

The Mediating Role of Sense of Coherence and Striving for Work-Life Balance on Intention to Leave From Nurses' Burnout

INQUIRY: The Journal of Health Care Organization, Provision, and Financing
Volume 60: 1-8
© The Author(s) 2023
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/00469580221146839
journals.sagepub.com/home/inq



Maki Matsuo, PhD, RN¹ , Yuko Takayama, PhD, PHN, RN²,
Chiaki Kinouchi, PhD, PHN, RN³, and Eiko Suzuki, PhD, RN⁴

Abstract

High turnover and understaffing are significant issues plaguing the healthcare system. Some of the leading reasons of turnover include child-bearing and -rearing, stress related to working, and health concerns. With the onset of the coronavirus (COVID-19) pandemic, this problem of turnover worsened due to increased risk of infection and escalating workload. This study aimed to clarify and validate the effect of burnout on intention to leave among full-time nursing professionals and the structural relationship with sense of coherence (SOC) and striving for work-life balance (S-WLB). Secondary analyses of data obtained from a previous study was carried out; a hypothesized model was tested for goodness of fit and a final model was developed. Burnout directly affected intention to leave ($P < .001$). It also affected intention to leave through SOC and S-WLB ($P < .01$); SOC lessened the effect of burnout on S-WLB, therefore reducing its impact on intention to leave. Effective strategies need to be developed to improve the SOC and WLB of nurses to alleviate the effects of burnout and thus reduce the likelihood of turnover. Improving their ability to grasp and deal with emergencies and ambiguous situations, as well as providing emotional and tangible support can be other ways to retain nursing professionals.

Keywords

intention to leave, burnout, nursing professionals, sense of coherence, work-life balance, salutogenic model

What do we already know about this topic?

While the impact of burnout on turnover intentions is clear among full-time nursing employees, no structural association with sense of coherence and striving for work-life balance has been revealed.

How does your research contribute to the field?

We propose that strengthening sense of coherence and supporting striving for work-life balance can be used as strategies to reduce intention to leave caused by burnout and retain a nursing workforce.

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

We present a structure wherein sense of coherence, an individual's orientation, does not directly reduce intention to leave, rather plays a behind-the-scenes role with resources within the salutogenic model.

Introduction

Ensuring a stable nursing workforce is essential in the midst of population trends such as declining birthrate, growing number of older adults, and increasing population with chronic illnesses.¹ Japan is currently in a vicious cycle of mass recruitment and mass resignation, with 100 000 hospital nursing staff leaving their jobs each year.² Among the top reasons reported by nurses who have resigned are pregnancy, childbirth, or raising children, and the stress of long working hours and night shifts. This has led to the formulation of guidelines for night shifts and the shift work system.³

¹Tokyo Healthcare University, Tokyo, Japan

²International University of Health and Welfare, Tochigi, Japan

³Chiba Prefectural University of Health Sciences, Chiba, Japan

⁴International University of Health and Welfare Graduate School, Tokyo, Japan

Received 3 June 2022; revised 20 November 2022; revised manuscript accepted 5 December 2022

Corresponding Author:

Maki Matsuo, Tokyo Healthcare University, 4-1-17, Higashigotanda, Shinagawa-ku, Tokyo 141-8648, Japan.
Email: m-matsuo@thcu.ac.jp



Resigning for the sake of one's health is another common reason. As such, guidelines for novice nurses have also been created to prevent them from leaving the profession due to reality shock, with a revised version published in 2014.⁴ Prior to the novel coronavirus (COVID-19) pandemic, efforts to create a work environment facilitating job continuation had led to a leveling off of turnover rate among hospital nursing professionals over the past decade.⁵

Turnover rates for regular nursing staff and newly hired graduates rose respectively from 10.7% to 11.5% and 7.8% to 8.6% from 2018 to 2019.⁶ In addition to chronic understaffing, the medical profession has been placed in a state of unprecedented stress. As of September 2020, 15.4% of nurses had decided to leave clinical practice as a result of dealing with the novel COVID-19 pandemic, and this attrition rate is expected to increase.⁷ As the phrase "essential workers" suggests, health care professionals work to provide services that are necessary if people are to continue to live and work and are likely to continue in their jobs out of a sense of duty.⁸ Nursing professionals, who interact with countless patients (both inpatient and outpatient contexts), have come face-to-face with the COVID-19 pandemic and are under immense stress due to the risk of infection and working in a strained medical system. For nurses, the dangers of continuing to work while in an unhealthy state are immeasurable. These circumstances lead nursing professionals to fall into a state of burnout, a stress syndrome reported to be a major cause of intention to leave among nurses.⁹ Thus, measures to address stress among nursing professionals require urgent attention.

Background

One theory on the origin of health is salutogenesis, proposed by Antonovsky.¹⁰ The theory focuses on how human health is created and represented by the salutogenic model. One of the core concepts of salutogenesis is sense of coherence (SOC), which is an inherent orientation within each individual; it is an individual's or group's fundamental attitude toward the world and is considered a primary factor leading to health.¹¹ We hypothesized that hospital nursing staff with stronger SOC would show a lower intention to leave when placed in a stressful environment, and conducted a longitudinal study to determine whether SOC influences intention to leave, but found that SOC did not have a direct impact.¹² Nonetheless, because SOC is a predictor of subjective health¹³ and protects against burnout,¹⁴ we cannot rule out the possibility of an indirect effect.

In recent years, work-life balance (WLB) has also been highlighted as a factor influencing intention to leave. Workstyle reforms are being pushed in Japan and discussions have highlighted the importance of WLB in promoting a society in which working individuals can choose from diverse workstyles depending on their personal circumstances. To prevent overwork and preserve the health of

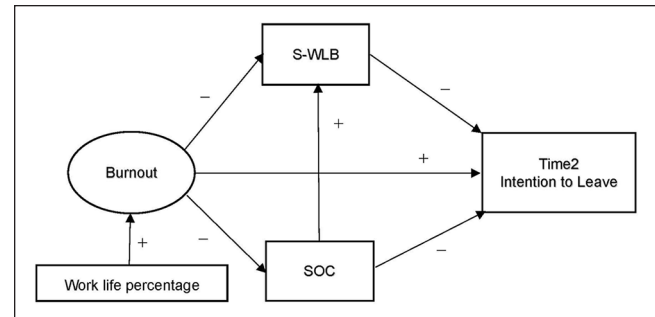


Figure 1. Theoretical model and hypotheses.

workers, the Japanese government has established policies to improve working hours and review the use of annual paid leave.¹⁵ Skewed WLB is associated with the exacerbation of health problems,¹⁶ while reducing conflict between work and home has been reported as a factor in improving turnover among hospital nurses.¹⁷ Moreover, higher striving for WLB (S-WLB) has been found to reduce intention to leave¹² and it is predicted that failing to maintain WLB under stress impacts intention to leave.

In the present study, we constructed a hypothetical model (Figure 1), with reference to prior studies, creating a structural equation model of the path from stress to intention to leave.^{18,19} In addition to a direct effect of burnout on intention to leave, we hypothesized an indirect effect mediated by SOC and S-WLB. Further, based on the salutogenic model, SOC was not considered a stress coping resource in itself, but was assumed as the ability to select and mobilize intrinsic and extrinsic coping resources flexibly and appropriately as the time and situation demand.²⁰ Thus, we hypothesized that SOC would reduce intention to leave by mobilizing the capacity for S-WLB. Lastly, because nurses' physical and mental health decline as WLB skews further toward work¹⁶ and work-life interference is strongly associated with burnout,²¹ we expected that burnout would be affected by the WLB ratio.

Hypothesis 1: Burnout will have a direct positive effect on intention to leave.

Hypothesis 2: SOC will mediate the relationship between burnout and intention to leave.

Hypothesis 3: S-WLB will mediate the relationship between burnout and intention to leave.

Hypothesis 4: SOC will affect intention to leave via S-WLB.

Method

Aims

This study aimed to clarify and validate the effect of burnout on intention to leave among full-time nursing professionals and the structural relationship with SOC and S-WLB.

Data Source and Participants

This study was a secondary analysis of data obtained through exploratory factor analysis of intention to leave among nursing professionals and examined the relationships between intrinsic causes using structural equation modeling. The previous research was a 6-month prospective cohort study involving full-time nurses; it was conducted from August 2017 to February 2018 and was a longitudinal study in which an anonymous, self-administered questionnaire was distributed to 2239 nursing professionals in the Kanto/Koshinetsu region resulting in a total of 975 valid responses (43.5%). Details of the research design are presented in a separate paper.¹²

This sample size was confirmed to be adequate considering that structural equation modeling required a sample size of at least 200 to generate stable estimated values and a sample size of 462 to estimate mediating effects using bias-corrected bootstrapping.^{22,23}

Measures

The survey used scales with confirmed reliability and validity. Permission for use was obtained from the developer of each scale.

Intention to leave. Intention to leave was measured using the Intention to Leave Scale developed by Tei-Tominaga²⁴ This scale comprises 6 items concerning intention to change careers or leave one's current position. Responses are provided on a 4-point scale ranging from "never" to "frequently," and the total score ranges from 6 to 24 points. A higher score indicates a more negative trend and a stronger intention to leave the hospital. The following is a sample item: "I'm fed up with my current hospital job and am seriously looking into finding a new job." Cronbach's alpha coefficient in the present study was .91.

Burnout. Burnout was measured using the Japanese version of the Maslach Burnout Inventory General Survey (MBI-GS), translated by Kitaoka et al,²⁵ which evaluates occupational stress syndrome. The MBI-GS comprises 16 total items across 3 subscales: exhaustion, cynicism, and professional efficacy. Responses are provided in terms of frequency on a 7-point scale ranging from "never" to "every day." Higher scores for exhaustion and cynicism and a lower score for professional efficacy indicate a higher degree of burnout. Cronbach's alpha coefficients in the present study ranged from .85 to .90.

SOC. SOC was measured using the Japanese version of the SOC-13 developed by Antonovsky and translated by Yamazaki.¹⁰ SOC is a disposition seen in people who have overcome life's challenges and harsh circumstances. It comprises 3 subscales: (1) comprehensibility, (2) manageability,

and (3) meaningfulness. In simple terms, these can be understood as whether one is able to (1) understand, (2) cope with, and (3) feel that there is meaning or value in overcoming the situation one is in when faced with or placed in a stressful circumstance, respectively.²⁶ Responses are provided on 7-point scales specific to each question and the total score ranges from 13 to 91 points. A higher score indicates stronger SOC. The following are sample items from each subscale: (1) "Do you have very mixed-up feelings and ideas?"; (2) "How often do you have feelings that you are not sure you can keep under control?"; and (3) "How often do you have the feeling that there is little meaning in the things you do in your daily life?" Cronbach's alpha coefficient in the present study was .78.

WLB. WLB was measured using the S-WLB scale developed by Matsuo et al.²⁷ This scale measures the ability to apply personal knowledge and act to achieve WLB within the management system of one's current workplace. It comprises 2 subscales: 6 items concerning the ability to seek help from others when in need of support and 5 items on self-control. Responses are provided on a 6-point scale from "strongly disagree" to "strongly agree," and the total score ranges from 11 to 66 points. A higher score indicates higher S-WLB. The following are some example items: "I consult my supervisor when I feel that I have a high workload or a lot of responsibility," and "I manage my health properly, as is appropriate for me." Cronbach's alpha coefficient in the present study was .78.

Further, as skewed WLB was expected to lead to burnout, we added 1 additional WLB question asking participants to rate the ratio of time spent on work to non-work in a day on a 7-point scale. A higher score indicates a higher proportion of time spent on work.

Data Analysis

Collected data were analyzed using SPSS (v. 26.0; IBM Corporation, Armonk, NY, USA) and AMOS (v. 26.0; IBM Corporation). The 2-tailed significance level for all analyses was set to 5%. Cronbach's alpha coefficient was used to evaluate the reliability of each scale and Pearson's correlation coefficient was used to evaluate relationships between variables. The hypothesized model was analyzed using structural equation modeling and the fit of the data to the structural model was evaluated using multiple tests. These were: chi-square/degrees of freedom ratio (χ^2/df), comparative fit index (CFI), root mean square error of approximation (RMSEA), Akaike's information criterion (AIC), and consistent Akaike's information criterion (CAIC). Goodness of fit criteria were: $\chi^2/df \leq 3$, CFI > 0.95, and RMSEA < 0.05.²⁸ Lastly, mediated effect sizes were measured and indirect effects evaluated using bias-corrected bootstrapping 95% confidence intervals. The estimates in this study are based on a sample of 2000 bootstraps.

Table 1. Descriptive Statistics and Correlations of Intention to Leave, Burnout, Sense of Coherence, and Work-Life Balance, and Cronbach's Alpha Coefficients Between Variables.

Variables	Range	Mean \pm SD	α	1	2	3	4	5	6	7
Intention to leave	6-24	13.8 \pm 4.95	.91	—						
MBI-GS: exhaustion	0-5	3.8 \pm 1.43	.90	.38**	—					
MBI-GS: cynicism	0-5	2.4 \pm 1.49	.86	.47**	.62**	—				
MBI-GS: PE	0-5	2.2 \pm 1.15	.85	-.13	.01	-.08	—			
SOC	13-91	51.7 \pm 9.81	.78	-.35**	-.45**	-.55**	.31**	—		
S-WLB	11-66	37.4 \pm 8.35	.78	-.33**	-.41**	-.38**	-.24**	.42**	—	
Proportions of work life vs private life per a day	1-7	4.2 \pm 1.33	—	.18**	.32**	.22**	-.05	-.18**	-.29**	—

Note. According to the Pearson's correlation coefficient.

MBI-GS=Maslach Burnout Inventory—General Survey; PE=professional efficacy; SOC=sense of coherence; S-WLB=striving for work-life balance.

** $P < .01$.

Table 2. Model Fitness Index for the Hypothesized Model and Final Model.

Models	χ^2/df	P-value	CFI	RMSEA	AIC	CAIC
Model 1. Hypothesized model	3.708	0.002	0.990	0.053	50.541	144.660
Model 2. Final Model	2.956	0.004	0.990	0.045	48.691	131.045

Note. CFI=comparative fit index; RMSEA=root mean square error of approximation; AIC=Akaike's informative fit index; CAIC=consistent Akaike's informative fit index.

Results

Descriptive Results

Participants had a mean age of 37.0 years and 93.0% were female nurses. Further, 48% of participants were married and 17% had children under the age of 7. Regarding experience, participants had an average of 13.6 years of experience as a nursing professional; 25.0% had been working in the profession for 21 years or more, 29.7% for 11 to 20 years, and 45.2% for 10 years or fewer.

Table 1 shows the descriptive statistics for intention to leave, burnout, SOC, and WLB; confidence coefficients for each scale; and correlation coefficients between variables. The mean total score for intention to leave was 13.8 ± 4.95 and mean scores for the burnout subscales of exhaustion, cynicism, and professional efficacy were 3.8 ± 1.43 , 2.4 ± 1.49 , and 2.2 ± 1.15 , respectively. Mean total scores for SOC and S-WLB were 51.7 ± 9.81 and 37.4 ± 8.35 respectively. Intention to leave was negatively correlated with SOC ($r = -.35$, $P < .01$) and S-WLB ($r = -.33$, $P < .01$) and positively correlated with exhaustion, cynicism, and daily WLB ratio ($r = .38$, 0.47 , 0.18 , respectively, $P < .01$).

Hypothesis Testing

Table 2 shows the structural model results and obtained goodness of fit indices. Analysis of the hypothesized model showed that the final model fit the data well ($\chi^2/df = 2.96$, CFI = 0.99, RMSEA = 0.045, AIC = 48.691, CAIC = 131.045), providing satisfactory support for the structural model. The

total, direct, and indirect effect results for the structural model are shown in Table 3. All paths showed significant effects with no zeros in the 95% bias-corrected bootstrapping confidence intervals.

The final model is shown in Figure 2. S-WLB was influenced by burnout and SOC with an explained variance of 25%. Intention to leave was influenced by burnout and S-WLB with an explained variance of 30%. Burnout had a positive direct effect on intention to leave ($\beta = .50$, $P < 0.01$). Meanwhile, burnout had a direct negative effect on S-WLB ($\beta = -.35$, $P < .01$), as well as an indirect effect on intention to leave ($\beta = .03$, $P < .05$). These findings support hypotheses 1 and 3. Concerning SOC, while burnout had a significant negative direct effect on SOC ($\beta = -.64$, $P < .01$), there was no indirect effect on intention to leave. In addition, SOC was found to mediate between burnout to S-WLB ($\beta = .20$, $P < .01$), however, SOC did not have a direct effect on intention to leave. Thus, hypotheses 2 and 4 were rejected.

Discussion

This study explored the impact of burnout on intention to leave among full-time nursing professionals and clarified the structural relationships with SOC and S-WLB. The structural equation model had good fit indices and explanatory power for intention to leave over time. To the best of our knowledge, this research is the first to include structural relationships between SOC, S-WLB, and intention to leave.

As predicted, intention to leave was reinforced by burnout, although SOC had no direct effect on intention to leave,

Table 3. Total Effects, Direct Effects, and Indirect Effects of Sense of Coherence, Striving for Work-Life Balance, and Burnout on Intention to Leave.

Estimate	β	SE	95%CI	
			Lower	Upper
Total effects				
Burnout \rightarrow intention to leave	0.54	0.03	0.487	0.586
Direct effects				
Burnout \rightarrow intention to leave	0.50	0.04	0.432	0.567
Burnout \rightarrow S-WLB	-0.35	0.06	-0.453	-0.237
S-WLB \rightarrow intention to leave	-0.09	0.03	-0.150	0.018
Burnout \rightarrow SOC	-0.64	0.03	-0.683	-0.586
SOC \rightarrow S-WLB	0.20	0.05	0.103	0.294
Indirect effects				
Burnout \rightarrow intention to leave	0.03	0.02	0.011	0.071
Burnout \rightarrow S-WLB	-0.13	0.03	-0.188	-0.068
SOC \rightarrow intention to leave	0.02	0.01	-0.039	-0.004

Note. Significance of indirect effects was assessed using bootstrapping based on 2000 samples and bias-corrected 95% confidence intervals (CI).

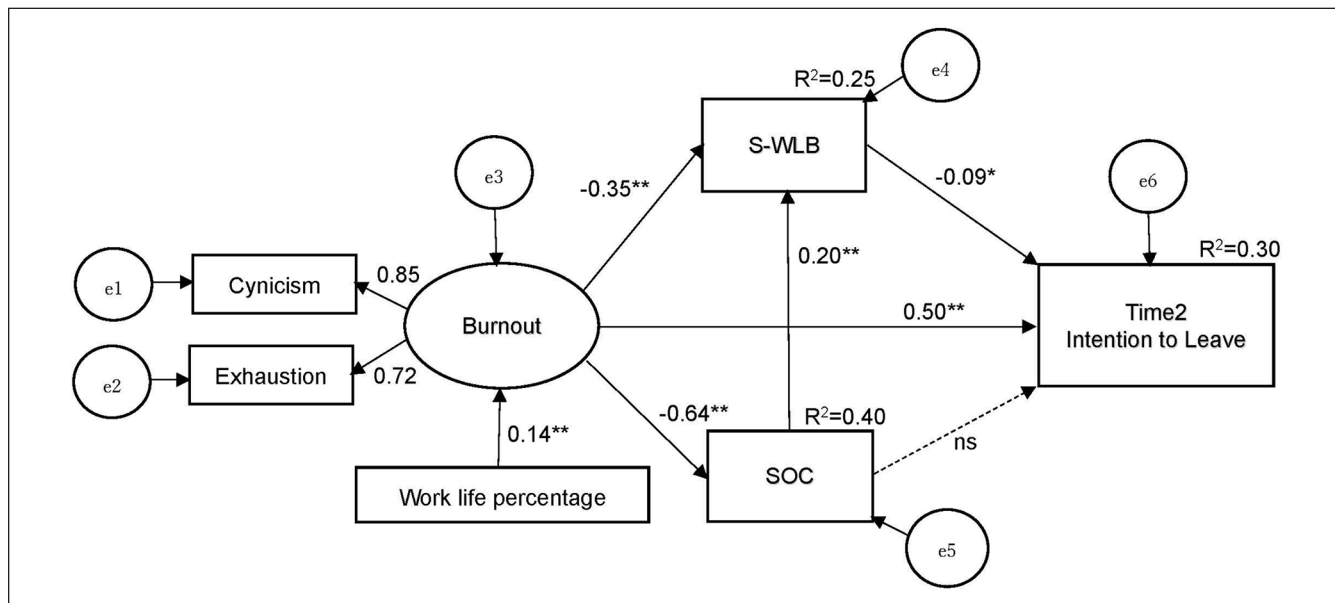


Figure 2. Final study model.

Note. The figure that includes the dotted lines is the hypothesized path model and the dotted lines mean “not significant.” $\chi^2/df = 2.956$, RMSEA = 0.045, CFI = 0.990, AIC = 48.691, CAIC = 131.045.

$\chi^2/df = \chi^2$ value/degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; AIC = Akaike’s information criterion; CAIC = consistent Akaike’s information criterion; S-WLB = strive for work-life balance; SOC = sense of coherence.

* $P < .01$. ** $P < .001$.

and SOC lessened the effect of burnout on S-WLB. At first glance, it appears that the overall effect of burnout on intention to leave is enhanced when S-WLB is mediated. This implies that although high S-WLB has the effect of reducing intention to leave after 6 months, S-WLB cannot manifest if burnout occurs in the first place. At the same time, the function of SOC is also diminished. In other words, SOC, an individual’s orientation, does not directly reduce turnover intentions; we have thus demonstrated a structure that plays a behind-the-scenes role with resources.

Theoretical Implications

This research yielded several interesting findings. As a central concept of health promotion, SOC primarily predicts mental health and activates when one is under stress.^{14,20} Thus, it was hypothesized that SOC can prevent negative intention to leave. The present study found the strongest relationship to be between burnout and SOC and we therefore expected that burnout would indirectly reduce intention to leave via SOC. However, no direct path from SOC to

intention to leave was found. The potential for SOC may have indirectly affected the impact of burnout on intention to leave by way of S-WLB. This mediating path resembles the structural model of a past study in which job involvement and resilience mediated the route from stress factors to intention to leave.¹⁹ S-WLB and job involvement are the behaviors and motivations of forward-thinking individuals and SOC and resilience are critical elements beneficial to health. In this study, salutary factors are suppressed under stress conditions; however, SOC reduced intention to leave by activating S-WLB in the future.

SOC is cultivated through positive life experiences (consistency, balanced workloads, and participation in achieving results) and reinforced through successful experiences of dealing with stress.¹⁰ The quality of one's life experiences is governed by what are known in the salutogenic model as general response resources (GRRs) and how many of these resources one possesses. GRRs are resources used to effectively cope with diverse stressors and can be divided into 3 categories: physical resources (eg, education, status, and economic strength), social resources (eg, interpersonal relationships, supportive environment, and support from people who understand), and psychological resources (eg, stable world view and values).²⁶ Further, Idan et al²⁹ notes the need to add new GRRs, such as an individual's capacity for self-regulation or executive functioning. The S-WLB described here is a resource for self-regulation that is effective in combating stressors and thus can be thought of as a new type of GRR.

Practical Implications

Of the 2 variables examined in this study, S-WLB was found to have important impacts on the relationship between burnout and intention to leave among nursing professionals. The other variable, SOC, was not a buffer factor between burnout and intention to leave; however, it was noted to be a mediating variable between burnout and S-WLB. Thus, we propose that supporting S-WLB and strengthening SOC can be used as strategies to reduce intention to leave caused by burnout.

Our findings indicate that a strategy for decreasing burnout is needed because these factors affect S-WLB and intention to leave. Further, a management plan is required to increase S-WLB, as it was found to be directly related to intention to leave in the current study. Review studies on burnout in nursing have consistently shown adverse job characteristics, such as high workload, low staffing levels, long shifts, and low control.³⁰ These factors are likely exacerbated by the COVID-19 pandemic.³¹ It is necessary to ensure that these job characteristics are mitigated and do not persist term, especially for nurses with burnout risk.

Moreover, nurses working in the hospital, in particular, reported that reducing nurses' work-family conflicts will increase nurse retention.¹⁷ Good WLB has also been reported

as a key factor in the decision to continue working at one's current hospital,³² suggesting that being unable to maintain a desirable WLB reinforces a nurse's intention to leave their hospital. Other studies have reported that intention to leave strengthens as the gap between one's desired and actual WLB grows¹⁶; it is simultaneously essential that nurses are able to take action to achieve WLB on their own and modify the work environment to improve situations where WLB is impossible.^{12,16} Considering WLB and accounting for nurses' individual lifestyles and generational differences in everyday behavior in the workplace are vital in securing sufficient nursing professionals. To this end, night shift exemptions and shorter working hours for parents have been introduced,³³ but considerations for single nurses are also needed. In reality, it has been reported that the current conditions shift the burden onto single nurses and compel them to work under harsh conditions.³⁴ Further, the average age of nursing professionals in Japan is rising,³⁵ and it is predicted that there will be an increase in the number of nurses in the age range expected to provide caregiving outside of work, for example to their aging parents. Some nurses will be forced to provide "double care," in which they are simultaneously parenting and caregiving, or providing care for other close but non-familial relations.³⁶ Thus, creating a work environment appropriate for each generation may help them continue working with peace of mind. It is essential that nursing managers be considerate of nursing professionals, without harboring feelings of unfairness, and grasp the realities of staff who are burdened with double care.

Furthermore, this study emphasizes the importance of SOC in nurses' intention to leave, with results suggesting that the strength of SOC can change their intention to leave, accompanied by the ability to achieve WLB, one of the stress coping resources. A previous study found that strategies to decrease job stress leading to intention to leave among nurses could focus on creating increasing stress adaptation.¹⁸ Antonovsky¹⁰ states that people with strong SOC tend to appropriate GRRs that help them cope with situations even when the environment appears chaotic. In contrast, people with weak SOC are more likely to feel a sense of hopelessness and burden. Since SOC is an important predictor in the alleviation of mental health issues,³⁷ evidently, the degree of SOC and choice of resources are important in how well people can cope with stress in particular environments, such as with the spread of COVID-19. A previous study examining the association between lifestyle changes and mental health during the COVID-19 pandemic among health care workers with different levels of SOC revealed that, among participants with weak SOC, those who increased their leisure and activity time reported a decreased probability of mental health problems compared to those who made no changes.³⁸ The study also noted that healthcare professionals with weak SOC are more vulnerable to mental health problems than those with moderate or strong SOC, and therefore should be aware of the impact of lifestyle changes.³⁸ To prevent nurses'

intention to leave from burnout, it may be necessary to better control their WLB according to their SOC level.

The results of the present study revealed that intention to leave fluctuates depending on S-WLB, and that the influence of the level of SOC on S-WLB is important. Going forward, it is necessary to consider a working environment that reinforces individual SOC and enables the maintenance of a desirable WLB for nursing professionals. To retain a nursing workforce, we must establish a pool of human resources capable of working, even in the short term, in the event of an unexpected circumstance such as the current pandemic or a staffing shortage, and create a system that is able to utilize nationally certified professionals for the duration of their career.

Limitation

Although this study was conducted in a region with a high turnover rate, its generalizability is limited due to the restricted location. The present study constructed a conceptual model focusing on personal factors that mitigate the impact of burnout on intention to leave, but workplace environmental factors are also likely to impact intention to leave among nursing professionals. The model's coefficient of determination was .3, due to which we speculate that other factors may be responsible for the remaining 70%, an aspect to be considered in future research. The minimal literature examining SOC within structural models and the need for longitudinal research to clarify changes in SOC warrant additional studies to gather more findings.

Conclusion

This study investigated the effects of burnout, SOC, and S-WLB on intention to leave 6 months later among full-time nursing professionals, to contribute to our knowledge about nursing workforce retention. Burnout affected intention to leave directly and indirectly. S-WLB was found to reduce the effect of burnout on intention to leave. An effective strategy to prevent intention to leave from occurring among full-time nursing professionals will focus on strengthening SOC and improving S-WLB, and providing support to those ends. Strengthening employees' ability to grasp situations, cope with them, and believe that there is meaning in overcoming them, as well as their ability to act on maintaining WLB, is likely to lead to reduced negative intention to leave.

Acknowledgments

The authors thank the nursing staff and nursing manager who participated in this research.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was supported by JSPS KAKENHI Grant Number JP18K10248.

Ethical Approval and Consent to Participate

This research was approved by the Ethics Committee of International University Health and Welfare (No. 17-Ig-47, July 2017). The cooperation of the directors of the nursing service departments at hospitals was obtained by explaining the purpose of the study in writing. The study objectives and methods were explained to the participating nurse supervisors in writing: all respondents were informed that their anonymity would be protected, that their participation or withdrawal was as determined by their own free will, and that refusal to participate or withdrawal of consent would not result in any negative consequences. At the beginning of the questionnaire form, there was a check box to show agreement or disagreement with participation in the research, it was considered to show agreement to participate when the agree box was marked.

ORCID iD

Maki Matsuo  <https://orcid.org/0000-0001-5172-6811>

References

1. Ministry of Health, Labour and Welfare. Significance of ensuring comprehensive medical and nursing care. Ministry of Health, Labour and Welfare. 2022. Accessed August 30, 2022. <https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000060713.html>
2. Japanese Nursing Association. Saving Health Care in Japan: protecting the health and safety of nursing professionals protects the health and safety of patients. Japanese Nursing Association. 2011. Accessed May 15, 2021. <https://www.nurse.or.jp/nursing/shuroanzen/jikan/pdf/sukue.pdf>
3. Japanese Nursing Association. Night shift and shift work system guidelines for nursing professionals. Promotion of work-style reforms for nursing professionals. Japanese Nursing Association. 2013. Accessed July 19, 2021. https://www.nurse.or.jp/home/publication/pdf/guideline/yakin_guideline.pdf
4. Japanese Nursing Association. Training guidelines for novice nursing staff [revised edition]. Japanese Nursing Association. 2014. Accessed July 19, 2021. <https://www.nurse.or.jp/nursing/education/shinjin/index.html#p01>
5. Japanese Nursing Association. 2022 hospital and outpatients nursing survey. Accessed August 30, 2022. https://www.nurse.or.jp/up_pdf/20220401121744_f.pdf
6. Japanese Nursing Association. Results of the "2020 Hospital Nursing Survey". Japanese Nursing Association. 2020. Accessed July 19, 2021. https://www.nurse.or.jp/up_pdf/20210326145700_f.pdf
7. Japanese Nursing Association. Results Summary of the "Survey of Novel Coronavirus Pandemic Coping Among Nursing Staff." Japanese Nursing Association. Accessed July 19, 2021. https://www.nurse.or.jp/nursing/practice/covid_19/press/pdf/press_conference1222/01.pdf
8. Noshiro H. The role of "Essential workers" in the current novel coronavirus pandemic: a focus on health care providers. *Bull Inst Hum Sci Toyo University*. 2021;23:185-195.

9. Rudman A, Gustavsson P, Hultell D. A prospective study of nurses' intention to leave the profession during their first five years of practice in Sweden. *Int J Nurs Stud*. 2014;51:612-624.
10. Antonovsky A. *Unraveling the Mystery of Health: How People Manage Stress and Stay Well*. Yamazaki Y, Yoshii K, trans. Yushindo Kobunsha; 1987.
11. Oda H. Salutogenesis and Psychosomatic Medicine. *Jpn J Psychosom Med*. 1999;39(7):507-513. doi:10.15064/jjpm.39.7_507
12. Matsuo M, Suzuki E, Takayama Y, Shibata S, Sato K. Influence of striving for work-life balance and sense of coherence on intention to leave among nurses: A 6-month prospective survey. *Inquiry*. 2021;58:1-9.
13. Eriksson M. *Unravelling the Mystery of salutogenesis*. Folkhälsan Research Center; 2007.
14. Masanotti MG, Paolucci S, Abbafati E, Serratore C. Sense of coherence: a systematic review. *Int J Environ Res Public Health*. 2020;17(6):1861. doi.org/10.3390/ijerph17061861
15. Ministry of Health Labour and Welfare. Toward the Realization of "Workstyle Reform." Ministry of Health Labour and Welfare. 2019. Accessed July, 19, 2021. <https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000148322.html>
16. Makabe M, Takagai J, Asanuma Y, Ohtomo K, Kimura Y. Impact of work-life imbalance on job satisfaction and quality of life among hospital nurses in Japan. *Ind Health*. 2014;53:152-159.
17. Yamaguchi Y, Inoue T, Harada H, Oike M. Job control, work-family balance and nurses' intention to leave their profession and organization: a comparative cross-sectional survey. *Int J Nurs Stud*. 2016;64:52-62. doi:10.1016/j.ijnurstu.2016.09.003
18. Lo WY, Chien LY, Hwang FM, Huang N, Chiou ST. From job stress to intention to leave among hospital nurses: a structural equation modelling approach. *J Adv Nurs*. 2018;74:677-688. doi:10.1111/jan.13481
19. Yu M, Lee H. Impact of resilience and job involvement on turnover intention of new graduate nurses using structural equation modeling. *JPN J Nurs Sci*. 2018;15:351-362. doi:10.1111/jjns.12210
20. Yamazaki Y, Togari T, Sakano J, eds. *Introduction to the Sense of Coherence in the Autogenic Model*. Yushindo Kobunsha; 2012.
21. Moloney W, Boxall P, Parsons M, Cheung G. Factors predicting registered nurses' intentions to leave their organization and profession: a job demands-resources framework. *J Adv Nurs*. 2018;74:864-875. doi:10.1111/jan.13497
22. Lacobucci D. Structural equations modelling: fit indices, sample size and advanced topics. *J Consum Psychol*. 2010;20:90-98. doi:10.1016/j.jcps.2009.09.003
23. Fritz MS, Mackinnon DP. Required sample size to detect the mediated effect. *Psychol Sci*. 2007;18:233-240. doi:10.1111/j.1467-9280.2007.01882.x
24. Tei-Tominaga M, Yamazaki Y. The impact of work and organizational characteristics on the health status, job dissatisfaction and turnover intentions of workers in an information service industry. *J Occup Health*. 2003;45:20-30.
25. Kitaoka K, Masuda S, Ogino K, Nakagawa H. The Maslach burnout inventory-general survey (MBI-GS) and the Japanese version. *Hokuriku J Public Health*. 2011;37:34-44.
26. Becker C. Sense of coherence and reasons for spiritual education. *Comprehensive Med*. 2007;8(1):23-52.
27. Matsuo M, Suzuki E, Kitajima H, Machida T, Yamamoto T, Tanabe S. Development of a scale to assess nurses' behavior when striving for work-life balance: an examination of reliability and validity. *J Jpn Health Med Assoc*. 2019;28(3):323-334.
28. Nakayama K. *Introduction to Multivariate Analysis for Nursing Science*. Igaku shoin; 2018:101.
29. Idan O, Eriksson M, Ai-Yagon M. The Salutogenic model: the role of generalized resistance resources. In: Mittelmark M, Sagy S, Eriksson M, et al., eds. *The Handbook of Salutogenesis*. Springer; 2017:57-69.
30. Dall'Ora C, Ball J, Reinius M, Griffiths P. Burnout in nursing: a theoretical review. *Hum Resour Health*. 2020;18(1):41. doi:10.1186/s12960-020-00469-9
31. Galanis P, Vraka I, Fragkou D, Bailali A, Kaitelidou D. Nurse's burnout and associated risk factors during the COVID-19 pandemic: a systematic review and meta-analysis. *J Adv Nur*. 2021;77(8):3286-3302. doi:10.1111/jan.14839
32. Satoh S, Watanabe I, Asakura K. Determinants strengthening Japanese nurses' intention to stay at their current hospital. *Tohoku J Exp Med*. 2018;246:175-182.
33. Japanese Nursing Association. Nurses' work-life balance. Japanese Nursing Association. 2016. Accessed May 15, 2021. <https://www.nurse.or.jp/nursing/shuroanzen/wlb/guide/pdf/wlbguide.pdf>
34. Takeuchi T, Okubo K, Sanada H. Work-life among single nurses: the current level and its association with working conditions. *J Jpn Soc Health Care Manag*. 2016;17(2):83-87.
35. Japanese Nursing Association. Number of employed. Japanese Nursing Association. 2021. Accessed June 6, 2021. <https://www.nurse.or.jp/home/statistics/pdf/toukei07.pdf>
36. Soma N, Yamashita J. Double responsibility of elderly care and childcare. *Iryo To Shakai y* 2017;27(1):63-75. doi.org/10.4091/iken.27.63
37. Schäfer KS, Lass-Hennemann J, Groesdonk H, et al. Mental health in anesthesiology and ICU staff sense of coherence matters. *Front Psychiatry*. 2018;9:440. doi:10.3389/fpsy.2018.00440
38. Tanaka K, Tahara M, Mashizume Y, Takahashi K. Effects of lifestyle changes on the mental health of healthcare workers with different sense of coherence levels in the era of COVID-19 pandemic. *Int J Environ Res Public Health*. 2021;10;18(6):2801. doi:10.3390/ijerph18062801