


# Influence of Striving for Work–Life Balance and Sense of Coherence on Intention to Leave Among Nurses: A 6-Month Prospective Survey

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## Abstract

The increase in the elderly population in need of healthcare services has led to a serious shortage in the nursing workforce. To retain a large nursing workforce, a strong work–life balance among nurses is needed along with a healthy work environment. This prospective study investigates the influence of work–life balance and sense of coherence on intention to leave among hospital nurses. A questionnaire survey was conducted with 2239 nurses as a baseline. The explanatory variables included striving for work–life balance behavior, a sense of coherence in terms of personal resources, and work-, organizational-, and individual-related factors. Using a cohort of 1368 valid responses, we measured intention to leave among 975 nurses with whom we were able to follow up 6 months after the baseline survey. We then performed multiple regression analysis. The behavior striving for work–life balance was shown to influence nurses' intention to leave. Nurses who exhibited less striving for work–life balance behavior showed higher intentions to leave. The sense of coherence was not identified as a factor affecting intention to leave. Securing a comfortable work–life balance would reduce the nurses' desire to quit the hospital. To reduce nurse turnover, nurse managers should develop support programs that can help nurses achieve a better work–life balance.

## Keywords

mental health, work–life balance, sense of coherence, intention to leave, nurse

### What do we already know about topic?

Although the work-related stress factors are clear in nurses' intentions to leave their hospitals, the effects of individual factors and non-work factors on turnover probability are less understood.

### How does your research contribute to the field?

The striving for work–life balance behavior was identified as a factor affecting nurses' intention to leave; this study confirms that improving nurses' ability to striving for work-life balance can reduce their intention to leave their current hospitals.

### What are your research's implications toward theory, practice, or policy?

Encouraging a healthy workplace where nurses can continue to practice will focus the development of nursing policy and occupational practices on to help preventing nurse turnover.

## Introduction

Worldwide, the average life span has lengthened significantly, and older people with chronic conditions and multiple illnesses have increased, so demand for healthcare services has increased as well.<sup>1</sup> This points to the need for a large nursing workforce; however, there is a nursing shortage in many countries. As a result, the insufficient staffing situation

is increasing the stress level of nurses affecting job satisfaction,<sup>2</sup> eroding safety and care quality,<sup>3</sup> and driving many nurses to leave the profession.

In the context of Japan, a society with a decreasing labor force owing to a declining birthrate and increasingly aging population, securing an adequate nursing workforce is critically important. In 2007, the Japan Nursing Association<sup>4</sup> started an employment promotion project for various



nursing staff work styles as a measure to prevent nurse turnover, promote stabilized employment, and strengthen work shift arrangements. As a result, the 10-year turnover rate has gradually been reduced from 12.9% to 10.9% and from 9.2% to 7.5% among full-time hospital nurses and new graduates, respectively,<sup>5</sup> and has remained largely stable over the past few years. However, there have been reports that nurses' overwork and health anxiety remain unresolved.<sup>6</sup> Thus, a healthy work environment needs to be promoted to maintain a strong and sizable nursing workforce in the future.

The intention to leave among nurses is the precursor of leaving their current job and hospital.<sup>7</sup> As such, to avoid such actions, early measures are desirable from the viewpoint of stress on the health of workers. According to the occupational stress model of the National Institute for Occupational Safety and Health (NIOSH),<sup>8</sup> the health of workers is influenced by work-related stress factors, individual factors, non-work factors, such as family demands, and buffer factors. In many studies, work-related stress factors capture the effort-reward imbalance,<sup>9,10</sup> workload,<sup>11,12</sup> job demand,<sup>13</sup> and role/interpersonal relationships.<sup>14</sup> As for buffer factors, a support system at the workplace<sup>15</sup> is a suppressive factor for leaving work. However, burnout is clearly an impactful factor for leaving a job.<sup>16</sup> Hayes et al<sup>17</sup> showed that nurse turnover was a result of various factors in the workplace.

As for individual factors, reports state that a low sense of coherence (SOC) is relevant to the intention to leave the job.<sup>18</sup> SOC is the ability to maintain one's health by changing the impact of one's experiences rather than having one's health impaired under stress.<sup>19</sup> The function of the SOC predicts and defuses mental and physical health tension.<sup>20,21</sup>

Many recent studies have focused on the balance between work and private life,<sup>22</sup> which as work-life interference<sup>23</sup> and work-family conflict<sup>24</sup> can strongly predict nurses' intention to leave. In fact, it has been reported that WLB does relate to the intention to leave among hospital nurses.<sup>18</sup>

In Japan, work-life balance (WLB) refers to a worker's ability to combine work and non-work activities (home, community, learning) at each stage of one's professional life. This can be done in a variety of ways, using diverse workstyles and lifestyles to achieve a well-balanced and

satisfying situation.<sup>25</sup> WLB points to the importance not only of work-family issues but also of non-family aspects of one's personal life. If nurses can achieve a work-life balance, this may be able to lower their intention to leave due to a work-life imbalance and encourage them to continue their professional lives.

Most previous studies on nurses' intention to leave, with the exception of work-related factors, have been cross-sectional studies; thus, a longitudinal study is needed to investigate the effects of individual and non-work-factors on nurse turnover intentions. This study aimed to identify the effects of SOC and WLB among nurses on their intention to leave.

## Methods

### *Study Setting and Participants*

A 6-month prospective cohort design was used for the full-time nurses. After nurses start to work at a new department or hospital, they can tell within a few months whether they have been able to adapt to this workplace. We hypothesized that the nurses' intention to leave would be influenced by various factors after 6 months.

The survey request was made by telephone to 38 national and public hospitals with between 99 and 500 beds near Tokyo with high turnover rates among full-time nurses.<sup>26</sup> We then received consent in writing to target nurses at 9 hospitals. The questionnaires were mailed to the hospitals, and the directors of the nursing departments were asked to distribute these to the potential participants and provide collection bags for the completed questionnaires. In August 2017, in the baseline survey (Time 1), researchers distributed questionnaires to 2239 nurses, the collection bags for the questionnaires were made available at the hospitals for 2 weeks, after which the collected questionnaires were returned in a closed envelope to the researchers; 1739 (77.6%) responses were collected, and 1494 (66.7%) were determined as valid; missing data in the intention to leave scale were excluded. After 6 months, in February 2018 (Time 2), 1368 (61.1%) full-time nurses were cohort-tracked; 388 nurses of the baseline valid respondents were untraceable. At the time of the follow-up survey, 3 part-time nurses and 2 nurses of unknown employment type were excluded from the survey. Ultimately, 975 participants were determined as valid (Figure 1).

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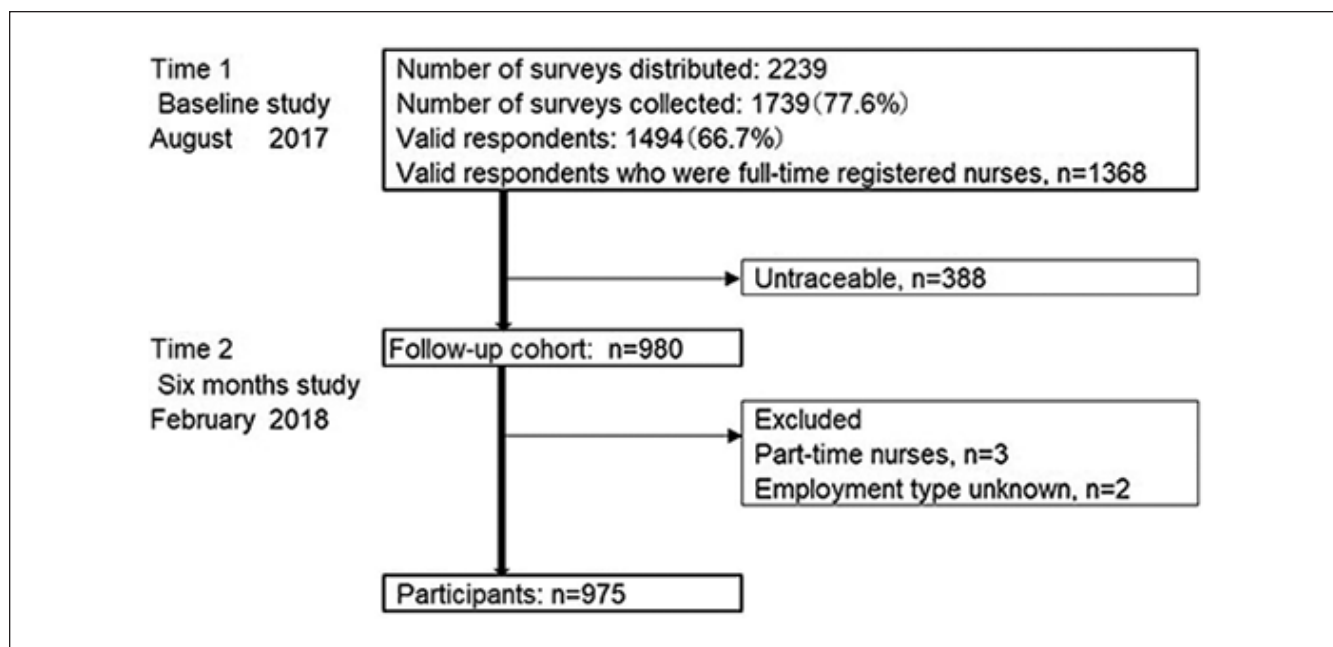


Figure 1. Flow chart of participation.

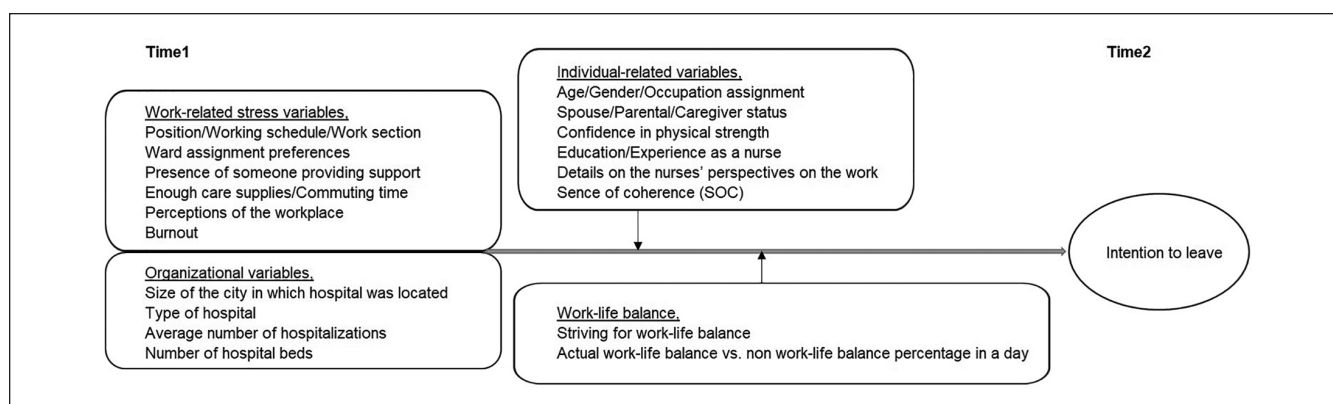


Figure 2. Conceptual framework for the factors of nurses' intention to leave the workplace.

## Measurements

Factors that could influence the nurses' intention to leave the workplace were considered following previous studies.<sup>9,15-17,21,23,24</sup> Based on various variables (work, organizational, individual, and work-life balance factors), explanatory factors were selected (Figure 2).

### Work-Related Stress Variables

Information was collected on the position, working schedule, work section, ward assignment preferences, presence of someone providing support, enough care supplies, and commuting time. Regarding perceptions of the workplace, information was collected on feelings of being a member of the

organization, approval, opportunities to demonstrate abilities, assignment of duties beyond individual capability, satisfaction with welfare benefits, salary satisfaction, awareness of role, cooperation, whether medical accidents occur easily, security in case of medical accidents, openness in discussions, perceptions of a high turnover among nurses, how easy it is to take holidays according to one's own wishes, providing adequate patient care, and availability of care supplies. The responses ranged from *not at all* to *very much so* using a 6-point Likert-type measure.

### Burnout

We used the Japanese version of the Maslach Burnout Inventory-General Survey (MBI-GS), which was translated

and verified for reliability and validity by Kitaoka et al<sup>27</sup> and is based on the original scale of Maslach.<sup>28</sup> It comprises the following subscales: exhaustion, cynicism, and professional efficacy. The MBI-GS has 16 items and responses options from *never* to *every day*. A higher score for exhaustion and cynicism indicates greater burnout; a higher score for professional efficacy indicates less burnout. Cronbach's alpha coefficient in this study was .85 to .90. Permission to use the questionnaire was obtained from the Japanese version developers and copyright-holder.

### Organizational Variables

We also gathered information on the size of the city in which the hospital was located, the type of hospital, average number of hospitalization days, and the number of hospital beds.

### Individual Variables

Demographic details were collected about age, gender, occupational assignment, spouse status, parental status, caregiver status, education, experience as a nurse, chronic diseases, and confidence in physical strength. Further, we also collected details on the nurses' perspectives on the work, information on their suitability as a nurse, family understanding of their work, ease in finding a new workplace, and difficulty after resignation. The responses ranged from *not at all* to *very much so* using a 6-point Likert-type measure.

### Sense of Coherence (SOC)

Antonovsky<sup>19</sup> was concerned with positive factors such as in people who are bright with positive life perspectives, and focused on the salutogenesis of how health is recovered, maintained, and promoted. The SOC is a quality found among people who have survived harsh conditions and have overcome difficulties in life.<sup>19</sup> We used the Japanese version of the SOC-13, which was described and verified for reliability and validity by Yamazaki et al<sup>29</sup> and is based on the original scale of Antonovsky.<sup>19</sup> It comprises the following subscales: comprehensibility, manageability, and meaningfulness, rated on a 7-point scale. Total scores ranged from 13 to 91; higher total scores indicated stronger SOC. A sample item was, "Do you have very mixed-up feelings and ideas?"

Cronbach's alpha coefficient for this was .78. Permission to use the questionnaire was obtained from the developers and copyright-holder.

### Work-Life Balance

There are some scales that measure WLB, including the WLB index for nursing<sup>4</sup> and the Work/Life Balance Self-Assessment Scale.<sup>30</sup> These scales are capable of capturing subjective recognition of WLB, but do not address behavior for improving WLB. In this study, ability to adjust WLB was

defined as "the ability to utilize personal knowledge and act to achieve WLB in the current workplace management systems." Matsuo et al<sup>31</sup> developed a striving for WLB behavior scale (S-WLB) that can evaluate each person's behavioral ability to achieve WLB. The S-WLB behavior scale is measured on a 6-point Likert-type scale (1 = strongly disagree to 6 = strongly agree), and ranges from 11 to 66 total points; the higher the score, the higher the ability to strive for WLB. The scale consists of 11 items, in 2 subscales, with 6 items on ability to consult others when needing support (eg, "I consult my supervisor when I feel that I have a high workload or a lot of responsibility") and 5 items on ability to exercise self-control (eg, "I manage my health properly, as is appropriate for me"). Cronbach's alpha coefficient here was 0.83. We also examined the nurses' actual work-life balance versus non work-life balance percentage in a day, using a 7-point Likert-type measure; the higher scores indicated a higher work-life balance percentage.

### Intention to Leave

We used the intention to leave scale developed by Tei-Tominaga and Yamazaki,<sup>32</sup> which has shown reliability and validity. The Intention to leave was defined as the "intention to resign from job at a present medical institution" according to the developer's definition.<sup>32</sup> The outcome variable, intention to leave the job, was assessed using a 6-item scale. Each item asked about participants' thoughts or behaviors related to resignation from their job. Responses were scored on a 4-point scale. Total scores ranged from 6 to 24; higher total scores indicated stronger intention to leave; for example, "I am fed up with my current hospital job and am earnestly gathering information to find a new job." Cronbach's alpha coefficient here was 0.91. Permission to use the questionnaire was obtained from the developers.

### Data Analysis

Regarding the participants' demographic characteristics, we calculated the frequency, total intention to leave mean score, and the standard deviation of each variable. The relationship between the total intention to leave mean score at Time2 and various factors at Time1 were determined in the bivariate analysis. The mean value comparisons were undertaken via t-test and one-way analysis of variance (ANOVA). For the variables with interval scales, the correlation coefficients with the total intention to leave mean score were calculated. Multiple regression analysis was conducted using mean score total for intention to leave and significant explanatory variables in the bivariate analysis to examine the effect of intention to leave after 6 months. In selecting the explanatory variables, statistical significance was set at  $P < .2$  or a correlation coefficient with an absolute value of .2 or more, to ensure important factors would not be omitted.<sup>33</sup> For the questions with more than 3 choices, the responses were

**Table 1.** Participant Characteristics.

Characteristic	Category	Average (SD)	Participants	Total intention to leave score	
			n (%)	Mean	SD
All participants			975 (100)	13.84	4.95
Age		37.0 (10.2)			
Experience years		13.6 (9.7)			
Experience as a nurse	1 years		67 (6.9)	12.66	5.32
	2-3 years		117 (12.0)	14.79	4.61
	4-6 years		128 (13.1)	14.45	5.01
	7-10 years		129 (13.2)	14.22	4.66
	11-20 years		290 (29.7)	13.27	5.05
	≥21 years		244 (25.0)	13.17	4.91
Gender	Male		66 (6.8)	13.26	5.88
	Female		907 (93.0)	13.87	4.88
Occupation	Nurse		905 (92.8)	13.86	4.96
	Midwife		69 (7.1)	13.58	4.80

Note. According to the *t*-test and one-way analysis of variance. Total numbers amount to less than 975 because of missing data. SD=standard deviation.

converted into dichotomous ratings or dummy variables in the multivariate analysis. We confirmed that the variance inflation factor was 10 or less in multicollinearity. As 40 predictors were entered in the regression analysis, at least a sample of 600 nurses was required from a power perspective, as the fitted regression model may be reliable when the number of predictors is 15 times.<sup>34</sup>

For the statistical package (SPSS v. 24.0; IBM Corporation, Armonk, NY, USA) was used.

### Ethical Consideration

The protocol for this study was approved by the Ethics Review Committee of the International University Health and Welfare (No. 17-Ig-47, July 2017).

### Results

As shown in Table 1, the mean total intention to leave score was 13.84 (SD=4.95) for all participants. Participant' mean age was 37.0 years (SD=10.2) and experience as a nurse was 13.6 years (SD=9.7). The nurses had the highest score of 14.79 (SD=4.61) in the second to third years, and lowest score of 12.66 (SD=5.32) in the first year. There were no significant differences in intention to leave between the 907 female nurses (93.0%) and 66 male nurses (6.8%), or the 905 nurses (92.8%) and 69 midwives (7.1%).

### Bivariate Regression

Among the participants' work-related stress factors and mean total intention to leave scores, the statistically significant variables were as follows: overtime per month, ward

assignment preference, presence of someone providing support (junior, senior, or supervisor), and enough care supplies (all,  $P < .01$ ). Variables that reached statistical significance were work section ( $P < .05$ ), position, and presence of someone providing support (other occupation) ( $P < .2$ ).

There were 14 statistically significant variables among the nurses' perceptions of the workplace: feeling of being a member of the organization, approval, opportunities to demonstrate ability, satisfaction with welfare benefits, salary satisfaction, awareness of role, cooperation, whether medical accidents occur easily, security in case of medical accidents, openness in discussions, perceptions of high turnover among nurses, how easy it is to take holidays according to one's own wishes, and providing adequate patient care and availability of care supplies (all,  $P < .01$ ). Assignment of duties beyond individual capability also reached statistical significance ( $P < .2$ ).

There were 4 general hospitals, 2 regional medical care hospitals, and 3 advanced treatment hospitals in this survey. Significant differences were observed in size of the city in which the hospital was located and the average number of days of hospitalization ( $P < .01$ ).

Among the participants' individual-related factors and mean total intention to leave scores, the statistically significant variables were as follows: spouse living together, children living together ( $\leq 7$  years), chronic disease, confidence in physical strength, and suitability as a nurse (all,  $P < .01$ ). Caregiver living together ( $P < .05$ ), age, children living together ( $\geq 7$  years), education, and family understanding of work also reached statistical significance ( $P < .2$ ).

The correlations between continuous variables and intention to leave are shown in Table 2. The correlation coefficient for S-WLB ( $r = -0.33$ ,  $P < .01$ ) and SOC ( $r = -0.35$ ,  $P < .01$ )

**Table 2.** Correlations among Major Variables.

Variables	1	2	3	4	5	6	7
1. S-WLB	—						
2. SOC	0.42**	—					
3. MBI-GS: EX	-0.41**	-0.45**	—				
4. MBI-GS: Cy	-0.38**	-0.55**	0.62	—			
5. MBI-GS: PE	-0.24**	0.31**	0.01	-0.08	—		
6. Actual WL vs non-WL percentage in a day	-0.29**	-0.18**	0.32**	0.22**	-0.05	—	
7. Intention to leave	-0.33**	-0.35**	0.38**	0.47**	-0.13**	0.18**	—

Note. According to the Pearson's correlation coefficient.

S-WLB=striving for work-life balance behavior scale; SOC=Japanese version sense of coherence (SOC-13) scale; MBI-GS=Maslach burnout inventory-general survey; EX=exhaustion; Cy=cynicism; PE=professional efficacy; WL=work life.

\*\* $P < .01$ .

**Table 3.** Factors Affecting Intention to Leave According to the Multiple Regression Analysis.

Explanatory variables	Standard partial regression coefficient	Significance
	$\beta$	P-value
Burnout: cynicism	.309	.000**
Perceiving a high turnover in nurses	.123	.000**
Burnout: exhaustion	.112	.003**
Salary satisfaction	-.101	.000**
Openness in discussions in the workplace	-.094	.002**
S-WLB	-.075	.024*
Spouse living together	.071	.012*
Having chronic disease	-.061	.031*
Burnout: professional efficacy	-.060	.042*
Caregiver living together	.058	.038*
R <sup>2</sup>		.304
Adjusted R <sup>2</sup>		.297

S-WLB=striving for work-life balance.

\* $P < .05$ . \*\* $P < .01$ .

showed a negative intermediate correlation with the total intention to leave score. For MBI-GS, exhaustion showed a positive intermediate correlation ( $r=0.38$ ,  $P < .01$ ) as did cynicism ( $r=0.47$ ,  $P < .01$ ). The actual proportion of work life versus non-work life percentage showed a weak positive correlation ( $r=0.18$ ,  $P < .01$ ), and as the proportion of work versus private life increased, the intention to leave score was higher.

### Multiple Linear Regression

The final multivariate analysis of the influences on nurses' intention to leave are shown in Table 3. The degrees-of-freedom-adjusted coefficient of determination was 30%.

The multiple regression analysis identified the most dominant factors affecting intention to leave as burnout (cynicism) ( $\beta=.31$ ) and burnout (exhaustion) ( $\beta=.11$ ). As for work-related stress factors, perceiving a high turnover among

nurses at their hospital ( $\beta=.12$ ), salary satisfaction ( $\beta=-.10$ ), and openness in discussion at the workplace ( $\beta=-.09$ ) were also factors affecting intention to leave. In addition, the S-WLB ( $\beta=-.08$ ) influenced intention to leave. Nurses who had high S-WLB total mean scores also had low intention to leave. The SOC was not selected as a factor affecting the intention to leave.

## Discussion

### Factors Influencing Intention to Leave in Multiple Regression Analysis

The factors affecting intention to leave were burnout (cynicism, exhaustion), which had a high explanatory rate. S-WLB, our primary focus, also affected intention to leave. S-WLB was a factor influencing turnover even after controlling the influence of confounding factors. Thus, S-WLB

behavior as a factor can be an evaluation measure for intention to leave the hospital.

As in prior studies, conflicts<sup>24</sup> and interference<sup>35</sup> in work life and family life relate to turnover intention in this study. The S–WLB variable measured in this study extended this perspective, adding new results in terms of behavioral aspects. The inability to achieve a WLB influenced nurses' intention to leave the hospital. Beyond recognizing work–family imbalance, if nurses are unable to take steps to achieve a WLB, they may face an increasing need to leave their hospital. Reasons to for leaving includes a generation gap that spans roughly 15 to 20 years.<sup>17</sup> The WLB should be improved for all generations, not only family-to-work or work-to-family events. Furthermore, in the coronavirus crisis, Phillips<sup>36</sup> reported that workers need help finding time for themselves and their loved ones, to achieve work–life fit concerns about job security and health risks from COVID-19.

For nurses to adjust their WLB, S–WLB means improving one's ability to consult others when needing support. Thus, to maintain a good WLB, nurses should pursue and seek support.<sup>22</sup> Another feature of meaning S–WLB is that it evaluates the ability of the individual to exercise self–control over WLB achievement, including through the use of time management or coping with stress. Studies have shown that self-rated health relates to the intention to leave as a professional,<sup>15</sup> similar to our results.

With regard to SOC, the stress buffering effect in this study was a personal resource, and it was assumed that staff with higher SOC had a lower intention to leave and staff with lower SOC had a higher intention to leave. However, among the participants of this study, SOC was not a direct cause of the intention to leave. However, it is possible that SOC indirectly exerts an effect in situations such as stress.<sup>20</sup> Research is needed that investigates the process of intention to leave the hospital assuming a causal relationship between variables to accumulate further data on this.

### *Limitations and Future Research*

This study provides meaningful results with good predictive accuracy using a longitudinal design. We identified the relevance of the turnover intention, considering the possibility that individual turnover intentions differ, and depend on the organizational background. This is one contribution of this study.

The study also has some limitations. The questionnaire was distributed by nurse managers to all staff nurses, and response bias is possible. Hayes et al<sup>17</sup> recommends the use of survey distribution strategies that minimize the potential for biased responses, such as mailing surveys to participants' homes. Additionally, this study was limited to hospitals in certain geographic locations of Japan, so its generalizability is limited, as the results may be influenced by cultural context; thus, research that crosses the regions is desired. Finally, we used the S–WLB behavior scale, with the results based solely on a Japanese version of the scale. Research on

S–WLB should be conducted in future empirical studies in other countries for comparison.

### *Implications for Occupational Health Practice*

This study increases understanding of the role of striving for WLB as a behavior to be supported in the process of lowering nurse turnover. Hospital managers should understand the needs of nurses and create work environments conducive to achieving WLB and should remain interested in and communicate with nurses who lack adequate consultation skills. Educational guidance should be given to nurses who are unable to efficiently manage their time or their self-control.

Hospital nurses should increase their ability to adjust WLB to reduce their intention to leave and to continue to work in a manner that promotes good health. Nurses should not only recognize the need for WLB but also strive for it. The process begins with self-reflection and progresses by taking action. One tool for self-improvement is coaching.<sup>37</sup> Thus, nurses should be provided with educational support regarding the importance of consulting with others as well as self-control.

Nurse managers should continue to consider a healthy work environment where nurses can become aware of self-control so that the work–life does not become unbalanced and they do not feel stress. When considering how to improve WLB, nurses need to be aware generally of the concept of WLB as well as WLB in the current workplace management system; moreover, they should be aware of comprehensive management in the organization or workplace. Our findings are recommended for use in developing support programs and evaluating their effectiveness for nurse retention.

### **Conclusion**

We investigated the effects of SOC and WLB in nurses on their intention to leave. S–WLB was identified as a factor affecting nurses' intention to leave their hospital. Improving nurses' ability to S–WLB could, therefore, reduce their intention to leave.

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