

Determinants Strengthening Japanese Nurses' Intention to Stay at Their Current Hospital

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In order to retain nursing staff, it is crucial to have a comprehensive understanding of the factors that motivate nurses to stay at an institution. Toward this aim, we identified a variety of factors that strengthen nurses' intention to stay at their current hospital. A cross-sectional questionnaire survey was conducted at 12 hospitals in the Tohoku and Kanto regions of Japan. Of the 1,034 nurses working in those hospitals, 713 returned the questionnaire (response rate: 69.0%). Of these, we analysed the data of 485 nurses (17.42 ± 9.83 years of clinical experience, 95.3% female) (valid response rate: 46.9%) who met the inclusion criteria of planning to stay at their current hospital and completing all questionnaire items. An exploratory factor analysis indicated that variables strengthening intention to stay at the current hospital could be grouped into five factors: "comfortable workplace environment," "passive motivational factors," "convenience of hospital location," "favorable work-life balance," and "fulfilment in nursing." Nurses who were married or had children placed a higher priority on a "favorable work-life balance" in remaining at their current workplace. Regular employees or nurses working in the smaller cities tended to display higher "passive motivational factors," which comprised various extrinsic factors. Though extrinsic factors are considered to make only short-term contributions to employee retention, they could generate positive synergistic effects when combined with intrinsic motivations such as "fulfilment in nursing." Effective nurse-retention strategies should be developed by capitalizing on the interaction among the five factors that strengthen nurses to stay at their current hospital.

Keywords: favorable work-life balance; intention to stay; nurse; passive motivational factor; psychological fulfilment
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Introduction

The high turnover rate among nurses is a global concern. Nurse turnover is costly for healthcare organizations due to loss of experienced human capital, need for recruitment and training of new staff, and the increased workload placed on remaining staff. It is also negatively associated with nursing productivity and patient outcomes (Zangaro and Kelley 2010; Kurnat-Thomas et al. 2017).

In Japan, the number of practicing nurses has increased over the last decade (Japanese Nursing Association 2018). However, in the last 5 years, the annual turnover rate among full-time nurses has remained stable, at around 11%. Compounding such problems, the Japanese population aged younger than 18 years is steadily declining, which makes it increasingly difficult to recruit the desired number of newly graduated nurses every year. It is therefore imperative to

strengthen nurses' intention to stay at their current hospital and promote retention of nurses.

Intention to stay is defined as the stated probability of an individual remaining at their current organization (Boyle et al. 1999; Cowden and Cummings 2012). The term "intention to leave" has often been used to describe the same idea as "intention to stay" from the opposite direction. Findings from studies examining factors associated with intention to leave among nurses have frequently been adapted to the factors promoting intention to stay (Jennings 2008; Flinkman et al. 2010; Jourdain and Chenevert 2010; Cowden and Cummings 2012). However, these two concepts may be viewed as asymmetrical (Howe et al. 2012). When the phenomena of interest are investigated, these two constructs should be carefully distinguished to prevent failure in inducing error variances and reduction of the precision of estimates during analysis (Nancarrow et al. 2014). Therefore, intention to stay should be measured

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from the perspective of one's willingness to stay employed at their current workplace.

Methods employed across the body of quantitative research aimed at measuring nurses' intention to stay have been inconsistent. Although aspects of the psychosocial work environment, such as long working hours, the nature of shift work, emotional exhaustion, a wide range of assigned duties, professional development, promotion opportunities, and support for work-life balance contributed to intention to stay among nurses (Jennings 2008; Jourdain and Chenevert 2010; Carter and Tourangeau 2012; Cowden and Cummings 2012; Engeda et al. 2014; Chen et al. 2016), these studies measured intention to stay by using a questionnaire targeting intention to leave or a multi-item scale that incorporated elements of both intention to leave and intention to stay.

Several studies that investigated the concept of intention to stay showed that higher levels of job satisfaction, work-life balance, perceptions of autonomy, interpersonal relationships, occupational commitment, and work rewards are related to stronger intention to stay (Tourangeau and Cranley 2006; Tourangeau et al. 2010; Shacklock and Brunetto 2012; Satoh et al. 2017). Individual factors such as age, years of experience, level of education, and marital status also related to intention to stay (Boyle et al. 1999; Tourangeau et al. 2010). Across this limited body of research, exploratory quantitative studies investigating the structure of influential factors on intention to stay are scarce, although several tested hypothesized relationships between assumed predictors and intention to stay. Various inter-related factors were also reported to affect nurses' intention to stay (Tourangeau et al. 2010; Japan Federation of Medical Workers' Unions 2014; Japanese Nursing Association Nurse Center 2014); nonetheless, few researchers have examined diverse factors related to intention to stay. Thus, to develop effective strategies to strengthen nurses' intention to stay, it is critical that we examine and identify associated factors and the potential synergistic effects between such factors.

The conceptual framework proposed by Boyle et al. (1999), which consists of several factors to determine intention to stay, was focused on nurse managers' leadership style. Cowden and Cummings (2012) also suggested a conceptual framework of factors related to intention to stay based on a literature review. However, they did not fully examine the model's fitness, and measured intention to leave as a substitute for intention to stay.

The present study was a comprehensive investigation of factors strengthening intention to stay among nurses currently working in the Tohoku and Kanto regions of Japan in which *only* intention to stay was examined, rather than intention to leave or a hybrid of constructs.

Method

Design

A cross-sectional questionnaire survey.

Participants

Twelve hospitals in the Tohoku and Kanto regions of Japan, all of which had more than 300 beds and a 1:7 nurse-to-patient ratio, agreed to participate. A self-reported questionnaire was distributed by mail to the 1,034 nurses working in these 12 hospitals. We received responses from 713 nurses (response rate: 69.0%). Of these, responses from 485 nurses (valid response rate: 46.9%) met inclusion criteria (i.e., planned to stay at their current workplace and completed all questions) and were included in the analysis. Data were collected from September 2013 to March 2014.

Variables

Determinants strengthening intention to stay at the current hospital: Referring to previously published reports (Japan Federation of Medical Workers' Unions 2014; Japanese Nursing Association 2014; Japanese Nursing Association Nurse Center 2014), we conducted in-depth, semi-structured interviews with nurses to modify the questionnaire concerning factors associated with intention to stay. For these interviews, we selected nurses who intended to remain employed at their current hospital. Participants were informed of the purpose of the interview, the voluntary nature of participation, and confidentiality practices. We subsequently interviewed 16 nurses who agreed to participate. The interviews lasted roughly 1.5 hours each. They were asked their reasons for deciding to stay at their current hospital, whether they had consulted with someone about staying employed at the current hospital, and from whom they sought advice about making this decision. Interviews were recorded using a digital voice recorder, and recordings were subsequently transcribed. We read the transcripts and extracted all words related to strengthening intention to stay at the current workplace. The data were extracted verbatim and subsequently classified according to their meaning. Ultimately, this resulted in 24 categories. We then generated 24 items from these categories—each corresponding to an associated factor for staying at the workplace. All 24 items were evaluated using a four-point response scale (1 = "not applicable", 2 = "slightly agree", 3 = "agree", and 4 = "strongly agree").

Individual and occupational characteristics: Participants' demographic characteristics included sex, age, marital status, parental status, whether they were living with persons requiring care, and level of nursing education. Participants were asked to select the appropriate response option for these questions. The questionnaire also asked them to report both and the percentage of their personal income in total of household income. We assessed the following occupational characteristics: years of nursing experience, employment status, position, overtime hours per month, and use of educational loans. Organizational characteristics were assessed using hospital location by free descriptions.

Statistical Analyses

We began by calculating descriptive statistics for all variables. Subsequently, ceiling and floor effects of the 24 items assessing factors strengthening intention to stay at the current hospital were assessed by calculating their mean and standard deviation. Next, an exploratory factor analysis was performed using the principal factor method with promax rotation to examine the factors. We extracted all factors with eigenvalues of more than 1.0 in which the constituent items had loadings above .35. The internal consistencies of the extracted factors were evaluated using Cronbach's alpha. Finally, to compare the means of strengthening intention to stay at the current

hospital according to personal and occupational characteristics, we performed Kruskal-Wallis tests (post-hoc test: Steel-Dwass test), Mann-Whitney U-tests, or Student's t-tests. SPSS Statistics 24.0 for Mac was used for all data analysis. Statistical significance was set at $p < .05$ (two-tailed).

Ethical Considerations

Methods were approved by the Ethics Committee of Tohoku University Graduate School of Medicine (approval ID 2011-396, 2012-1-603), the institutional affiliation of the corresponding author at the time of data collection. Participants were informed of the voluntary nature of this study, their right to refuse to participate or withdraw at any time, and of the confidentiality of the data. This

information was provided both orally and in writing prior to the interview and questionnaire. They also were informed that the interviews would be recorded using a digital voice recorder. For the interview survey, all interviewees gave written consent to their participation in the study. Regarding the questionnaire survey, informed consent from all the hospitals' nursing service directors was also obtained orally and in writing before the study. Participants agreed to take part in the study by completing and returning the questionnaire.

Results

Sample characteristics

Table 1 displays individual, occupational, and

Table 1. Participants' characteristics (n = 485).

	n	%
Sex		
Female	462	95.3
Male	23	4.7
Age (years)		
20-29	105	21.6
30-39	156	32.2
40-49	138	28.5
50-59	79	16.3
≥ 60	7	1.4
Years of clinical experience ^a	17.42 ± 9.83	
Marital status		
Married	281	57.9
Single	204	42.1
Child status		
Have children	255	52.6
None	230	47.4
Living with persons requiring nursing care		
Yes	71	14.6
No	414	85.4
Personal and household income ratio ^{a, b}	6.39 ± 2.75	
Overtime work hours per month		
< 5	74	15.3
5-20	237	48.9
≥ 20	174	35.9
Position		
Managerial position	64	13.2
Non-managerial position	421	86.8
Type of employment		
Regular	461	95.1
Temporary	24	4.9
Nursing education		
College graduate or higher	96	19.8
Vocational school or junior college	389	80.2
Educational loan		
Yes	236	48.7
No	249	51.3
Size of hospital location area		
Small city (population less than 200,000)	220	45.4
Medium-sized city (population 200,000 to 500,000)	176	36.3
Large city (population more than 500,000)	89	18.4

^aMean ± SD.

^bThe percentage of their personal income in total of household income.

organizational characteristics of the sample. Most of the sample was female (95.3%), while 21.6%, 32.3%, and 28.5% were aged 20-29, 30-39, and 40-49 years, respectively. 42.1% of respondents were single, and 47.4% did not have children. Participants accounted for an average of 63.9% ($\pm 27.5\%$) of their household's income, and 35.9% of participants worked more than 20 hours of overtime per month. Approximately 14.6% lived with a family member who required nursing care. Of these, 45.4% worked at hospitals located in cities of under 200,000.

Determinants strengthening intention to stay at the current hospital

Among the 24 items related to intention to stay at their current hospital, the most common positive answer was "I feel that nursing is worthwhile," followed by "I need a reliable income," and "I experience feelings of professionalism and autonomy in nursing." The item with the fewest positive answers was "my colleagues are opposed to me leaving the organization" (Table 2).

Exploratory analysis of determinants strengthening intention to stay at the current hospital

We observed no ceiling or floor effects among the 24 items. Thus, an exploratory factor analysis (principal factor method with promax rotation) was performed. As four items had factor loadings of less than 0.35, these items were excluded. A second analysis of the remaining 20 items extracted five factors (Table 3), which we named "comfortable workplace environment," "passive motivational factors," "convenience of hospital location," "favorable work-life balance," and "fulfilment in nursing."

Comparison of determinants strengthening intention to stay at the current hospital according to sample characteristics

The results of the comparison of the five factors strengthening intention to stay at the current hospital according to sample characteristics are reported in Table 4. "Comfortable workplace environment," "passive motivational factors," and "convenience of hospital location" all varied significantly across sample characteristics. Specifically, scores for "comfortable workplace environ-

Table 2. Distribution of nurses who selected "strongly agree", "agree", and "slightly agree" for each factor related to intention to stay at the current hospital.

	n	%
1 I feel nursing is worthwhile.	457	94.2
2 I can work with a feeling of professionalism and autonomy in nursing.	444	91.5
3 I am satisfied with the workload and working hours.	283	58.4
4 I am satisfied with the work schedule and days off.	281	57.9
5 I have good interpersonal relationships in the workplace.	411	84.7
6 The salary, work conditions, and benefits package are good.	333	68.7
7 The organization supports my desired career path.	299	61.6
8 I am assigned to the department that I desire to work in.	289	59.6
9 I am attracted to other medical departments.	201	41.4
10 I have to work for a while to achieve a certain certification.	188	38.3
11 There is organizational support for juggling work and family life.	277	57.1
12 I have no other workplace to change to.	316	65.2
13 It is convenient for me to commute.	390	80.4
14 The hospital is conveniently located.	372	76.7
15 I have to repay my scholarship loan.	89	18.4
16 I need a fixed income.	450	92.8
17 I receive respect as an individual in the workplace.	353	72.8
18 I have co-workers to talk to about my job.	404	83.3
19 I will get a nursing certification through my own effort.	418	86.2
20 I feel compatible with the principles and policies for nursing in this organization.	309	63.7
21 The organization has a good support system for skill development.	323	66.6
22 My colleagues are against me leaving the organization.	181	37.3
23 My family is against me leaving the organization.	192	39.6
24 There are pressures that keep me from leaving the organization.	245	50.5

Table 3. Exploratory factor analysis of the determinants strengthening intention to stay at the current hospital.

	Mean	SD	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Comfortable workplace environment (Cronbach's $\alpha = 0.83$)							
20 I feel compatible with the principles and policies for nursing in this organization.	1.81	0.74	0.810	-0.026	-0.090	-0.035	-0.019
21 The organization has a good support system for skill development.	1.90	0.79	0.740	0.040	-0.019	0.060	-0.059
7 The organization supports my desired career path.	1.83	0.79	0.708	-0.074	0.060	-0.021	-0.076
17 I receive respect as an individual in the workplace.	2.09	0.85	0.656	0.040	0.034	0.026	0.045
18 I have co-workers to talk to about my job.	2.36	0.86	0.612	0.135	0.020	-0.080	0.109
8 I am assigned to the department that I desire to work in.	1.90	0.90	0.525	-0.018	-0.004	0.024	-0.041
5 I have good interpersonal relationships in the workplace.	2.36	0.83	0.409	-0.044	0.053	0.047	0.115
Passive motivational factors (Cronbach's $\alpha = 0.66$)							
24 There are pressures that keep me from leaving the organization.	1.91	1.04	-0.050	0.623	-0.029	-0.025	-0.007
23 My family is against me leaving the organization.	1.67	0.95	0.061	0.620	-0.065	0.027	-0.111
19 I will get a nursing certification through my own effort.	2.67	0.93	0.079	0.499	0.025	0.021	0.110
16 I need a fixed income.	2.94	0.89	-0.081	0.474	0.108	0.063	0.041
22 My colleagues are against me leaving the organization.	1.58	0.85	0.107	0.429	-0.035	-0.029	-0.013
12 I have no other workplace to change to.	2.16	1.03	-0.194	0.354	0.059	-0.072	-0.044
Convenience of hospital location (Cronbach's $\alpha = 0.87$)							
13 It is convenient for me to commute.	2.48	0.96	-0.048	0.005	0.900	0.018	-0.021
14 The hospital is conveniently located.	2.33	0.95	0.079	0.004	0.850	-0.028	0.000
Favorable work-life balance (Cronbach's $\alpha = 0.73$)							
3 I am satisfied with the workload and working hours.	1.82	0.83	-0.064	0.055	-0.066	0.922	0.009
4 I am satisfied with the work schedule and days off.	1.82	0.83	0.093	-0.053	0.029	0.644	-0.037
11 There is organizational support for juggling work and family life.	1.83	0.87	0.150	-0.011	0.103	0.413	0.037
Fulfilment in nursing (Cronbach's $\alpha = 0.86$)							
1 I feel nursing is worthwhile.	2.69	0.80	-0.034	-0.016	0.016	-0.022	0.957
2 I can work with a feeling of professionalism and autonomy in nursing.	2.57	0.81	0.123	0.005	-0.052	0.030	0.732
Eigenvalue			4.408	1.790	2.11	3.051	3.125
Factor correlations							
Factor 1			1				
Factor 2			0.027	1			
Factor 3			0.294	0.228	1		
Factor 4			0.564	-0.213	0.254	1	
Factor 5			0.595	-0.160	0.162	0.452	1

Factors were extracted by principal factor method with promax rotation with eigenvalues of more than 1.0 in which the constituent items had loadings above 0.35.

Bold values indicate factor loadings higher than 0.35.

ment" were significantly higher among nurses in managerial positions than those in non-managerial positions. Compared with regular employees, "convenience of hospital location" scores were higher among temporary employees. As for "passive motivational factors," nurses in their 30s and 40s had significantly higher scores than did those in their 50s, regular employees had significantly higher scores than did temporary employees, and nurses working at hospitals located in cities with a population of less than 200,000 had significantly higher scores than did those working at hospitals located in cities with a population of 200,000 to 500,000. Regarding a "favorable work-life balance," (a) married nurses had significantly higher scores than did unmarried nurses, (b) nurses with children had significantly higher scores than did those without children, (c) nurses with less than 5 hours of overtime per month had significantly higher scores than did nurses with either 5-20 or more than 20 overtime work hours per month, (d) nurses with 5-20 overtime work hours had significantly higher scores than did those with more than 20 overtime hours, (e) temporary employees had significantly higher scores than did regular employees, and (f) nurses working at hospitals located in cities with a population of 200,000 to 500,000 had significantly higher scores than did those working in cities with a population of over 500,000.

Discussion

The results indicated that items enhancing Japanese nurses' intention to stay at their current hospital could be grouped into five factors: "comfortable workplace environment," "passive motivational factors," "convenience of hospital location," "favorable work-life balance," and "fulfilment in nursing."

Data suggesting that a "comfortable workplace environment"—comprising relations with colleagues, a healthy and supportive atmosphere, and shared nursing philosophy—was a key factor influencing intention to stay was in concordance with prior research (Tourangeau and Cranley 2006; AbuAlRub et al. 2009; Shacklock and Brunetto 2012). In addition, "comfortable workplace environment" had moderate relationships with "favorable work-life balance" and "fulfilment in nursing". These results indicate that when nurses feel comfortable with their interpersonal relations, workplace atmosphere, or shared nursing vision, their workplaces may align with their preferred professional and private lives, thereby increasing the likelihood that they experience fulfilment in nursing. Hence, creating a comfortable workplace environment could be an essential step toward enhancing positive feelings about work and strengthening nurses' intention to stay at their current hospital.

Table 4. Comparison of the determinants strengthening intention to stay at the current hospital by sample characteristics.

	Comfortable workplace environment				Passive motivational factors				Convenience of hospital location				Favorable work-life balance				Fulfillment in nursing				
	Mean	SD	p value ^c	post hoc ^f	Mean	SD	p value ^c	post hoc ^f	Mean	SD	p value ^c	post hoc ^f	Mean	SD	p value ^c	post hoc ^f	Mean	SD	p value ^c	post hoc ^f	
Age (years) ^a																					
I 20s	14.25	3.83	.132		13.23	3.75	.003	II>IV*	4.64	1.68	.258		5.34	1.80	.052		5.17	1.52	.101		
II 30s	13.84	3.95			13.16	3.41			4.75	1.86			5.18	2.03			5.19	1.57			
III 40s	14.39	4.20			13.20	3.45		III>IV*	4.88	1.84			5.54	2.07			5.20	1.50			
IV 50s	14.46	4.18			11.92	3.08			4.91	1.78			5.85	2.11			5.52	1.44			
V ≥ 60s	18.00	3.87			10.00	4.16			6.00	1.15			7.86	2.73			6.43	0.79			
Sex ^b																					
Female	14.24	4.04	.929		13.00	3.48	.084		4.82	1.78	.594		5.44	2.07	.142		5.26	1.52	.688		
Male	14.26	4.33			11.70	3.55			4.65	2.17			5.83	1.47			5.35	1.34			
Marital status ^c																					
Married	14.45	4.03	.188		12.71	3.40	.089		4.86	1.82	.417		5.73	2.13	.001		5.34	1.42	.182		
Single	13.96	4.07			13.25	3.60			4.73	1.77			5.11	1.86			5.15	1.63			
Child status ^c																					
Have children	14.38	3.82	.440		12.73	3.62	.158		4.90	1.83	.247		5.87	2.16	.000		5.37	1.44	.090		
None	14.10	4.30			13.17	1.83			4.71	1.76			5.01	1.80			5.14	1.59			
Living with persons requiring nursing care ^b																					
Yes	14.13	4.16	.816		13.00	3.45	.933		5.00	1.90	.310		5.69	2.14	.337		5.37	1.50	.474		
No	14.27	4.04			12.93	3.51			4.78	1.78			5.43	2.03			5.24	1.52			
Overtime work per month ^a																					
I < 5	14.58	4.07	.504		12.26	3.28	.115		4.78	2.07	.299		6.92	2.18	.000	I > II***	5.20	1.55	.546		
II 5-20	14.03	3.92			12.92	3.52			4.92	1.78			5.42	1.91		I > III***	5.24	1.50			
III ≥ 20	14.39	4.23			13.25	3.52			4.67	1.71			4.91	1.86		II > III***	5.31	1.52			
Position ^b																					
Managerial position	15.98	4.55	.001		12.75	3.40	.686		4.95	1.66	.514		5.78	2.12	.199		5.52	1.43	.133		
Non-Managerial position	13.98	3.91			12.97	3.51			4.79	1.82			5.42	2.03			5.22	1.52			
Employment status ^b																					
Regular	14.22	4.04	.651		13.03	3.48	.008		4.76	1.80	.015		5.37	1.97	.000		5.25	1.51	.511		
Temporary	14.71	4.41			11.13	3.37			5.71	1.63			7.33	2.50			5.46	1.53			
Nursing education ^b																					
College graduate or higher	14.05	3.81	.079		12.97	3.47	.536		4.85	1.77	.256		5.46	2.01	.760		5.23	1.45	.477		
Vocational school or junior college	15.05	4.85			12.79	3.59			4.65	1.89			5.47	2.19			5.38	1.75			
Educational loan ^b																					
Yes	14.61	4.40	.058		12.87	3.50	.670		4.85	1.85	.641		5.51	2.11	.656		5.34	1.58	.249		
No	14.00	3.68			13.00	3.49			4.77	1.75			5.43	1.98			5.18	1.44			
Size of the hospital location area ^{a, d}																					
I Small city	14.48	4.28	.791		13.39	3.53	.024	I > II*	4.87	1.94	.459		5.42	2.05	.000	II > III***	5.13	1.41	.704		
II Medium-sized city	14.04	3.95			12.57	3.41			4.66	1.84			5.89	1.98			5.31	1.56			
III Large city	14.31	4.05			12.54	3.45			4.90	1.70			5.15	2.04			5.27	1.52			

*** $p < .001$, ** $p < .01$, * $p < .05$.

^aKruskal-Wallis test with post hoc (Steel-Dwass test).

^bMann-Whitney test.

^cStudent's t-test.

^dSmall city; population less than 200,000, Medium-sized city; population 200,000 to 500,000, Large city; population more than 500,000.

^eObtained by Kruskal-Wallis test, Mann-Whitney test or student's t-test for continuous variables, comparing nurses' attributes and employment attributes groups.

^fObtained by post hoc test (Steel-Dwass test) in Kruskal-Wallis test, comparing age (years), overtime work per month, and size of the hospital location area groups.

“Passive motivational factors,” which comprised various extrinsic factors extracted from our analysis, are congruent with previous findings, such as economic factors, cost of investing in professional skills, employment stability, or limited alternative jobs (Brewer et al. 2009; Chang et al. 2015). “Passive motivational factors” identified in this study also included opposition to turnover by families and colleagues, which even at moderate levels are likely to enhance intention to stay. However, extrinsic factors, such as passive motivational factors, are generally short-term, temporary variables that may not engender a durable effect on intention to stay (Herzberg et al. 1959; Herzberg 1966). Further, nurses who remain employed because of such variables are likely to produce a low quality and quantity of work. On the other hand, “fulfilment in nursing”, involving job satisfaction and the perception of autonomy and professionalism, was found to be an influential factor on intention to stay. This partially supported the theory that when autonomy, professionalism, or enjoyment is increased through work engagement and realization of the value of one's job, intrinsic motivation to work tends to increase (Herzberg et al. 1959; Herzberg 1966). In addition, intrinsic motivation is more effective

when paired concurrently with extrinsic motivation (Tanaka 2011). “Fulfillment in nursing” might generate a synergistic effect with “passive motivational factors” through attempts to enhance job satisfaction or nursing autonomy and professionalism. For example, strategies for nurses with strong “passive motivational factors” could promote their sense of psychological reward, perceived nursing autonomy, and realization of the value of nursing.

“Convenience of hospital location” was also a key factor for intention to stay, as was suggested by previous research (Steinmetz et al. 2014; Eltaybani et al. 2018). Balance regarding commuting distance, workload, and health conditions, especially for long-distance commuters, may be of importance.

It is well known that a “favorable work-life balance” with an appropriate workload, flexible scheduling, and the opportunity to schedule preferred days off is crucial for improving intention to stay, regardless of marital or parental status (Tourangeau et al. 2010; Shacklock and Brunetto 2012; Leineweber et al. 2016). As such, it is critical for workplaces to ensure a well-balanced work schedule to improve nurses' intention to stay.

The findings that nurses who are married or have

Table 5. Distribution of parental and marital status by city size.

	Parental status				Marital status			
	Have children		None		Married		Single	
	n	%	n	%	n	%	n	%
Small city (population less than 200,000)	119	46.7%	101	43.9%	134	47.7%	86	42.2%
Medium-sized city (population 200,000 to 500,000)	99	38.8%	77	33.5%	103	36.7%	73	35.8%
Large city (population more than 500,000)	37	14.5%	52	22.6%	44	15.7%	45	22.1%

children placed greater priority on a “favorable work-life balance”, and that nurses who emphasized a “favorable work-life balance” were not likely to wish to work longer hours are unsurprising. We also saw a significant difference in “favorable work-life balance” according to the population of cities in which the hospitals were located. This may be because participants who worked in cities with a population of 200,000 to 500,000 were more likely to be married or have children (Table 5). However, the percentage of nurses who were married or had children were also high among participants who worked at hospitals located in cities with a population of less than 200,000. These cities are in rural areas where many working women would have their children’s grandparents available to assist in child care (Hashimoto and Miyagawa 2008; Cabinet Office 2012).

Nurses working in cities with a population of less than 200,000 did display heightened “passive motivational factors,” which is perhaps because there are few hospitals in such cities, meaning that nurses did not have a viable alternative to their current workplace. In contrast, temporary employees can freely choose workplaces that suit their conditions, unlike regular employees, which explains lower scores for “passive motivational factors” and higher scores for “favorable work-life balance” and “convenience of hospital location” among temporary employees compared with regular employees. In addition, temporary employees naturally have a lower commitment to their workplace than do regular employees (Conway and Briner 2002) because they might not remain employed long enough to adopt a passive attitude toward their job.

We found that nurses in their 30s and 40s had higher scores on “passive motivational factors” than did those in their 50s. Previous research reported that baby boomers (born 1946-1964) tend to show greater loyalty to their employers, professionalism, and independence in their nursing practice, whereas Generation X and Y (born 1964-1979 and 1980-1994, respectively) perceive a greater mismatch in values between themselves and their workplace, higher job burnout, and a lower sense of control, which increase intention to leave (Kupperschmidt 2000; Widger et al. 2007; Leiter et al. 2009). To date, extrinsic factors have been recognized as negative factors and have been associated with nurses’ intention to leave; therefore, we believe that extrinsic factors such as passive motivational factors can also contribute to nurses’ intention

to stay.

The finding that nurses in managerial positions had higher scores for a “comfortable workplace environment” compared with those in non-managerial positions suggests that those in management might have reached their current position after years of employment because they perceived the hospital to have a comfortable workplace environment. Alternatively, they might have improved the workplace atmosphere through their position, which similarly encouraged them to continue working.

Our study has several limitations. First, the current study was a cross-sectional survey of a distinct set of regions in Japan, and we limited the hospitals surveyed to large facilities. Thus, further research is needed to replicate our findings in other areas of Japan and across hospitals of various sizes and organizational structures. We also need to investigate the longitudinal, causal relationships between nurses *actually* staying at their current workplace and participants’ stated factors for staying at their current place of employment. Additionally, as the sample size of this study was relatively small, future studies with larger samples are required to confirm our results. Lastly, the factors related to intention to remain employed in nursing might vary depending on cultural background, era, and social and economic conditions. Further investigations are necessary to explore these variables. Despite these limitations, this study explored a variety of perspectives in assessing factors that strengthen intention to stay by measuring *only* intention to stay, and not intention to leave or a mixture of constructs. These results may help us to develop more effective measures for retaining nurses.

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Author Contributions

Concept and design: All authors. Collection of data: All authors. Statistical analysis and interpretation: M.S. Manuscript writing: M.S. Critical review of this manuscript: I.W. and K.A. Approval of final manuscript: All authors.

Conflict of Interest

The authors declare there are no conflicts of interest.

References

- AbuAlRub, R.F., Omari, F.H. & Al-Zaru, I.M. (2009) Support, satisfaction and retention among Jordanian nurses in private and public hospitals. *Int. Nurs. Rev.*, **56**, 326-332.
- Boyle, D.K., Bott, M.J., Hansen, H.E., Woods, C.Q. & Taunton, R.L. (1999) Managers' leadership and critical care nurses' intent to stay. *Am. J. Crit. Care*, **8**, 361-371.
- Brewer, C.S., Kovner, C.T., Greene, W. & Cheng, Y. (2009) Predictors of RNs' intent to work and work decisions 1 year later in a US national sample. *Int. J. Nurs. Stud.*, **46**, 940-956.
- Cabinet Office (2012) Report on child-rearing environment in urban and rural areas. <http://www8.cao.go.jp/shoushi/shoushika/research/cyousa23/kanky/pdf/gaiyo.pdf> [Accessed: September 11, 2018] (in Japanese).
- Carter, M.R. & Tourangeau, A.E. (2012) Staying in nursing: what factors determine whether nurses intend to remain employed? *J. Adv. Nurs.*, **68**, 1589-1600.
- Chang, H.Y., Shyu, Y.L., Wong, M.K., Friesner, D., Chu, T.L. & Teng, C.I. (2015) Which aspects of professional commitment can effectively retain nurses in the nursing profession? *J. Nurs. Scholarsh.*, **47**, 468-476.
- Chen, M.F., Ho, C.H., Lin, C.F., Chung, M.H., Chao, W.C., Chou, H.L. & Li, C.K. (2016) Organisation-based self-esteem mediates the effects of social support and job satisfaction on intention to stay in nurses. *J. Nurs. Manag.*, **24**, 88-96.
- Conway, N. & Briner, R.B. (2002) Full-time versus part-time employees: understanding the links between work status, the psychological contract, and attitudes. *J. Vocat. Behav.*, **61**, 279-301.
- Cowden, T. & Cummings, G.G. (2012) Nursing theory and concept development: a theoretical model of clinical nurses' intentions to stay in their current positions. *J. Adv. Nurs.*, **68**, 1646-1657.
- Eltaybani, S., Noguchi-Watanabe, M., Igarashi, A., Saito, Y. & Yamamoto-Mitani, N. (2018) Factors related to intention to stay in the current workplace among longterm care nurses: a nationwide survey. *Int. J. Nurs. Stud.*, **80**, 118-127.
- Engeda, E.H., Birhanu, A.M. & Alene, K.A. (2014) Intent to stay in the nursing profession and associated factors among nurses working in Amhara Regional State Referral Hospitals, Ethiopia. *BMC Nurs.*, **13**, 24.
- Flinkman, M., Leino-Kilpi, H. & Salanterä, S. (2010) Nurses' intention to leave the profession: integrative review. *J. Adv. Nurs.*, **66**, 1422-1434.
- Hashimoto, Y. & Miyagawa, S. (2008) *Why the Female Labor Force Participation Rate in Metropolitan Areas is Low: A Reexamination of the Current Situation and of the Issues. RIETI Discussion Paper*, 08-J-043 (in Japanese).
- Herzberg, F. (1966) *Work and the nature of man*, World Publishing, Cleveland.
- Herzberg, F., Mausner, B. & Snyderman, B.B. (1959) *The motivation to work*, Wiley, New York.
- Howe, A.L., King, D.S., Ellis, J.M., Wells, Y.D., Wei, Z. & Teshuva, K.A. (2012) Stabilising the aged care workforce: an analysis of worker retention and intention. *Aust. Health Rev.*, **36**, 83-91.
- Japan Federation of Medical Workers' Unions (2014) A nationwide survey of workers in the nursing field in Japan. <http://irouren.or.jp/research/kango/kango-2/> [Accessed: September 11, 2018] (in Japanese).
- Japanese Nursing Association Nurse Center (2014) The report on job seeker/job offers of nurses based on the registered data in nurse center in 2014. <https://www.nurse.or.jp/home/publication/pdf/2016/senzai-26.pdf> [Accessed: September 11, 2018] (in Japanese).
- Japanese Nursing Association (2014) *2013 report on status of nursing personnel*. Research report No. 88, Japanese Nursing Association, Tokyo (in Japanese).
- Japanese Nursing Association (2018) Survey on the demand and supply of hospital nurses 2017. http://www.nurse.or.jp/up_pdf/20180502103904_f.pdf [Accessed: September 11, 2018] (in Japanese).
- Jennings, B.M. (2008) Work stress and burnout among nurses: role of the work environment and working conditions. In *Patient safety and quality: an evidence-based handbook for nurses*, edited by Hughes, R.G. Agency for Healthcare Research and Quality, Rockville, MD.
- Jourdain, G. & Chenevert, D. (2010) Job demands-resources, burnout and intention to leave the nursing profession: a questionnaire survey. *Int. J. Nurs. Stud.*, **47**, 709-722.
- Kupperschmidt, B.R. (2000) Multigenerational employees: strategies for effective management. *Health Care Manag.*, **19**, 65-76.
- Kurnat-Thoma, E., Ganger, M., Peterson, K. & Channell, L. (2017) Reducing annual hospital and registered nurse staff turnover: a 10-element onboarding program intervention. *SAGE Open Nurs.*, **3**, 237796081769771.
- Leineweber, C., Chungkham, H.S., Lindqvist, R., Westerlund, H., Runesdotter, S., Smeds Alenius, L. & Tishelman, C.; RN4CAST consortium (2016) Nurses' practice environment and satisfaction with schedule flexibility is related to intention to leave due to dissatisfaction: a multi-country, multilevel study. *Int. J. Nurs. Stud.*, **58**, 47-58.
- Leiter, M.P., Jackson, N.J. & Shaughnessy, K. (2009) Contrasting burnout, turnover intention, control, value congruence and knowledge sharing between Baby Boomers and Generation X. *J. Nurs. Manag.*, **17**, 100-109.
- Nancarrow, S., Bradbury, J., Pit, S.W. & Ariss, S. (2014) Intention to stay and intention to leave: are they two sides of the same coin? A cross-sectional structural equation modelling study among health and social care workers. *J. Occup. Health*, **56**, 292-300.
- Satoh, M., Watanabe, I. & Asakura, K. (2017) Occupational commitment and job satisfaction mediate effort-reward imbalance and the intention to continue nursing. *Jpn. J. Nurs. Sci.*, **14**, 49-60.
- Shacklock, K. & Brunetto, Y. (2012) The intention to continue nursing: work variables affecting three nurse generations in Australia. *J. Adv. Nurs.*, **68**, 36-46.
- Steinmetz, S., de Vries, D.H. & Tijdens, K.G. (2014) Should I stay or should I go? The impact of working time and wages on retention in the health workforce. *Hum. Resour. Health.*, **12**, 23.
- Tanaka, K. (2011) *Essentials of industrial/organizational psychology*, 3rd ed., Nakanishiya Publishing, Kyoto (in Japanese).
- Tourangeau, A.E. & Cranley, L.A. (2006) Nurse intention to remain employed: understanding and strengthening determinants. *J. Adv. Nurs.*, **55**, 497-509.
- Tourangeau, A.E., Cummings, G., Cranley, L.A., Ferron, E.M. & Harvey, S. (2010) Determinants of hospital nurse intention to remain employed: broadening our understanding. *J. Adv. Nurs.*, **66**, 22-32.
- Widger, K., Pye, C., Cranley, L., Wilson-Keates, B., Squires, M. & Tourangeau, A. (2007) Generational differences in acute care nurses. *Nurs. Leadersh. (Tor Ont)*, **20**, 49-61.
- Zangaro, G.A. & Kelley, P.A.W. (2010) Job satisfaction and retention of military nurses: a review of the literature. *Ann. Rev. Nurs. Res.*, **28**, 19-41.