese hospitals in relatively private small and medium-sized hospitals, we could infer the same results. In future studies, to improve work motivation among nurses, employing other study designs such as cohort studies and randomized blind trials would be warranted. Assistant nurses jobs are limited compared with those of registered and licensed practical nurses. Therefore, we hypothesize that there are different facets of job satisfaction among nursing assistants compared with registered and licensed practical nurses (e.g., "Stability of life" and "Release from routine work"). Future studies also warrant investigating the work environment of assistant nurses.

### Conclusions

In the present study, we examined whether "Nurses' dedication to patients" and "Nurses' contribution to their hospitals" differs or not. This idea came from Gouldner (1957, 1958). Our results show that "Nurses' dedication to patients" and "Nurses' contribution to their hospitals" were significantly associated with "Work as specialists" among the job satisfaction facets. Therefore, our results indicated that the predictors significantly associated with "Nurses' dedication to patients" and "Nurses' contribution to their hospitals" are about the same. Nurses value the intrinsic nature of their jobs. Therefore, hospital managers who strive to improve nurses' work motivation would do well to

create proper work environments so that their nurses can work as specialists.

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## Appendix

### Questionnaire Items of Job Satisfaction Among Japanese Nurses (Original version in Japanese)

#### Work Conditions

1. I am satisfied with my present salary.
2. There is a good welfare system in this hospital.
3. Fair salary raises are implemented in this hospital.
4. The salary in this hospital is commensurate with my job.

#### Work-Life Balance

5. Although I work in this hospital, I can get adequate rest.
6. Although I work in this hospital, I have adequate free time.
7. Although I work in this hospital, I have adequate sleeping time.
8. Although I work in this hospital, I can lead a comfortable life.

#### Workplace Safety

9. I think the people working in this hospital actively endeavor to prevent occupational accidents.

10. I think this hospital has appropriate procedures for responding to occupational accidents.
11. In this hospital, nurses are given appropriate instructions so as not to endanger their safety.
12. In this hospital, I think appropriate measures are taken when nurses' safety is endangered.

#### Relationships With Superiors

13. My superiors generally give appropriate instructions to subordinates.
14. I can generally communicate openly with superiors about nursing methods.
15. My superiors generally treat subordinates impartially.
16. My superiors generally do not take an overbearing attitude toward subordinates.

#### Relationships Among Nurses

17. In this hospital, there is generally good teamwork among nurses.
18. In this hospital, nurses are generally on good terms with one another.
19. In this hospital, nurses generally help one another with their jobs.

#### Communications With Physicians

20. Physicians in this hospital generally give nurses appropriate instructions.
21. I can generally communicate openly with physicians in this hospital about healthcare issues.
22. Physicians in this hospital are generally cooperative with nurses.

#### Self-Actualization

23. I am proud of my job in this hospital.
24. I can achieve personal growth through working in this hospital.
25. I am contributing to society by working in this hospital.
26. I can proudly tell others about my job.

#### Professional Commitment

27. I have a responsible job in this hospital.
28. In this hospital, nursing ability can be improved upon.
29. In this hospital, I have many opportunities to receive nursing education.
30. There is a lot of variety in my job, so I do not get tired of it.