

Erratum for Matsumoto and Yoshioka, “Factors Influencing Psychiatric Nurses’ Job Satisfaction Levels: Focusing on Their Frequency of Experiencing Negative Emotions Toward Patients and Support at Their Workplaces”

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ERRATUM

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In Results of ABSTRACT on page 293, the first and the second sentences are duplicate. The second sentence, “The subjects were the 577 psychiatric nurses who returned valid responses without missing data (response rate: 60.4%, valid responses: 87.0%).” should be deleted.

The authors sincerely apologize for the error and any confusion they may have caused.

Factors Influencing Psychiatric Nurses' Job Satisfaction Levels: Focusing on Their Frequency of Experiencing Negative Emotions Toward Patients and Support at Their Workplaces

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ABSTRACT

Background We examined factors influencing psychiatric nurses' job satisfaction levels focusing on their frequency of experiencing negative emotions toward patients and support at their workplaces.

Methods An anonymous, self-administered questionnaire survey was conducted involving 1,097 psychiatric nurses working at 13 psychiatric hospitals in the Chugoku area to investigate their basic attributes, work-related factors, and scores from 3 scales: the Negative Feeling toward Patient Frequency scale, an original support-in-workplace scale, and the new Brief Job Stress Questionnaire (job stress and satisfaction). Correlations between basic attributes/work-related factors and scores from each scale, and the relationships among the study items were analyzed. Furthermore, logistic regression analysis was performed using the job satisfaction level.

Results The subjects were the 577 psychiatric nurses who returned valid responses without missing data (response rate: 60.4%, valid responses: 87.0%). The subjects were the 577 psychiatric nurses who returned valid responses without missing data (response rate: 60.4%, valid responses: 87.0%). To clarify the level of influence on the job satisfaction level of each variable, logistic regression analysis was performed adopting the stepwise method for all of the items that were correlated with the job satisfaction level as a dependent variable. Support (from supervisors) at the workplace (OR: 1.069), job stress (OR: 0.751), Negative Feeling toward Patient Frequency-Total scale scores (OR: 0.980) were found to influence the job satisfaction level.

Conclusion Support from supervisors may be indispensable, and working environments that reduce job stress and negative emotions toward patients may be required to increase the job satisfaction levels of psychiatric nurses. This survey suggested that the establishment and maintenance of favorable working environments and interpersonal relationships increase job satisfaction levels while reducing stress, thereby improving job retention among psychiatric nurses.

Key words job satisfaction; negative feeling; psychiatric nurses; workplace support

Job satisfaction is an emotional state influenced by interactions among employees, individual traits, working environments, and the sense of values or expectations related to an organization.¹ In nursing, job satisfaction is important for the management of human resources and the process of deciding whether to leave or continue working. Nurses with higher job satisfaction levels are less frequently absent from work, more highly motivated, and more active in making organizational commitments.² However, stress and burnout, both of which are prevalent among nurses, negatively influence their job satisfaction, and may even affect nurse retention.³ Compared with those engaged in other areas of medicine, psychiatric nurses have been reported to perceive higher levels of stress⁴ associated with difficulty in communicating with patients, repeated recurrences in many cases, and the necessity of caring for violent or aggressive patients.^{5–8} Importantly, it has been reported that the incidence of patient violence/related problems in psychiatric wards is 2- to 4-times higher than that in general wards,⁹ and nearly 90% of psychiatric nurses experience such violence.^{10–14} Based on these findings, clinical psychiatric nurses are likely to deal with violence and offensive statements daily.

Violence not only increases the nurses' risk of developing health problems,¹⁵ but also causes many of them to develop negative emotions toward the patients.^{16, 17} Nurses' negative emotions toward patients make it difficult for the former to adopt the latter's

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Abbreviations: NFPF, Negative Feeling toward Patient Frequency scale; NFPFT, Negative Feeling toward Patient Frequency-Total scale; NFPFA, Negative Feeling toward Patient Frequency-Active scale; NFPFP, Negative Feeling toward Patient Frequency-Passive scale; SW, support-in-workplace scale; VIF, variance inflation factor

perspective. Furthermore, they lead to the development of the sense of helplessness and being wasted or dilemmas,¹⁸ poor self-esteem,¹⁹ and feeling of immaturity,²⁰ consequently reducing nurses' self-respect or quality of nursing.²¹ However, many nurses adopt emotion-centered approaches or other measures to manage such emotions temporarily,²²⁻²⁴ and most attempt to deal with difficult patients by suppressing their own emotions. As habitual emotional suppression inhibits senses and sensitivity that are indispensable for nursing, in addition to preventing the perception of emotions, the quality of nursing may inevitably decrease. However, it may be difficult for some nurses to treat patients who make offensive statements or have other unacceptable behaviors with an accepting and empathetic attitude from patient perspectives. In such situations, nurses may experience emotional conflicts and begin to suppress their emotions. This is a tendency of those engaged in "emotional work".²⁵ The negative aspects of emotional work are thought to be closely associated with burnout.²⁶ Regarding emotional work, it has frequently been reported to involve burnout in Japan. Thus, nurses intend to treat patients with accepting and empathetic attitudes from their perspectives even if they make offensive statements or exhibit other unacceptable behaviors, but the nurses' own negative emotions, limitations, and/or sense of difficulty make it difficult to do so, and thus become burned out from the difficulties of being engaged in emotional work.

Considering this situation, psychiatric nurses' job satisfaction levels may be low because they experience

high levels of stress when caring for difficult patients, and the difficulty in performing appropriate emotional work duties as nurses despite their intentions may lead to burnout or force them to leave their jobs.

On the other hand, there are some nurses who appropriately manage their negative emotions, and maintain positive feelings and a sense of accomplishment. Urano et al.²⁷ suggested that favorable working environments facilitate such management, as they enable nursing staff members to cooperate with each other and address problems. Additionally, previous studies reported that the prevalence of mental fatigue or depersonalization is lower among nurses who recognize that they are emotionally supported at their workplaces,²⁶ positive evaluation by supervisors and co-workers is effective at preventing burnout as a negative emotional response among nurses,²⁸ and social support from supervisors and co-workers increases nurses' job satisfaction levels.²⁹

Based on these findings, psychiatric nurses experience high levels of stress, but support at their workplaces may increase their job satisfaction levels, reduce their negative emotions toward patients, and consequently prevent them from leaving their jobs. To sufficiently support these nurses, we examined factors influencing their job satisfaction levels by focusing on support at their workplaces and their frequency of experiencing negative emotions. Figure 1 shows the conceptual framework of this study.

Regarding negative emotions as a type of job stress in individuals, we limited our focus to workplace

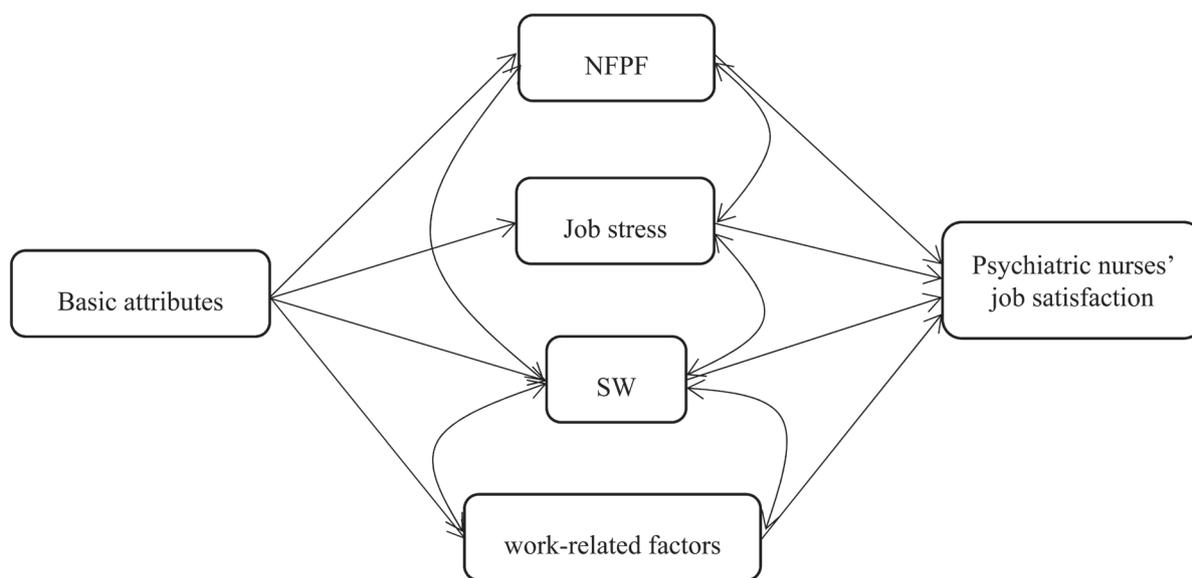


Fig. 1. Conceptual framework of this research.

NFPF, Negative Feeling toward Patient Frequency scale; SW, support-in-workplace scale.

support, not including family support, which is markedly influenced by personal factors. Thus, the study may have novelty in clarifying what types of support from supervisors and co-workers are useful to increase the job satisfaction levels of psychiatric nurses and to reduce their negative emotions.

SUBJECTS AND METHODS

Subjects

We randomly selected psychiatric hospitals with more than 150 beds in the Chugoku area to ask their nursing department directors or facility managers to cooperate with the study and received consent from 13 facilities. We included 1,097 clinical psychiatric nurses working in these psychiatric hospitals based on the following criteria: inclusion: all ward and outpatient nurses, including chief and sub-chief nurses; and exclusion: nursing managers.

Methods

We sent copies of an anonymous, self-administered questionnaire to the consenting psychiatric hospitals by mail, asking them to distribute these copies among their nurses meeting the inclusion criteria. We collected responses in exclusive envelopes by mail. The questionnaire consisted of basic attributes and work-related factors, Negative Feeling toward Patient Frequency scale (NFPF), support-in-workplace scale (SW), and job stress and satisfaction levels. The study period was June to August 2017.

Basic attributes and work-related factors

We examined the following basic attributes: age, sex, length of psychiatric nursing experience, position, current ward/section, marital status, and presence of children. We also investigated the following work-related factors: satisfaction with the current ward/section, sense of being useful for patients, and intention to continue working at a psychiatric hospital.

Negative Feeling toward Patient Frequency scale

The nurses' frequency of experiencing negative emotions toward patients was measured using the NFPF developed by Matsuura et al.³⁰ The NFPF consists of 20 questions to clarify the frequency over the past year, which are answered on a 7-point scale: <Never>, <Two or three times a year>, <Once a month>, <Two or three times a month>, <Once a week>, <Two or three times a week>, and <Almost every day>. A higher total score indicates a higher frequency of experiencing negative emotions toward patients. The 20 questions are classified into 2 subscales: Negative Feeling toward Patient

Frequency-Active scale (NFPFA; 12 items) and Negative Feeling toward Patient Frequency-Passive scale (NFPFP; 8 items). The former means negative emotions toward patients' selfishness and excessive demands, and the latter means negative emotions passively developed when feeling threatened by patients or facing their refusal. The Negative Feeling toward Patient Frequency-Total scale (NFPFT) is the sum of the NFPFA and NFPFP scores. We examined the nurses' NFPFT, NFPFA, and NFPFP scores. When using the questionnaire, we used the original text with permission from the developer.

Support-in-workplace scale

Support at the workplace was assessed using an original support-in-workplace scale²⁸ (SW) based on a 14-item social support scale developed by Komaki.³¹ The SW consisted of modified and additional statements to examine support actually provided for nurses during their daily duties. Classifying supporters into supervisors and co-workers, the scale presents 3 statements regarding emotional support, 4 regarding evaluative support, 3 regarding informative support, and 4 regarding instrumental support, for a total of 14 statements. Each statement is answered on a 5-point scale: <Never>, <Rarely>, <Sometimes>, <Often>, and <Always>, with higher total scores indicating higher support levels. When using the questionnaire, we used the original text with permission from the developer.

Job stress and satisfaction levels

The questionnaire was designed to clarify the impact of job stress on health, and its reliability and validity are described in the "Manual for Stress Measurement Using the Self-administered New Brief Job Stress Questionnaire".³² Each statement is rated on a 4-point scale by selecting the answer choice that best fits the respondent's situation. Among these statements, we extracted and used [factors associated with job stress] and [modifying factors] after partial modification. Higher scores for the [factors associated with job stress] indicate higher stress levels. Similarly, we evaluated the nurses' job satisfaction by assessing their levels of satisfaction with their relationships with supervisors, co-workers, and patients on a 4-point scale: <Very much so>, <Moderately so>, <Somewhat>, and <Not at all>, partially modifying the statements and inverting scores for each category to calculate total scores. Higher total scores indicate higher satisfaction levels.

Statistical analysis

We excluded incomplete responses from the analysis. To confirm the reliability and validity of the data obtained

using each scale, we calculated Cronbach's α . We examined the differences between basic attributes/work-related factors and scores from each scale using the Mann-Whitney *U*-test/Kruskal-Wallis test. We also analyzed the relationships among the study items using the Spearman's rank correlation coefficient. Furthermore, the job satisfaction scores were divided into two groups based on median scores. Then, a logistic regression analysis was performed by setting the high and low group of the job satisfaction level as a dependent variable, adopting the stepwise method. For statistical processing and analysis, we used the statistical software SPSS ver. 24, setting the significance level at 5%.

Ethical considerations

We provided the nursing department directors or managers of the cooperating hospitals with written and oral explanations of the study objective and methods to obtain their approval. We also attached a letter of request for cooperation explaining the study objective and methods to each copy of the questionnaire distributed to the nurses. The letter specified voluntary cooperation, considerations for privacy protection, the usage of data obtained and method to destroy them after the completion of analysis, and no disadvantageous treatment of those who did not cooperate. We regarded each response submitted as consent from a nurse. The study was previously approved by the Ethics Committee of the Faculty of Medicine, Tottori University (approval number: 1705A046).

RESULTS

Among the 1,097 clinical psychiatric nurses working at 13 psychiatric hospitals in the Chugoku area, 663 responded (response rate: 60.4%), and 577 who returned valid responses without missing data (valid responses: 87.0%) were examined.

Subjects' basic attributes

The demographics of the participants are summarized in Table 1. There were 133 (23.1%) males and 444 (76.9%) females, 200 (34.7%) of whom were aged 40 to 49, being the largest age group. The most frequent length of clinical experience as a psychiatric nurse was 10–19 years (171; 29.6%), followed by 3–9 years (149; 25.8%). The most frequent position was staff (456; 79.0%). As for ward/section nurses working in the acute care ward were the largest group (157; 27.2%), and those belonging to day care sections were the smallest group (4; 0.7%). Regarding marital status, 365 (63.3%), more than half were married and 437 (75.7%) had children.

Cronbach's α for each scale (reliability)

Cronbach- α was sufficiently high in all cases, confirming the favorable internal consistency of the scales: job satisfaction: 0.722; NFPFT: 0.953; SW (supervisors): 0.976; SW (co-workers): 0.971; and job stress: 0.684.

Comparison of the mean scores of job satisfaction, NFPFT, job stress, and SW scores based on basic attributes

Job satisfaction, NFPFT, and job stress based on basic attributes are compared in Table 2, and SW (supervisors and co-workers) scores based on basic attributes are compared in Table 3. Job satisfaction scores significantly varied according to the age, sex, length of psychiatric nursing experience, and ward/section. The scores were the highest among nurses aged 25–29, males, and those with psychiatric nursing experience shorter than 1 year. When focusing on the ward/section, the scores were the highest among those belonging to home-visit nursing sections, and the lowest among those working in post-acute care wards. NFPFT scores significantly varied according to the age, length of psychiatric nursing experience, position, ward/section, and presence of children. The scores were the highest among nurses aged 25–29, those with psychiatric nursing experience of 3–10 years, and those without children. When focusing on the position and ward/section, the scores were the highest among staff and those working in post-acute care wards, revealing significant differences related to these items. Job stress scores significantly varied according to the age, length of psychiatric nursing experience, and ward/section. The scores were the highest among nurses working in post-acute care wards and the lowest among those belonging to day care sections. SW scores significantly varied according to the age, length of psychiatric nursing experience, and ward/section in both cases (supervisors/co-workers), but significant differences related to the position were only observed in scores for support from co-workers. Scores for support from supervisors were the highest among nurses aged 25–29 and those with a psychiatric nursing experience shorter than 1 year. Scores for support from co-workers were the highest among nurses aged 24 or younger, those with a psychiatric nursing experience of 1–3 years, and staff. Among different wards/sections, scores for both support from supervisors/co-workers were the highest among nurses belonging to home-visit nursing sections.

Comparison of job satisfaction, NFPFT, job stress, and SW (supervisors and co-workers) scores based on work-related factors

Job satisfaction, NFPFT, job stress, and SW (supervisors

Table 1. Demographics of the participants (n = 577)

	Variables	n	%
Age (years)	≤ 24	20	3.5
	25–29	32	5.5
	30–39	102	17.7
	40–49	200	34.7
	50–59	158	27.4
	≥ 60	65	11.3
Sex	Male	133	23.1
	Female	444	76.9
Length of psychiatric nursing experience (years)	< 1	28	4.9
	≥ 1 and < 3	71	12.3
	≥ 3 and < 10	149	25.8
	≥ 10 and < 20	171	29.6
	≥ 20 and < 30	113	19.6
	≥ 30	45	7.8
Position	Staff	456	79.0
	Chief	42	7.3
	Head nurses/sub-head nurses	64	11.1
	Others	13	2.3
	Unknown	2	0.3
Worked ward/section	Acute care ward	157	27.2
	Post-acute care ward	36	6.2
	Chronic closed care ward	140	24.3
	Chronic open care ward	49	8.5
	Long-term care ward	60	10.4
	Home-visit nursing section	18	3.1
	Day care section	4	0.7
	Others	110	19.1
	Unknown	3	0.5
Marital status	Single	212	36.7
	Married	365	63.3
Children	Without	139	24.1
	With	437	75.7
	Unknown	1	0.2

and co-workers) scores are compared in Table 4 based on the 3 work-related factors: satisfaction with the current ward/section, the sense of being useful to the patients, and intention to continue working at a psychiatric hospital. All job satisfaction, NFPFT, job stress, and SW scores significantly varied according to these factors. The job satisfaction level was higher, the frequency of experiencing negative emotions was lower, and the job stress level was lower among nurses who affirmatively

answered the question regarding the intention to continue working at a psychiatric hospital. Support from supervisors and co-workers was also more available at their workplaces.

Correlations among the study items

The correlations between the job satisfaction level and other study variables: frequency of experiencing negative emotions toward patients (NFPFT, NFPFA,

Table 2. Comparison of the mean scores of job satisfaction, NFPFT, job stress based on basic attributes

Variables	Job satisfaction levels			NFTFT scores			Job stress levels		
	Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*
Age (years)	≤ 24	9.5	2.16	34.0	31.40		20.6	4.05	
	25–29	9.7	1.31	38.0	20.81		20.0	2.78	
	30–39	9.2	1.73	33.2	21.63	0.001	21.3	3.73	0.032
	40–49	8.6	1.88	33.3	24.07		21.9	3.72	
	50–59	8.5	1.71	30.1	20.93		21.9	3.93	
	≥ 60	8.7	1.46	21.6	15.78		20.4	3.90	
Sex	Male	9.1	1.63	30.6	21.09	0.907	21.5	3.53	0.518
	Female	8.7	1.81	31.6	22.77		21.4	3.88	
Length of psychiatric nursing experience (years)	< 1	9.5	1.48	25.5	21.85		19.7	4.21	
	≥ 1 and < 3	9.2	1.89	34.3	25.69		20.9	3.78	
	≥ 3 and < 10	8.7	1.77	37.1	23.24	0.000	22.1	3.88	0.022
	≥ 10 and < 20	8.6	1.93	31.2	21.68		21.7	3.43	
	≥ 20 and < 30	8.6	1.52	25.8	18.94		21.5	3.78	
	≥ 30	9.0	1.62	25.9	20.27		20.3	4.20	
Position	Staff	8.7	1.83	33.0	22.99		21.4	3.88	
	Chief	8.9	1.63	26.3	18.03		22.4	3.21	
	Head nurses/ sub-head nurses	8.9	1.61	22.8	18.65	0.002	21.7	3.62	0.210
	Others	9.0	0.71	27.5	12.93		20.7	3.64	
Worked ward/ section	Acute care ward	9.1	1.51	34.1	20.85		21.3	3.32	
	Post-acute care ward	7.8	2.04	37.1	23.60		23.0	3.57	
	Chronic closed care ward	8.5	1.72	34.5	26.08		21.6	3.89	
	Chronic open care ward	8.9	1.83	26.4	20.25	0.000	21.9	3.35	0.004
	Long-term care ward	8.3	1.95	33.8	24.64		21.2	4.55	
	Home-visit nursing section	10.3	1.72	13.8	8.84		18.5	4.15	
	Day care section	9.0	0.00	14.3	10.94		18.0	2.16	
	Others	9.0	1.80	31.4	22.36		21.5	3.87	
Marital status	Single	8.7	2.03	32.4	23.86	0.676	21.9	4.05	0.095
	Married	8.8	1.61	30.8	21.48		21.2	3.64	
Children	Without	8.9	1.89	38.2	24.01	0.000	21.4	3.83	0.565
	With	8.7	1.74	29.2	24.42		21.5	3.80	

*Statistical evaluation was performed by the Mann-Whitney *U* test or Kruskal-Wallis test. NFPFT, Negative Feeling toward Patient Frequency-Total scale.

and NFPFP), job stress level, support at the workplace (supervisors/co-workers), and informative, evaluative, emotional, and instrumental support (SW subscales) are shown in Table 5.

The job satisfaction level was significantly correlated with all of the study items, and it had a significant

negative correlation with the frequency of experiencing negative emotions toward patients and job stress level. The NFPFA score was negatively correlated with the total score for support from supervisors at the workplace, and emotional, evaluative, and informative support, but such a correlation was not observed with support from

Table 3. Comparison of the mean scores of SW scores based on basic attributes

Variables	SW scores (supervisors)			SW scores (co-workers)		
	Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*
Age (years)	≤ 24	51.0	13.45	55.3	9.94	0.000
	25–29	51.9	12.90	52.1	12.05	
	30–39	45.6	13.83	47.7	11.78	
	40–49	40.2	14.37	45.6	12.03	
	50–59	39.1	13.61	44.1	12.58	
	≥ 60	37.6	12.91	44.6	12.33	
Sex	Male	43.1	13.78	45.8	11.52	0.158
	Female	41.1	14.45	46.3	12.58	
Length of psychiatric nursing experience (years)	< 1	50.3	14.37	50.8	12.35	0.000
	≥ 1 and < 3	48.0	15.21	51.9	11.85	
	≥ 3 and < 10	43.2	13.93	46.8	12.04	
	≥ 10 and < 20	39.3	14.16	44.6	12.04	
	≥ 20 and < 30	38.0	12.47	43.5	12.19	
	≥ 30	38.0	13.11	44.7	12.31	
Position	Staff	42.2	14.52	47.1	12.45	0.146
	Chief	39.2	13.51	44.1	11.95	
	Head nurses/sub-head nurses	38.9	13.33	41.2	11.01	
	Others	43.5	11.24	43.4	10.24	
Worked ward/section	Acute care ward	44.3	12.67	47.2	11.09	0.002
	Post-acute care ward	37.9	16.22	45.3	11.59	
	Chronic closed care ward	39.6	14.25	44.4	12.41	
	Chronic open care ward	42.5	13.93	43.8	11.62	
	Long-term care ward	40.2	14.61	46.3	11.88	
	Home-visit nursing section	51.0	18.39	59.0	13.07	
	Day care section	26.0	6.48	36.3	5.32	
	Others	40.6	14.38	46.6	13.49	
Marital status	Single	40.9	14.86	45.7	13.42	0.411
	Married	41.9	13.99	46.4	11.67	
Children	Without	43.6	14.95	47.3	13.40	0.060
	With	40.9	14.03	45.8	11.95	

*Statistical evaluation was performed by the Mann-Whitney *U* test or Kruskal-Wallis test. SW, support-in-workplace scale.

co-workers at the workplace. There was no correlation between the NFPFT or NFPFP score and support from supervisors/co-workers at the workplace or subscale scores. We also analyzed the 4 constructs (emotional, evaluative, informative, and instrumental support) using the 14 statements without categorization; as significant differences were similarly observed, we finally adopted category scores.

To identify factors influencing job satisfaction levels, we performed logistic regression analysis with

the job satisfaction level, which was binarized by the median into a high group and a low group, as a dependent variable, and each study item as an explanatory variable (Table 6). We considered the possibility of multicollinearity influencing the results, as the correlation coefficient between support from supervisors and that from co-workers at the workplace was 0.5 or higher, but we finally judged such an influence to be absent based on a VIF of 2 or lower for each explanatory variable (NFPFT: 1.103; job stress: 1.355; support from

Table 4. Job satisfaction levels, NFPFT, job stress levels, and SW (supervisors and co-workers) scores for work-related factors

Variables		Job satisfaction levels			NFPFT scores			Job stress levels			SW scores (supervisors)			SW scores (co-workers)		
		Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*	Mean	SD	<i>P</i> -value*
Satisfaction with the current ward/section	Strongly agree	9.6	1.66	0.000	26.8	20.38	0.029	19.4	3.78	0.000	46.6	14.75	0.000	51.5	12.16	0.000
	Agree	8.7	1.58		31.3	20.98		21.5	3.37		42.0	13.14		46.0	11.07	
	Disagree	8.3	2.03		35.9	25.54		22.9	3.85		37.4	14.25		41.7	12.90	
	Strongly disagree	8.2	1.78		34.3	26.27		23.3	3.45		34.6	15.00		42.5	13.67	
Sense of being useful for patients	Strongly agree	9.5	1.85	0.000	26.2	22.15	0.000	19.5	5.00	0.000	44.0	15.33	0.001	51.6	12.22	0.001
	Agree	9.0	1.59		27.6	19.12		20.9	3.36		42.9	13.74		46.7	11.86	
	Disagree	8.1	1.87		39.9	24.94		23.1	3.59		38.5	14.53		44.0	12.68	
	Strongly disagree	7.1	2.13		52.3	32.74		24.9	3.89		32.5	14.98		37.6	12.45	
Intention to continue working at a psychiatric hospital	Strongly agree	9.8	1.57	0.000	23.8	18.47	0.000	19.1	4.00	0.000	47.8	14.57	0.000	51.6	12.52	0.000
	Agree	8.9	1.61		29.6	21.08		21.2	3.31		42.1	13.85		45.8	11.71	
	Disagree	7.8	1.80		41.3	23.33		23.9	3.59		35.4	12.56		43.3	12.34	
	Strongly disagree	7.6	2.34		46.3	33.22		24.4	3.73		34.8	16.07		42.4	15.25	

*Statistical evaluation was performed by Kruskal-Wallis test. NFPFT, Negative Feeling toward Patient Frequency-Total scale; SW, support-in-workplace scale.

supervisors: 1.705; and support from co-workers: 1.597). The job satisfaction level was significantly correlated with the job stress level (partial regression coefficient: -0.287; odds ratio: 0.751), support from supervisors at the workplace (0.067 and 1.069, respectively), and NFPFT score (-0.020 and 0.980, respectively). Such a correlation was not observed with support from co-workers at the workplace. The percentage of correct predictions was 78.3%.

DISCUSSION

The present study examined the influences of attributes, work-related factors, the frequency of experiencing negative emotions toward patients, job stress, and support from supervisors and co-workers at the workplace on psychiatric nurses' job satisfaction levels. The nurses' job satisfaction levels were positively correlated with support from supervisors, and negatively correlated with their job stress levels and frequency of experiencing negative emotions.

Regarding the relationship between the job satisfaction level and support at the workplace, Cortese et al.³³ reported that the former was higher when organizations,

especially managers, provided support. Other studies also reported a close association between support from supervisors and nurses' professional autonomy.³⁴ Thus, support from supervisors may be useful for staff, and promote their satisfaction as a positive emotion. Therefore, it may be necessary to help staff psychiatric nurses establish favorable relationships among them, and mutually feel empathy, encourage, in order to increase their job satisfaction levels.

Based on a previous study reporting that positive evaluation by supervisors and co-workers is effective at preventing burnout as a negative emotional response among nurses,²⁸ we hypothesized that evaluative support also influences job satisfaction levels. However, in the present study, there were no marked differences among the 4 constructs of support, suggesting that who provides support is more influential than what type of support.

In the questionnaire survey, the job satisfaction level was higher, the frequency of experiencing negative emotions was lower, the job stress level was lower, and support from supervisors and co-workers was more available at the workplace among nurses

Table 5. Spearman's rank correlation coefficients among the study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1													
2	-.260**	1												
3	-.275**	.972**	1											
4	-.206**	.895**	.776**	1										
5	-.554**	.291**	.293**	.244**	1									
6	.566**	-.073	-.100*	-.019	-.400**	1								
7	.565**	-.069	-.095*	-.020	-.385**	.955**	1							
8	.534**	-.080	-.101*	-.039	-.393**	.919**	.860**	1						
9	.532**	-.071	-.100*	-.011	-.374**	.934**	.889**	.790**	1					
10	.519**	-.052	-.081	.004	-.358**	.947**	.863**	.807**	.868**	1				
11	.426**	-.016	-.013	-.017	-.304**	.576**	.556**	.528**	.556**	.548**	1			
12	.409**	-.015	-.017	-.010	-.266**	.541**	.541**	.480**	.530**	.509**	.946**	1		
13	.401**	-.040	-.040	-.039	-.296**	.557**	.542**	.598**	.490**	.483**	.886**	.816**	1	
14	.388**	-.013	-.021	.010	-.275**	.533**	.509**	.438**	.561**	.520**	.914**	.854**	.725**	1
15	.380**	.003	.017	-.018	-.281**	.502**	.465**	.434**	.484**	.516**	.922**	.834**	.726**	.824**

1: Job satisfaction levels; 2: Negative Feeling toward Patient Frequency-Total scale; 3: Negative Feeling toward Patient Frequency-Active scale; 4: Negative Feeling toward Patient Frequency-Passive scale; 5: Job stress levels; 6: Workplace support (supervisors); 7: Emotional support (supervisors); 8: Evaluative support (supervisors); 9: Informative support (supervisors); 10: Instrumental support (supervisors); 11: Workplace support (co-workers); 12: Emotional support (co-workers); 13: Evaluative support (co-workers); 14: Informative support (co-workers); 15: Instrumental support (co-workers)

Spearman's rank Correlation Analysis test. * $P < 0.05$, ** $P < 0.01$.

Table 6 . Results of logistic regression analysis with the job satisfaction levels as a dependent variable

	B	SE	P-value*	OR (95% CI)
NFPFT	-0.020	0.005	0.000	0.980 (0.971-0.990)
Job stress levels	-0.287	0.038	0.000	0.751 (0.697-0.809)
SW (supervisors)	0.067	0.009	0.000	1.069 (1.050-1.089)

*Logistic regression analysis; dependent variable: job satisfaction level. SW, support-in-workplace scale; NFPFT, Negative Feeling toward Patient Frequency-Total scale. CI, confidence interval; df, degrees of freedom; OR, odds ratio; SE, standard error.

who affirmatively answered the question regarding the intention to continue working at a psychiatric hospital. This is similar to the results of a study by Happell et al.,³ who reported “Compared with general psychiatric nurses, those engaged in forensic psychiatric nursing as a high-risk, stressful, and unpredictable area were more satisfied with the amount of support at their workplaces, availability of patient information, and their own commitment to the patients’ decision-making. Burnout was less prevalent among these nurses, and their job satisfaction levels were also higher”, and a study by AbuAlRub et al.,²⁹ who noted “Social support from supervisors and co-workers increases nurses’ job satisfaction levels”. In short, the present study suggested that sufficient support

for psychiatric nurses, who frequently experience negative emotions when caring for difficult patients, at their workplaces does not reduce their job satisfaction levels and prevents them from leaving their jobs.

In contrast, job stress and a higher frequency of experiencing negative emotions were demonstrated to negatively influence psychiatric nurses’ job satisfaction levels. The negative correlation between job satisfaction and job stress levels is consistent with the results of previous studies, which reported that a greater workload and higher job stress levels reduce the job satisfaction level while increasing the rate of absence from work, prevalence of burnout, and turnover rate.³⁵ Thus, job stress may be a factor that reduces job satisfaction

levels. In the present study, there was also a negative correlation between the job satisfaction level and frequency of experiencing negative emotions toward patients, and support from supervisors was found to be more effective than that from co-workers to reduce the latter, suggesting that psychiatric nurses' frequency of perceiving their own negative emotions can be reduced by receiving support from supervisors, rather than sharing complaints and unpleasant feelings with co-workers. For example, emotional support (e.g., asking "Are you alright?"), positive evaluation (e.g., praising by saying "You are doing well"), and the provision of information by supervisors may be effective at reducing staff members' negative emotions.

It should be noted that there were significant differences in scores related to the job satisfaction level, frequency of experiencing negative emotions, job stress, and support in the workplace when comparing them based on the age, length of psychiatric nursing experience, and ward/section. Of note, the job satisfaction level of nurses aged 29 or younger was higher despite their higher frequency of experiencing negative emotions, and support for them from supervisors and co-workers was more available at their workplaces. This suggests that although they frequently experience negative emotions due to caring for difficult patients, their job satisfaction levels do not decrease if there is sufficient support from supervisors and co-workers. The results of the present study are similar to those of previous studies,^{29, 36, 37} reporting that nurses' stress and job satisfaction levels vary depending on the availability of support at their workplaces. Among different wards/sections, the frequency of experiencing negative emotions and job stress level were lower, with a higher job satisfaction level in home-visit nursing sections. In home-visit nursing sections, there may be sufficient support from co-workers, as the users' pathological conditions are relatively stable and home visits are made with other staff members in some cases. Considering the lower job stress and higher job satisfaction levels in home-visit nursing sections, the relocation of some nurses to these sections at their request may be an effective approach to promote job retention among nurses.

On the other hand, job satisfaction levels were lower and workplace support was less available among older nurses continuously working at a psychiatric hospital in the present study. The lower availability of workplace support may be explained by reduced opportunities for older or experienced nurses, who are expected to support and supervise other staff members, to be supported. However, when considering that these older nurses had been continuously working at a

psychiatric hospital despite their insufficient recognition of workplace support and low job satisfaction levels, there may have been other influencing factors in this group. This is inconsistent with the results of previous studies, and may be specific to psychiatric nurses. Future studies should clarify this point.

Based on this study, support from supervisors may be indispensable, and working environments that reduce job stress and negative emotions toward patients may be required to increase psychiatric nurses' job satisfaction levels.

This study has several limitations. First, Currently, only Matsuura et al.³⁶ have examined working environments using the NFPF, and research outcomes remain insufficient in this area. Future studies should allow further follow-up to obtain more extensive outcomes and to re-examine findings from studies using scales. Second, job satisfaction levels were lower and workplace support was less available among older nurses continuously working at a psychiatric hospital. This is inconsistent with the results of previous studies, and may be specific to psychiatric nurses. Future studies should clarify this point by taking other influencing factors into account. Third, this was a cross-sectional study. Although it revealed an association between the job satisfaction level and other factors, it did not examine the causal relationships among them. Therefore, longitudinal studies should also be conducted in the future to clarify such relationships. Lastly, it is also necessary to confirm the appropriateness of the statements presented in the support-in-workplace scale for psychiatric nurses.

In conclusion, to increase psychiatric nurses' job satisfaction levels, support from supervisors may be indispensable, and working environments that reduce job stress and negative emotions toward patients may be required. Individual nurses' increased job satisfaction levels may also prevent them from leaving their jobs. This study suggested that the establishment and maintenance of favorable working environments and interpersonal relationships increase job satisfaction levels while reducing stress, thereby improving job retention among psychiatric nurses.

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