Check for updates

Received: 13 October 2021 | Revised: 31 March 2022 | Accepted: 4 September 2022

DOI: 10.1002/nop2.1378

RESEARCH ARTICLE

NursingOpen Open Access WILEY

Intensive care units nurses' burnout, organizational commitment, turnover intention and hospital workplace violence: A cross-sectional study

Tiemei Wang[1] | António Cunha Meneses Abrantes[2] | Yan Liu[3]

[1]Hepato Pancreato Biliary Surgery, Department of General Surgery, The Third People's Hospital of Chengdu &The Affiliated Hospital of Southwest Jiaotong University, Chengdu, Sichuan, China

[2]TBS Business School, Toulouse, France

[3]West China School of Public Health and West China Fourth Hospital, Sichuan University/West China School of Nursing, Sichuan University, Chengdu, Sichuan, China

Correspondence
Tiemei Wang, HepatoPancreatoBiliary Surgery, Department of General Surgery, The Third People's Hospital of Chengdu & The Affiliated Hospital of Southwest Jiaotong University, No. 19 Yangshi Road, 610031 Chengdu, Sichuan, China.
Email: 1146723015@qq.com

Abstract

Aims: This study aimed to (1) assess the relationship between intensive care unit (ICU) nurses' burnout, organizational commitment and turnover intention, (2) examine the moderating effect of the organizational commitment on the relationship between ICU nurses' burnout and turnover intention, and (3) explore the prevalence and influencing factors of hospital workplace violence among ICU nurses.

Design: Cross-sectional study design.

Methods: Data were collected from August to October 2020 and a convenience sample of registered nurses was recruited. To control common method biases, one-month temporal separation, Harman's single-factor analysis and method of latent variables were adopted. The moderating effect was tested by SPSS Hayes PROCESS Macro. Chi-square and logistic regression were used to examine workplace violence data.

Results: Organizational commitment ($\beta = -.23$, 95% confidence interval −.45 to −.03) and continuance commitment ($\beta = -.15$, 95% confidence interval −.24 to −.16) have negative moderation effects on the relationship between emotional exhaustion and turnover intention. 77.7% of ICU nurses experienced workplace violence, male and staff nurses, and nurses with lower professional titles and shorter working years have greater odds of experiencing this violence.

KEYWORDS
burnout, organizational commitment, turnover intention, workplace violence

1 | INTRODUCTION

Nurse turnover is undeniably having an adverse impact on nurses, patients and organizations (Kim & Han, 2018; Labrague et al., 2020). The loss of experienced nurses, particularly specialty ones such as intensive care unit (ICU) nurses, adversely influences the provision and continuity of nursing services and may lead to higher incidence rates of nursing errors and patient mortality (Aluwihare-Samaranayake et al., 2018). Furthermore, the turnover of nurses is a huge loss for the organization due to the potentially high costs associated with replacing a departing employee, including recruitment, selection and training (Brook et al., 2019; Li et al., 2019). Turnover intention is a strong predictor of actual turnover, which serves equally well as both a proxy for and predictor of employees' actual turnover

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.
© 2022 The Authors. *Nursing Open* published by John Wiley & Sons Ltd.

behaviour (Hann et al., 2011). Therefore, a better insight into turnover intention can help decision makers prevent undesired turnover and save money for the organization.

Studies have shown that burnout (Zhang et al., 2019), organizational commitment (Li et al., 2020), and workplace violence (Yang et al., 2021) are related to turnover intention. However, how these mechanisms are articulated still needs further investigation. For example, Price (2000) suggests that the relationship of organizational commitment to turnover intention is more complex than a simple direct effect and proposes an interaction effect with other variables, namely burnout. Furthermore, to our knowledge, there is no research exploring the relationship of these variables among ICU nurses, which is critical to do given the high prevalence of burnout and workplace violence among this professional population (Maslach et al., 2001).

2 | BACKGROUND

Due to the specialized nature of providing care to those who need, nurses are particularly prone to burnout (Maslach et al., 2001), which has become even more salient with the COVID-19 outbreak. The pandemic placed a heavy burden on society, threatening the future of the entire world as it hit health systems (Al-Bsheish et al., 2021). Such health emergencies increase the demand for nurses, especially ICU nurses, to provide safe and sustainable care for critically ill patients. However, while providing care, caregivers may suffer from burnout, distress, and post-traumatic stress disorder (Havaei et al., 2021; Serrano-Ripoll et al., 2020), due to the increased risk of daily exposure to transmission, grief, and death (Pappa et al., 2020; Serrano-Ripoll et al., 2020). This led to higher levels of turnover intention during the virus outbreak (De los Santos & Labrague, 2020; Said & El-Shafei, 2020).

Turnover intention is depicted as "the last in a sequence of withdrawal cognitions, a set to which thinking of quitting and intent to search for alternative employment also belong" (Tett & Meyer, 1993, p. 262). Nurses' turnover intention increases the employment and training costs of relevant hospitals, which is a waste of nursing training resources (Hariri et al., 2012), and the loss of ICU nurses in particular leads to even greater losses (Brook et al., 2019). The reported turnover intention rate of ICU nurses in China is 11.0%–76.3% (Tan et al., 2014; Zhang, Wang, et al., 2017; Zhang, Xiang, et al., 2017), with the turnover rate of new ICU nurses within the first 3 months being about 30%, and within 1 year being 57.7% (Kuo et al., 2014). Nurses' intention to leave their jobs also showed a higher trend during the COVID-19 pandemic (De los Santos & Labrague, 2020). A study of nurses in northern China showed that 71.4% had a high willingness to leave their jobs during the pandemic (Wang & Chen, 2021). Similarly, a study found that nurses in southwest China, especially those serving critically ill patients, were also more willing to leave their jobs because of the pandemic (Cheng et al., 2021). The loss of experienced nurses, such as ICU nurses, has a negative impact on the quality and safety of care, and may lead to more adverse events (Griffiths et al., 2019), which are more evident during viral disease outbreaks (Mirzaei et al., 2021). As the number of critically ill patients continues to increase, the demand for intensive care in hospitals also increases the demand for the health services of ICU nurses (Mirzaei et al., 2021). In this context, these nurses provide the core elements for the proper functioning of the healthcare delivery system (Charney et al., 2015), since they provide safe and sustainable patient care and play a key role in controlling the disease outbreak (Alipour et al., 2018). Thus, the turnover or turnover intention of ICU nurses at age of COVID-19 have a major impact on the maintenance and provision of adequate health services (Mirzaei et al., 2021).

One of the causes of turnover intention pointed out in the literature is burnout (Zhang et al., 2019), which can be defined as prolonged occupational stress in an individual that presents as emotional exhaustion, cynicism, and reduced personal accomplishment (Maslach & Jackson, 1981). Emotional exhaustion represents the stress dimension of burnout and is embodied in the excessive consumption of an individual's emotional resources, energy loss and exhaustion; cynicism focuses on an unserious work attitude due to dissatisfaction with the current situation; and reduced personal accomplishment refers to the self-evaluation dimension and the individual's negative attitude toward the value of their own work and competencies (Maslach & Jackson, 1981). The prevalence rate of burnout of ICU nursing staff is as high as 47% (Chuang et al., 2016), and with the advent of the COVID-19 pandemic, the incidence of burnout among nurses remains at a high level (Ruiz-Fernández et al., 2020). Serrano-Ripoll et al. (2020) reported that the incidence of burnout among nurses was 28%. Havaei et al. (2021) examined the impact of COVID-19 workplace conditions on mental health outcomes in a sample of 3,676 nurses and found that high emotional exhaustion accounted for 60%. Binnie et al. (2021) reported high distress levels among nursing staff (64.5%) in intensive care units (exposed to patients with COVID-19). Burnout generates various impacts on the individual provider, the patient, and the organization, including individual illness (Melnick & Powsner, 2016; Schonfeld & Bianchi, 2016), poor job performance and a higher mortality rate among patients (Liu, Zhao, et al., 2018; Liu, Zheng, et al., 2018; Manomenidis et al., 2019; Welp et al., 2015), absenteeism and high turnover rate (Shanafelt & Noseworthy, 2017; Woo et al., 2020; Zhang et al., 2019).

However, it has been observed that organizational commitment may have the effect of reducing turnover intention (Li et al., 2020). Organizational commitment refers to the psychological connection between employees and the organization, including affective commitment, continuance commitment, and normative commitment (Meyer & Allen, 1991). Affective commitment refers to the strength of personal identification and participation in a particular organization, adherence to and acceptance of the organization's goals and values, and the willingness to work for the organization and the desire to stay in the organization; continuance commitment represents individuals' recognition to the costs of leaving the organization, i.e., they stay in the organization because they need to; and normative commitment reflects a sense of obligation to stay with the organization,

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

which often translates into a feeling of guilt at the possibility of leaving the company (Meyer & Allen, 1991). Organizational commitment is often regarded as the proxy measure of turnover intention of an employee in an organization (Kim & Kim, 2021). Committed employees potentially have better performance and lower turnover rates (Li et al., 2019; Tarigan & Ariani, 2015), while less committed employees are more likely to make mistakes at work and tend to be more absent (Gatling et al., 2016; Nazir et al., 2016). Some studies have also identified an inverse relationship between organizational commitment and turnover intention (Labrague et al., 2018; Perreira et al., 2018; Rawashdeh & Tamimi, 2019).

It has been suggested that organizational commitment may have a moderating effect between burnout and turnover intention (Price, 2000), and this effect merits further study to better understand the relationship between these two variables. The moderating effect refers to the influence on the direction and strength of the relationship between the independent variables and the dependent variables (Baron & Kenny, 1986). This means that the negative relationship between burnout and turnover intention may be weaker among those with higher organizational commitment than among those with lower organizational commitment. This suggests that when nursing managers deal with turnover intention and job burnout, integrating organizational commitment into this relationship may promote the formulation of nurse retention measures that will weaken turnover intention caused by burnout.

In this study we also look at violence in the workplace, which has been a rising issue worldwide. According to the US Occupational Safety and Health Administration (2018), workplace violence is "any act or threat of physical violence, harassment, intimidation or other threatening disruptive behavior that occurs at the work site". Healthcare professionals, particularly nurses, are one of the occupations most at risk of workplace violence (Salvador et al., 2021). Previous studies indicated that 4.7%–89.58% of nurses have suffered from different types of workplace violence (Fute et al., 2015; Park et al., 2015). It is worth noting that, compared with other nurses, ICU nurses have a higher prevalence of workplace violence, especially physical violence (Park et al., 2015; Wei et al., 2016). The occurrence of workplace violence among ICU nurses in China is 44.1%–100%, and verbal assault is the main form (Chu et al., 2021; Sun et al., 2020; Tang et al., 2019). Workplace violence has various negative consequences both to individuals and the organization, such as depression and anxiety (Cheung & Yip, 2017; Theorell et al., 2015; Zhang et al., 2018), post-traumatic stress disorder symptoms (Havaei et al., 2020), burnout (Liu, Zhao, et al., 2018; Liu, Zheng, et al., 2018) and turnover intention (Choi & Lee, 2018; Sun et al., 2020). Workplace violence is more complicated in the Chinese culture owing to the phenomenon of intentional organized disturbances, which has been considered as "Yinao" (Zhang, Wang, et al., 2017; Zhang, Xiang, et al., 2017). Yinao results from the combination of the words "yi" (i.e., "medical staff," "hospital," etc.) and "nao" ("a disturbance" or "acting violently"), and has been used to refer to healthcare violent events or the criminal gangs behind such events. The gangs' aims are to intimidate hospitals into paying compensation

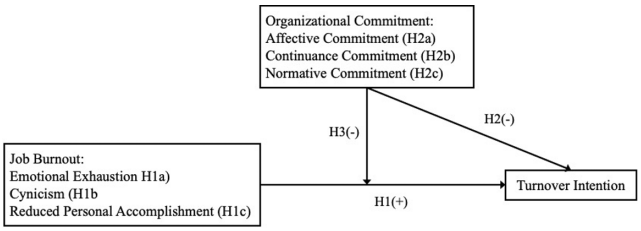

FIGURE 1 Hypothetical model of the relationships between burnout and organizational commitment and turnover intention regarding to the ICU nurses

for perceived malpractice, to cause disruption, and negatively affect profits (Hesketh et al., 2012). There are various forms of "Yinao", such as setting up mourning halls in hospitals, smashing medical property, setting up barriers to prevent other patients from seeking medical treatment, following and beating medical staff, or staying in doctors' offices and nurses' stations to pressure hospitals into giving them compensation. In recent years, numerous "Yinao" incidents have been witnessed in China, and many medical personnel have been injured and sacrificed in these events (Xu, 2014).

Based on the previous arguments, we hypothesize that ICU nurses' burnout increases their turnover intention and that organizational commitment negatively moderates this relationship (Figure 1). Specifically, (1a) emotional exhaustion is positively correlated to turnover intention; (1b) cynicism is positively correlated to turnover intention; (1c) reduced personal accomplishment is positively correlated to turnover intention; (2a) affective commitment is negatively correlated to turnover intention; (2b) continuance commitment is negatively correlated to turnover intention; (2c) normative commitment is negatively correlated to turnover intention; (3a) organizational commitment negatively moderates the effect of burnout ($3a_1$), emotional exhaustion ($3a_2$), cynicism ($3a_3$), reduced personal accomplishment ($3a_4$) on turnover intention; (3b) affective commitment negatively moderates the effect of burnout ($3b_1$), emotional exhaustion ($3b_2$), cynicism ($3b_3$), reduced personal accomplishment ($3b_4$) on turnover intention; (3c) continuance commitment negatively moderates the effect of burnout ($3c_1$), emotional exhaustion ($3c_2$), cynicism ($3c_3$), reduced personal accomplishment ($3c_4$) on turnover intention; (3d) normative commitment negatively moderates the effect of burnout ($3d_1$), emotional exhaustion ($3d_2$), cynicism ($3d_3$), reduced personal accomplishment ($3d_4$) on turnover intention. Furthermore, beyond the model, we also explore the prevalence and influencing factors of workplace violence among ICU nurses.

Up to our knowledge, no previous studies have explored the moderating effect of organizational commitment in the relationship between ICU nurse's burnout and turnover intention, and there is little research on workplace violence among ICU nurses. Given the extensive negative effects of nurse turnover, and given that burnout is one of its causes, it is critical to understand this relationship in depth in order to find ways that can be translated into concrete measures to reduce nurse turnover. On the other hand, to be able to reduce the prevalence of workplace violence, it is

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

essential to know its causes. This study has two fundamental contributions: first, we expand the literature on turnover, deepening the knowledge about how it develops and how it can be reduced, particularly regarding the influence of burnout and organizational commitment, and both in their various declinations; then, we further the knowledge about the factors that lead to hospital violence of which nurses are one of the main victims. But our contribution goes beyond theoretical advances. With the increased knowledge of the nurses' turnover mechanisms and the factors that lead them to be victims of workplace violence, we provide a theoretical basis for nursing managers to formulate intervention strategies that reduce turnover and its harmful consequences, as well as the violence to which health professionals are subjected in their caregiving mission.

3 | THE STUDY

3.1 | Design

This study used a cross-sectional and questionnaire-based design.

3.2 | Participants

The convenience sampling method was used to select the participants. Registered ICU nurses who agreed to participate were included in this study. At the time of the research, nurses who were no longer engaged in ICU-related work were excluded. A total of 305 ICU nurses participated in this study. The response rate was 66% (462 out of 700), and after removing 26 questionnaires with missing information and 131 online questionnaires with irregular answers, this study got 305 valid questionnaires (169 paper-and-pencil responses and 136 online responses).

3.3 | Instruments

3.3.1 | Demographic

Some nurses' characteristics and some practice characteristics were included as control variables (Bernadette et al., 2012; De Jonge et al., 2008; Jarrar et al., 2021; Lee et al., 2014; Liu et al., 2015). Nurses' characteristics included gender, age, marital status, professional title, hierarchy of nurse, job duty, education level, monthly salary, length of service, and employment form. The practice characteristics included department, attribute of hospital, number of hospital beds, number of ICU beds, number of patients admitted in the department, patients mortality in the department, the average length of stay in the department, the number of nurses in the department, and the patient-to-nurse ratio in the department.

3.3.2 | Burnout

Burnout was assessed by *the Chinese version of Maslach Burnout Inventory-General Survey* (MBI-GS) (Li, 2003). The Maslach Burnout Inventory-General Survey (MBI-GS) is by far the most widely used and accepted measure tool for burnout and has proven good reliability and validity (Schutte et al., 2000). With authorization by the original scale authors, the Chinese version of MBI-GS was translated and revised by Li (2003), it shows good reliability and validity (Liu et al., 2021), and the internal consistency coefficients of emotional exhaustion, cynicism, and reduced personal accomplishment were 0.88, 0.83 and 0.82 respectively (Li, 2003). The Chinese version of MBI-GS including 15 items in 3 dimensions, namely, emotional exhaustion (5 items), cynicism (4 items) and reduced personal accomplishment (6 items). The scale ranged from 1 (never) to 5 (everyday). The Cronbach's α for the overall scale was .798, for emotional exhaustion was .903, for cynicism was .877, and for reduced personal accomplishment was .874.

3.3.3 | Organizational commitment

Organizational commitment was measured by *the revised version of Three-Component Model Employee Commitment Survey* (TCMECS) (Meyer et al., 1993), which contains 18 items in 3 dimensions (affective commitment, continuance commitment and normative commitment, 6 items for each dimension) rated on a 5-point Likert-scale (1 = strongly disagree to 5 = strongly agree). Higher scores suggest higher level of organizational commitment. The Cronbach's α for the overall scale was .806, for affective commitment was .835, for continuance commitment was .899, and for normative commitment was .900.

3.3.4 | Turnover intention

Turnover intention was evaluated using the 3-item scale developed by Cammann et al. (1979) with a 5- point rating (1 = extremely disagree to 5 = extremely agree). The higher scores representing fewer turnover intentions. The Cronbach's α was .855.

3.3.5 | Hospital workplace violence

Hospital workplace violence was assessed by *the shortened version of hospital workplace violence* (HWPV) developed by Chen et al. (2009), which consists 3 parts in 20 items: the frequency of violence in various types of workplace (4 items), the description of the most impressive violence in the workplace (12 items), the attitudes and cognitions of nurses toward hospital workplace violence (4 items). This survey has been widely used in the study of workplace violence of medical staff in China.

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

3.4 | Data collection

Data were collected from 1 August to October 31, 2020. First, the researcher contacted the nursing leaders of the 7 selected ICUs to explain the purpose of the study. Researchers of this study were responsible for distributing and receiving the questionnaires. Before being distributed, each questionnaire was coded. After consent was obtained, questionnaires were collected by field survey and online survey. From August 1 to 30 August, 2020 (time1), questions related to demographic information, burnout scale, organizational commitment scale and hospital workplace violence scale were sent to the target ICUs. From October 1 to 31 October, 2020 (time2), the turnover intention scale was sent to the same participates. Regarding the field survey, after the questionnaires were completed, researchers collected the questionnaires uniformly. The online questionnaires were sent to participants through Sojump. Each IP address can only be filled out once in the Sojump, and the IP address was used as the basis for the same participants to be surveyed in different time periods.

3.5 | Ethical considerations

Participation in this study was voluntary and anonymous. Before signing the informed consent form, all ICU nurses were informed of the purpose and content of the survey. This study was approved by the institutional review board of the investigator's affiliate hospital and all procedures were performed in accordance with the Declaration of Helsinki (World Medical Association, 2013) and written informed consent was obtained from all participants.

3.6 | Data analysis

Data analyses were processed with SPSS and AMOS version 22.0 (IBM Corporation, Armonk, NY). Categorical variables were presented as frequencies and percentage and continuous variables by means and standard deviation (SD). Harman's single-factor analysis and the method of latent variables were performed to test the common method biases (CMB). More than one single factor exists, and the critical value of the general factor being smaller than 40% (Harman, 1967; Podsakoff & Organ, 1986), indicates that common method bias does not compromise the reliability of the results.

We also compared the main fit indices of the baseline model and control model. The fit indices used to assess model fit were as follows: chi-square (χ^2), degrees of freedom (*df*), chi-square/degrees of freedom ratio (χ^2/df), root mean square error of approximation (RMSEA), incremental fit index (IFI), comparative fit index (CFI), parsimonious normed fit index (PNFI), and parsimonious goodness-of-fit index (PGFI). Since the fit indices cannot be directly compared, the chi-square criterion of structural equation model test developed by Wen et al. (2004) was used and different critical values are selected for different sample size.

Bivariate analyses were conducted to test the relationships between studied variables. Multiple regression analysis was used to test how the variation in each of the explanatory variables impacts on the dependent one. The moderating effect of organizational commitment was tested by PROCESS v 3.1 macro with 5,000 boot-strap samples (Model 1). Bootstrap bias-corrected confidence intervals (95%) are estimated to guide inference, where nonzero overlapping confidence intervals suggest a significant effect (Zack et al., 2015).

Regarding workplace violence data, chi-square test was used to preliminary identify significant variables associated with such violence, and binary logistic regression was conducted to further clarify the effect of variables on violence. The independent variables included all the significant variables in the univariate analyses, and the exposure to workplace violence as dependent variable (Yes = 1, No = 0). Multiple categorical variables were set as dummy variables and assigned values to fit the binary logistic regression model, the stepwise regression analysis was performed. p value $< .05$ (two-sided) was considered statistically significant.

3.7 | Validity and reliability

Factor analysis was used to test the validity of scales and samples were randomly split into two: one was analysed by exploratory factor analysis (EFA), and the other one was processed by confirmatory factor analysis (CFA) to confirm the factor structures of the sample obtained by the EFA. *t*-Test analysis was adopted between the two samples. The goodness of fit of the scales was assessed by the model-fit indices (Hu & Bentler, 1999), complemented by Hair et al. (2010) as illustrated: CFI $> .90$, RMSEA $< .08$ and standardized root mean square residual (SRMR) $< .08$. In this study, Cronbach's α was adopted to measure the reliability of the instruments, the details for which have been provided under the heading "Instruments".

4 | RESULTS

4.1 | Demographic characteristics of the sample

The demographic characteristics of the nurses are presented in Table 1. The sample consists of predominantly 31–40-year-old nurses (45.2%). The majority were female (68.2%) and single (64.3%).

4.2 | Common method bias test

The results of Harman's single-factor analysis of this study showed that seven factors were extracted, and the first factor accounted for 16.642% of the variance, smaller than the critical value of 40%, indicating that the CMB was not relevant (Ashford & Tsui, 1991). The method of latent variables was used by adding an unmeasurable variation factor (Podsakoff et al., 2012), and the changes of main fitting indexes of the two models are not significant: (model

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 1 Participants characteristics ($N = 305$)

Variable	N	%
Gender		
Female	208	68.2
Male	97	31.8
Age		
18–30	119	39.0
31–40	138	45.2
>40	48	15.7
Marital status		
Married	77	25.2
Single	196	64.3
Others (e.g., Divorced)	32	10.5
Professional title		
Primary title	172	56.4
Intermediate title	104	34.1
Deputy senior and above	29	9.5
Hierarchy of nurse		
N1–N2*	144	47.2
N3–N5*	161	52.8
Job duty		
Clinical nurse	228	74.8
Administrative nurse and others	77	25.2
Education level		
Junior college graduate or below	110	36.1
Bachelor degree holder	174	57.0
Master degree holder and above	21	6.9
Department		
Internal medicine ICU	113	37.0
Surgical ICU	155	50.8
Other ICUs	37	12.1
Monthly salary (yuan)		
<5,000	121	39.7
5,000–15,000	139	45.6
>15,000	45	14.8
Length of service (years)		
<5	114	37.4
5–10	132	43.3
>10	59	19.3
Employment form		
Non-staff	86	28.2
Staff	219	71.8
Attribute of hospital		
Hospital affiliated to universities	184	60.3
Hospital non-affiliated to universities	85	27.9
Others	36	11.8
Number of hospital beds		
500–1,000	45	14.8
1,001–2,000	127	41.6
>2,000	133	43.6
Number of ICU beds		
<30	231	75.7
30–50	45	14.8
>50	29	9.5
Number of patients admitted in the department		
<400	56	18.4
401–600	121	39.7
>600	128	42.0
Patients mortality in the department (%)		
<10	178	58.4
10–30	116	38.0
>30	11	3.6
Average length of stay in the depart. (days)		
<10	79	25.9
10–30	201	65.9
>30	25	8.2
Number of nurses in the department		
<40	103	33.8
40–60	168	55.1
>60	34	11.1
Patient-to-nurse ratio in the department (%)		
1–2: 1	109	35.7
2.1–4.0: 1	175	57.4
>4:1	21	6.9

Note: N1, registered nurse; N2, nurses who have been qualified for 3 years as N1 nurses; N3, nurses who have obtained intermediate titles and are able to undertake various clinical/teaching tasks and a certain managerial duty; N4, nurses who have acquired deputy senior title or above and are able to undertake the work of quality management, teaching management; N5, nurses who have acquired senior title and are able to complete the work of guidance and review.

before control: $\chi^2 = 916.041$, $df = 573$, $\chi^2/df = 1.599$, RMSEA = .044, IFI = .943, CFI = .943, PNFI = .784, PGFI = .744; model after control: $\chi^2 = 915.298$, $df = 572$, $\chi^2/df = 1.600$, RMSEA = .044, IFI = .943, CFI = .943, PNFI = .782, PGFI = .743), and $\Delta df = 1$, $\Delta\chi^2 = .743$, $p = .389 > .0005$ ($N = 305$, $\alpha = .0005$ as critical value), which indicates that the model is not significantly changed after adding an unmeasurable variation factor, therefore, there is no significant CMB in this study.

4.3 | Factor analysis and internal consistency

To test the validity of the scales used in this study, samples were randomly divided into two parts, namely burnout 1 (BO1, $N = 153$) and

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

burnout 2 (BO2, $N = 152$). *t*-test analysis was performed and suggested no significant difference in age, gender, length of service and other variables between the two samples (all $p > .05$). An exploratory analysis (principal component analysis with varimax rotation) was conducted to confirm the factor structure of the items of BO1 and three principal components were extracted explaining 69.627% of the initial variance (KMO = .838, Bartlett's $\chi^2 = 1{,}301.081$, $p < .001$). BO2 was processed by CFA to verify the three-factor structure of BO1 got by the EFA, and showed acceptable fit indices (CFI = .959; SRMR = .066; RMSEA = .061). The Cronbach's α for the whole scale was .798. Similarly, organizational commitment samples were randomly divided into two parts: OC1 ($N = 153$) and OC2 ($N = 152$), *t*-test analysis suggested no statistical difference in demographic variables between these samples (all $p > .05$). The EFA on OC1 indicated three principal components, explaining 64.202% of the initial variance (KMO = .811, Bartlett's $\chi^2 = 1{,}653.824$, $p < .001$), the CFA on OC2 showed unacceptable fit indices (CFI = .916; SRMR = .063; RMSEA = .085). After throwing out the fifth item of affective commitment (I do not feel like part of the family at my organization), a further CFA showed improved indices (CFI = .949; SRMR = .060; RMSEA = .069). Therefore, we excluded the fifth item of affective commitment in the further analysis. The Cronbach's α for the whole scale was .806. Likewise, turnover intention samples were randomly spilt in two: TI1 ($N = 153$) and TI2 ($N = 152$), *t*-test analysis was indicated no significant difference in demographic variables between the two samples (all $p > .05$). The EFA on TI1 suggested it was a one-dimensional structure explaining 75.570% of the initial variance (KMO = .722, Bartlett's $\chi^2 = 180.466$, $p < .001$). The CFA on TI2 showed good fit indices (CFI = 1, SRMR = .000; RMSEA = .071). The Cronbach's α was 0.855.

4.4 | Bivariate analyses

Descriptive statistic, correlations and internal consistency reliability (Cronbach's α) for scales used are shown in Table 2. Burnout, emotional exhaustion, cynicism and reduced personal accomplishment were positively correlated with turnover intention ($r = .401$, $p < .01$; $r = .370$, $p < .01$; $r = .161$, $p < .01$; $r = .194$, $p < .01$, respectively). Organizational commitment, affective commitment, continuance commitment, and normative commitment were negatively correlated with turnover intention ($r = -.384$, $p < .01$; $r = -.258$, $p < .01$; $r = -.218$, $p < .01$; $r = -.232$, $p < .01$, respectively).

4.5 | Hypotheses testing

The multiple regression analyses suggest that emotional exhaustion was significantly correlated to and had the greatest impact on turnover intention ($\beta = .345$, $p < .001$), and positive correlations were found in turnover intention and reduced personal accomplishment ($\beta = .167$, $p < .01$), and cynicism ($\beta = .153$, $p < .05$). Turnover intention was negatively associated with affective commitment ($\beta = -.230$, $p < .001$), and continuance commitment ($\beta = -.238$, $p < .001$), and normative commitment ($\beta = -.204$, $p < .001$). Therefore, hypothesis 1 and 2 are supported.

TI as dependent variable; gender, age, educational level and other demographic variables were included as covariates, 16 separate models were conducted and results (Table 3) indicated that organizational commitment and continuance commitment moderate the effect of emotional exhaustion on turnover intention ($\beta = -.232$, $p < .05$; $\beta = -.155$, $p < .05$). Following Aiken et al. (1991), Figures 2 and 3 present the moderation effect in which high and low levels are depicted as one standard deviation above and below the mean, respectively.

Contrary to our prediction, the predictor for the effects of continuance commitment on the slope of cynicism was significant but positive for turnover intention ($\beta = .242$, $p < .001$), which means that there is an interaction, but it goes in the opposite direction from the hypothesis $3c_3$. Therefore, hypothesis $3c_3$ is not supported.

TABLE 2 Correlation, means, standard deviation and reliability of variables ($N = 305$)

Variables	Mean	SD	α	1	2	3	4	5	6	7	8	9
1. EE	2.830	.920	.903									
2. Cy	2.343	.805	.877	.078								
3. RPA	2.436	.884	.874	.095	.006							
4. BO	2.536	.533	.798	.667**	.552**	.611**						
5. AC	3.350	.899	.835	−.159**	−.024	−.215**	−.223**					
6. CC	2.726	.824	.899	−.023	−.024	−.005	−.028	−.001				
7. NC	3.116	.840	.900	−.068	−.012	−.060	−.078	.180**	.028			
8. OC	3.064	.527	.806	−.139*	−.032	−.157**	−.183**	.663**	.535**	.648**		
9. TI	2.690	.920	.855	.370**	.161**	.194**	.401**	−.258**	−.218**	−.232**	−.384**	

Abbreviations: AC, affective commitment; BO, burnout; CC, continuance commitment; Cy, cynicism; EE, emotional exhaustion; NC, normative commitment; OC, organizational commitment; RPA, reduced personal accomplishment; SD, standard deviation; TI, turnover intention.

*$p < 0.05$.; **$p < 0.01$.

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 3 Moderation analyses of organizational commitment in the association between burnout and turnover intention ($N = 305$)

Variable	Hypothesis $3a_2$ *b* (SE) 95% CI		Hypothesis $3c_2$ *b* (SE) 95% CI		Hypothesis $3c_3$ *b* (SE) 95% CI	
Gender	−.13 (.10)	−.33 to .06	−.19 (.10)	−.40 to −.01	.26 (.11)*	.05 to .47
Age	−.03 (.07)	−.16 to .10	−.06 (.07)	−.20 to .08	−.06 (.07)	−.21 to .08
Marital status	.09 (.08)	−.08 to .26	.06 (.09)	−.12 to .23	.05 (.09)	−.13 to .23
Professional title	.11 (.07)	−.03 to .25	.08 (.08)	−.07 to .23	.04 (.08)	−.11 to .19
Hierarchy of nurse	.18 (.11)	−.04 to .39	.16 (.11)	−.06 to .39	−.14 (.12)	−.37 to .10
Job duty	−.14 (.13)	−.39 to .12	−.04 (.13)	−.31 to .22	−.07 (.14)	−.35 to .20
Educational level	−.31 (.08)***	−.47 to −.15	−.34 (.08)***	−.51 to −.18	−.36 (.09)***	−.53 to −.19
Department	−.01 (.07)	−.15 to .13	−.04 (.07)	−.19 to .11	−.08 (.08)	−.23 to .07
Monthly salary	.03 (.08)	−.12 to .18	.05 (.08)	−.11 to .21	.10 (.08)	−.06 to .26
Length of service	.04 (.07)	−.09 to .18	.05 (.07)	−.09 to .19	−.02 (.07)	−.17 to .12
Employment form	−.02 (.12)	−.25 to .20	−.11 (.12)	−.35 to .12	.12 (.13)	−.12 to .37
Attribute of hospital	.08 (.07)	−.06 to .21	.04 (.07)	−.10 to .18	.14 (.07)	−.01 to .29
EE	.85 (.28)***	.30 to 1.39	.66 (.17)***	.33 to .01	—	—
OC	−.07 (.28)**	−.15 to −.08	—	—	—	—
EE×OC	−.23 (.26)**	−.45 to −.03	—	—	—	—
CC	—	—	−.13 (.19)**	−.24 to −.11	−.81 (.19)***	−1.06 to −.44
EE×CC	—	—	−.15 (.07)**	−.24 to −.16	—	—
Cy	—	—	—	—	−.45 (.20)*	−.84 to −.06
CC×Cy	—	—	—	—	.24 (.07)***	.10 to .38

Abbreviations: CC, continuance commitment; CI, confidence interval; Cy, cynicism; EE, emotional exhaustion; OC, organizational commitment.
*$p < .05$.; **$p < .01$.; ***$p < .001$.

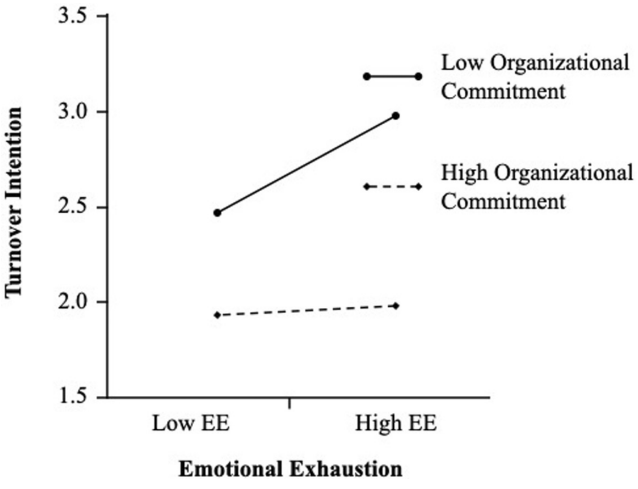

FIGURE 2 Moderating effect of organizational commitment on the relationship between emotional exhaustion and turnover intention

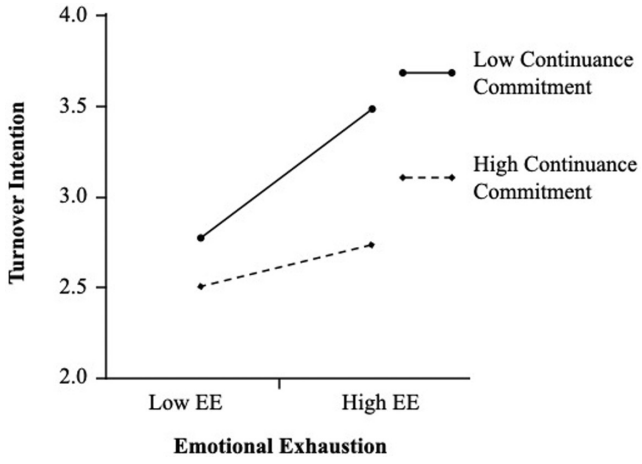

FIGURE 3 Moderating effect of continuance commitment on the relationship between emotional exhaustion and turnover intention

4.6 | Hospital workplace violence

Surveys indicated that 237 (77.7%) of the participants had experienced HWPV and non-physical violence was the most commonly pattern (51.8%). Nearly half of the event occurred in nursing station (43.0%) during day shifts (44.3%), and middle-aged (45.6%), male (62.4%) relatives were the main perpetrators. Participants regarded "the failure to meet their unreasonable requirements" (81.9%) as the main reason. In the face of violence, most nurses (49.4%) patiently explained to perpetrators, and no one "call the police".

Interestingly, over half (57.0%) of the participants chose to be silent about the event and reasons were: (1) even if they told someone,

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

others could not solve it (23%); (2) it was a disgraceful thing and did not want to tell others (18%); (3) the perpetrator was a delirious patient and unable to communicate effectively (7%); (4) the violence was caused by colleagues' mishandling, and the exposure of the event could lead to discord among them (6%); (5) verbal attack occurred in the process of telephone interview, and the perpetrator rejected the participants' explanation (3%).

Majority of nurses (72.6%) felt wronged and nearly half (47.7%) of the violence involved more than two nurses, 37.1% of them were unable to work and 19.4% of them were sought medical treatment. Most participants (74.1%) have heard of HWPV but 12.5% of them thought it is not a big deal. As for preventive measures, the media's objective reports should be placed first (70.8%) and 87.9% of them believed it is necessary to set up special institutions to deal with such violence.

The relationships of workplace violence with nurse characteristics were analysed by univariate analysis, the result suggested that gender ($\chi^2 = 8.086$, $p < .01$), professional title ($\chi^2 = 34.768$, $p < .001$), education level ($\chi^2 = 7.472$, $p < .05$), length of service ($\chi^2 = 13.982$, $p < .001$), employment form ($\chi^2 = 5.725$, $p < .05$) were statistically significant. Collinearity diagnostics resulted in variance inflation factors ranged from 1.006 to 1.092 for these variables, indicating no collinearity (Kline, 2011). The result of stepwise logistic regression (Forward: LR) analysis (Table 4) indicated that there were increased odds of experiencing HWPV among nurses who had lower professional titles, male nurses and who had less than 5 years of experience, and worked as staff nurses.

5 | DISCUSSION

The first objective of this study was to assess the relationship between ICU nurses' burnout, organizational commitment and turnover intention. The results showed two significant correlations between the studied variables. First, ICU nurses' burnout was positively correlated with their turnover intention. In other words, higher burnout scores are associated with stronger turnover intention, which was in line with previous findings (Gharakhani & Zaferanchi, 2019; Lee & Chelladurai, 2018). Second, organizational commitment was negatively correlated with ICU nurses' turnover intention. This finding means that higher levels of organizational commitment are associated with lower turnover intentions, which is also in line with previous research (Labrague et al., 2018).

The second objective of this study was to examine the moderating effect of organizational commitment on the relationship between ICU nurses' burnout and turnover intention. First, the finding of a negative moderating effect of organizational commitment between emotional exhaustion and turnover intention adds to the literature since, to our knowledge, this contingency mechanism has not yet been studied. The Price-Muller Turnover Model (Price, 2000) indicates that organizational commitment has a mediating effect on the relationship between job burnout and turnover intention. Price (2000) suggests that the moderation effect may exist, and asserts that empirical studies are needed to test such moderation. Our study answers this call and our findings corroborate Price's proposal. Usually, employees who are fully involved in work might experience different levels of burnout. If their efforts are not yielding the rewards they deserve, their sense of burnout may increase, and if they have low organizational commitment, they may leave. That is to say, even though employees experience burnout, if they are influenced by high organizational commitment, the turnover intention caused by burnout may decrease. Second, a negative moderating effect of continuance commitment was found between emotional exhaustion and turnover intention. Similar to the theoretical basis mentioned above, when employees experience emotional exhaustion at work, if they are unwilling to lose years of resources and accumulated inputs in the current organization, and are more concerned with the lack of ability to transfer skills from one job to the other and with the

TABLE 4 Logistic regression odds ratios indicating the effect of characteristics on workplace violence ($N = 305$)

Variable	*B*	SE	Wald	*p*	OR	95% CI
Primary title[a]	2.349	.502	21.858	.000	10.474	3.913 to 28.038
Intermediate title[a]	2.067	.526	15.456	.000	7.898	2.819 to 22.128
Male[b]	1.026	.386	7.075	.008	2.790	1.310 to 5.944
Junior college degree or below[c]	1.124	.620	3.288	.070	3.076	.913 to 10.363
Bachelor degree holder[c]	−.091	.594	.024	.878	.913	.285 to 2.923
Length of service <5 years[d]	1.254	.433	8.404	.004	3.504	1.501 to 8.180
Length of service 5–10 years[d]	1.087	.399	7.410	.006	2.965	1.356 to 6.486
Non-staff[e]	−.758	.334	5.161	.023	.469	.244 to .901
Constant	−1.897	.765	6.158	.013	.150	

Abbreviations: 95% CI, confidence interval; OR, odds ratio.

[a]Reference category is duty senior and above;

[b]Reference category is female;

[c]Reference category is Master degree holder and above;

[d]Reference category is length of service is >10 years;

[e]Reference category is staff. Nagelkerke $R^2 = .284$.

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

availability of job alternatives, they will overcome the existing emotional exhaustion (Allen & Meyer, 1996) and continue to work for that organization. In other words, even if employees suffer burnout, they may not choose to leave if they have a strong sense of continuance commitment to the organization. Third, the whole construct of organizational commitment has a stronger moderation effect than continuance commitment on the relationship between emotional exhaustion and turnover intention. This means that the three dimensions of organizational commitment together can produce a stronger organizational identity among ICU nurses, and generate a stronger moderation effect on the relationship between emotional exhaustion and turnover intention than continuance commitment alone.

Contrary to our hypothesis, continuance commitment has a positive moderating effect on the relationship between cynicism and turnover intention. One possible reason could be that continuance commitment has a positive relationship with cynicism (Smyth et al., 2015). As Griffin et al. (2010) pointed, organizational commitment has a blur effect on job burnout. On the one hand, organizational commitment may protect those who are closer to the organization from burnout, but on the other hand, employees who are highly committed to the organization are likely to make greater efforts, so they may suffer from greater amounts of stress and burnout, this is because when they fail to see the results they desire, they become disillusioned. Another likely reason may relate to social desirability, as participates tend to choose positive answers in cynicism subscale, even if these answers could not reflect the reality. Consequently, it could mislead study results (Fisher, 1993) and generate unwarranted theoretical or practical conclusions (Peltier & Walsh, 1990).

Regarding the hypotheses that were not supported, we suggest that one possible explanation relates with the characteristics of ICU nurses in tertiary hospitals. On the one hand, these nurses have more comprehensive clinical practice ability than others, they may tend to turnover without hesitation when they suffer burnout because they believe they are more likely to get positions in alternative hospitals. On the other hand, these nurses face huge pressure, in addition to excessive clinical work, they also need to complete required scientific research, training, examination, and when the efforts are not rewarded correspondingly, they probably show a strong desire to leave. In this case, some types of commitment, such as normative commitment or affective commitment, may not buffer the effect of burnout on turnover intention. Another possibility may also be related to the social desirability, as there may be untrue answers, thus preventing the correct testing of the developed hypotheses.

The third and last objective of the study was to explore the prevalence and influencing factors of hospital workplace violence suffered by ICU nurses. Results showed that 77.7% of ICU nurses in this study have experienced HWPV and non-physical violence was the most commonly pattern (51.8%), which is consistent with previous findings (Zhang, Wang, et al., 2017; Zhang, Xiang, et al., 2017). We also found that the odds declined with higher professional titles, possibly because these staff have fewer opportunities to directly contact with patients, and usually have better interpersonal skills, and the ability to identify early warning signs of violence (Zhang, Wang, et al., 2017; Zhang, Xiang, et al., 2017). Furthermore, male nurses had a higher incidence of violence than female ones in this study. A possible reason for this is that male nurses are usually arranged to take care of patients who are more seriously ill (Pompeii et al., 2013), and when cope with violence conflicts, they tend to feel more protective of female nurses (Yang et al., 2018). Regarding length of service, we observed that shorter working years was associated with increased odds of violence as experienced nurses are better at communicating effectively with patients, and knowing how to deal with potential violence (Kowalenko et al., 2005). Additionally, we found that non-staff had a higher risk of experiencing violence, partly because they typically do major clinical work and spend more time with patients than staff.

Regarding HWPV, we recommended that the government could adopt legislative approaches to prevent violence and severely punish those who deliberately commit violence in order to generate a deterrent effect on potential perpetrators with intentional purposes. Besides, the media and public opinion could correctly evaluate medical personnel and report medical events objectively and impartially instead of disseminating negative and untrue information to attract more public attention. Furthermore, hospitals may conduct employee-specific training and education to strengthen their ability to respond to violence (Schindeler & Reynald, 2017), and set up special institutions to deal with violence, encourage employees to report any violence to the institution, and timely, properly handle these events so as to protect the interests of medical staff. For nurses themselves, they should improve their relevant skills, bearing a "zero tolerance" attitude toward violence, handle it calmly and seek help in time to ensure their safety and legal rights.

5.1 | Limitations

This study has several limitations. First, the cross-sectional design of this study could bring result bias and longitudinal studies are still needed to confirm the findings. Second, this study was conducted in 7 tertiary hospitals in Sichuan, and the generalizability of our findings to different levels of hospitals in other provinces might be considered with caution. Third, 131 online questionnaires in this study were eliminated due to irregular answers. In order to avoid similar situations, field investigation can be used as much as possible. Finally, the data of workplace violence is categorical therefore limiting our use of this variable in the study model as it would lose its productivity power (Cohen et al., 2003). Future work should use the SPSS Hayes macro to explore the moderation effect of organizational commitment on the relationship between workplace violence and intention to leave, as well as between nurses reported burnout and intention to leave. Further variables should be considered in future work such as nurses work environment (Jarrar et al., 2021), psychological empowerment (Al-Bsheish et al., 2019), patient–nurse ratio (Wynendaele et al., 2019), and duty length (Jarrar et al., 2018), to enrich the study model.

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

6 | CONCLUSION

This study reveals the relationship between burnout, organizational commitment and turnover intention, uncovering the hospital workplace violence and its influencing factors among ICU nurses. The model provides a theoretical basis for developing burnout interventions, and suggestions to retain nurses and reduce workplace violence for this population. Interventions can focus on dealing with burnout and improving organizational commitment, which could finally reduce the turnover intention of ICU nurses. Regarding workplace violence, the prevalence of this violence toward ICU nurses in Sichuan is high, and nurses who have lower professional titles, male ones, less experience, and worked as staff nurses appear to be more vulnerable to such violence.

AUTHOR CONTRIBUTIONS

All authors have agreed to the final version.

ACKNOWLEDGEMENTS

We would like to thank all participants for their involvement in the study.

FUNDING INFORMATION

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

CONFLICT OF INTEREST

We declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data sets used and analysed in this study can be made available by the corresponding author at reasonable request.

ORCID

Tiemei Wang https://orcid.org/0000-0001-6070-7110

REFERENCES

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Al-Bsheish, M., Bin Mustafa, M., Ismail, M., Jarrar, M. T., Meri, A., & Dauwed, M. (2019). Perceived management commitment and psychological empowerment: A study of intensive care unit nurses' safety. *Safety Science*, *118*, 632–640. https://doi.org/10.1016/j.ssci.2019.05.055

Al-Bsheish, M., Jarrar, M. T., & Scarbrough, A. (2021). A public safety compliance model of safety behaviors in the age of the COVID-19 pandemic. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *58*, 1–6. https://doi.org/10.1177/00469580211031382

Alipour, N., Asady Fakhr, A., & Mahdiyoun, S. A. (2018). Study of occupational stress as predictors of nurses' intention to leave. *Iranian Journal of Ergonomics*, *6*(1), 58–64.

Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior*, *49*(3), 252–276. https://doi.org/10.1006/jvbe.1996.0043

Aluwihare-Samaranayake, D., Gellatly, I., Cummings, G., & Ogilvie, L. (2018). A contextual work-life experiences model to understand nurse commitment and turnover. *Journal of Advanced Nursing*, *4*, 2053–2063. https://doi.org/10.1111/jan.13718

Ashford, S. J., & Tsui, A. S. (1991). Self-regulation for managerial effectiveness: The role of active feedback seeking. *Academy of Management Journal*, *34*(2), 251–280. https://doi.org/10.5465/256442

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bernadette, M. W., de Jonge, J., Dieneke, S., Depla, M. F. I. A., & Anne, M. P. (2012). The moderating role of decision authority and co-worker- and supervisor support on the impact of job demands in nursing homes: A cross-sectional study. *International Journal of Nursing Studies*, *49*(7), 822–833. https://doi.org/10.1016/j.ijnurstu.2012.02.003

Binnie, A., Moura, K., Moura, C., D'Aragon, F., & Tsang, J. L. Y. (2021). Psychosocial distress amongst Canadian intensive care unit healthcare workers during the acceleration phase of the COVID-19 pandemic. *PLoS One*, *16*(8), e0254708. https://doi.org/10.1371/journal.pone.0254708

Brook, J., Aitken, L., Webb, R., MacLaren, J., & Salmon, D. (2019). Characteristics of successful interventions to reduce turnover and increase retention of early career nurses: A systematic review. *International Journal of Nursing Studies*, *91*, 47–59. https://doi.org/10.1016/j.ijnurstu.2018.11.003

Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1979). *The Michigan organizational assessment questionnaire* (Unpublished manuscript). University of Michigan, Ann Arbor.

Charney, R. L., Rebmann, T., & Flood, R. G. (2015). Hospital employee willingness to work during earthquakes versus pandemics. *The Journal of Emergency Medicine*, *49*(5), 665–674. https://doi.org/10.1016/j.jemermed.2015.07.030

Chen, Z. H., Chen, Q., & Wang, S. Y. (2009). Epidemiological study on workplace violence afflicting nurses in hospitals in Guangdong. *Chinese Journal of Disease Control &Prevention*, *13*(2), 157–159.

Cheng, Y., Hu, C. M., & Xiong, X. (2021). Investigation and analysis of nurses' occupational commitment and turnover intention under emergency. *Journal of Chengdu Medical College*, *16*(2), 236–240. https://doi.org/10.3969/j.issn.16742257.2021.02.025

Cheung, T., & Yip, P. S. (2017). Workplace violence towards nurses in Hong Kong: Prevalence and correlates. *BMC Public Health*, *17*(1), 196. https://doi.org/10.1186/s12889-017-4112-3

Choi, S., & Lee, H. (2018). Workplace violence against nurses in Korea and its impact on professional quality of life and turnover intention. *Journal of Nursing Management*, *26*(35), 332–333. https://doi.org/10.1111/jonm.12488

Chu, H. T., Wei, X. J., & Li, L. M. (2021). Cross-sectional analysis on workplace violence among intensive care unit in nurses in tertiary general hospitals in Henan Province. *Journal of Environmental and Occupational Medicine*, *38*(1), 70–75. https://doi.org/10.13213/j.cnki.jeom.2021.20303

Chuang, C. H., Tseng, P. C., Lin, C. Y., Lin, K. H., & Chen, Y. Y. (2016). Burnout in the intensive care unit professionals: A systematic review. *Medicine*, *95*(50), 1–12. https://doi.org/10.1097/MD.0000000000005629

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Erlbaum.

De Jonge, J., Le Blanc, P. M., Peeters, M. C. W., & Noordam, H. (2008). Emotional job demands and the role of matching job resources: A cross-sectional survey study among health care workers. *International Journal of Nursing Studies*, *45*(10), 1460–1469. https://doi.org/10.1016/j.ijnurstu.2007.11.002

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

De los Santos, J. A. A., & Labrague, L. J. (2020). Impact of COVID-19 on the psychological well-being and turnover intentions of frontline nurses in the community: A cross-sectional study in The Philippines. medRxiv. https://doi.org/10.1101/2020.08.05.20167411

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research*, *20*(2), 303–315. https://doi.org/10.1086/209351

Fute, M., Mengesha, Z. B., Wakgari, N., & Tessema, G. A. (2015). High prevalence of workplace violence among nurses working at public health facilities in Southern Ethiopia. *BMC Nursing*, *14*(1), 9. https://doi.org/10.1186/s12912-015-0062-1

Gatling, A., Kang, H. J. A., & Kim, J. S. (2016). The effects of authentic leadership and organizational commitment on turnover intention. *Leadership & Organization Development Journal*, *37*(2), 181–199. https://doi.org/10.1108/LODJ-05-2014-0090

Gharakhani, D., & Zaferanchi, A. (2019). The effect of Job burnout on turnover intention with regard to the mediating role of Job satisfaction. *Journal of Health*, *10*(1), 109–117.

Griffin, M. L., Hogan, N. L., Lambert, E. G., Tucker-Gail, K. A., & Baker, D. N. (2010). Job involvement, job stress, job satisfaction, and organizational commitment and the burnout of correctional staff. *Criminal Justice and Behavior*, *37*(2), 239–255. https://doi.org/10.1177/0093854809351682

Griffiths, P., Maruotti, A., Saucedo, A. R., Redfern, O. C., Ball, J. E., Briggs, J., Dall'Ora, C., Schmidt, P. E., & Smith, G. B. (2019). Nurse staffing, nursing assistants and hospital mortality: Retrospective longitudinal cohort study. *BMJ Quality & Safety*, *28*(8), 609–617. https://doi.org/10.1136/bmjqs-2018-008043

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.

Hann, M., Reeves, D., & Sibbald, B. (2011). Relationships between job satisfaction, intentions to leave family practice and actually leaving among family physicians in England. *The European Journal of Public Health*, *21*(4), 499–503. https://doi.org/10.1093/eurpub/ckq005

Hariri, G., Yaghmaei, F., & Shakeri, N. (2012). Assessment of some factors related to leave in nurses and their demographic charater in educational hospitals of Shahid Behesthi University of Medical Sciences. *Journal of Health Promotion Management*, *1*(3), 17–27.

Harman, H. H. (1967). *Modern factor analysis:235–241*. University of Chicago Press.

Havaei, F., Astivia, O. L. O., & MacPhee, M. (2020). The impact of workplace violence on medical-surgical nurses' health outcome: A moderated mediation model of work environment conditions and burnout using secondary data. *International Journal of Nursing Studies*, *109*, 1–9. https://doi.org/10.1016/j.ijnurstu.2020.103666

Havaei, F., Ma, A., Staempfli, S., & MacPhee, M. (2021). Nurses' workplace conditions impacting their mental health during COVID-19: A cross-sectional survey study. *Healthcare (Basel)*, *9*(1), 84. https://doi.org/10.3390/healthcare9010084

Hesketh, T., Wu, D., Mao, L., & Ma, N. (2012). Violence against doctors in China. *BMJ*, *345*, e5730. https://doi.org/10.1136/bmj.e5730

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Jarrar, M. T., Al-Bsheish, M., Aldhmadi, B. K., Albaker, W., Meri, A., Dauwed, M., & Minai, M. S. (2021, November). *Effect of practice environment on nurse reported quality and patient safety: The mediation role of person-centeredness. In healthcare* (Vol. *9*, No. 11, p. 1578). Multidisciplinary Digital Publishing Institute.

Jarrar, Mu'taman Khalil; Rahman, Hamzah Abdul; Sebiany, Abdulaziz M.; AbuMadini, Mahdi S; Masnawaty S, H.j; Amalraj, Christopher (2018). Nursing duty hours' length and the perceived outcomes of care. *Global Journal of Health Science*, *10*(4), 1–6. https://doi.org/10.5539/gjhs.v10n4p1

Kim, H., & Kim, E. G. (2021). A meta-analysis on predictors of turnover intention of hospital nurses in South Korea (2000–2020). *Nursing Open*, *8*(5), 2406–2418. https://doi.org/10.1002/nop2.872

Kim, Y., & Han, K. (2018). Longitudinal associations of nursing staff turnover with patient outcomes in long-term care hospitals in Korea. *Journal of Nursing Management*, *26*(5), 518–524. https://doi.org/10.1111/jonm.12576

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). The Guilford Press.

Kowalenko, T., Walters, B. L., Khare, R. K., Compton, S., & Michigan College of Emergency Physicians Workplace Violence Task Force. (2005). Workplace violence: A survey of emergency physicians in the state of Michigan. *Annals of Emergency Medicine*, *46*(2), 142–147. https://doi.org/10.1016/j.annemergmed.2004.10.010

Kuo, H. T., Lin, K. C., & Li, I. C. (2014). The mediating effects of job satisfaction on turnover intention for long-term care nurses in Taiwan. *Journal of Nursing Management*, *22*(2), 225–233. https://doi.org/10.1111/jonm.12044

Labrague, L. J., De los Santos, J. A. A., Falguera, C. C., Nwafor, C. E., Galabay, J. R., Rosales, R. A., & Firmo, C. N. (2020). Predictors of nurses' turnover intention at one and five years' time. *International Nursing Review*, *67*(2), 191–198. https://doi.org/10.1111/inr.12581

Labrague, L. J., McEnroe-Petitte, D. M., Tsaras, K., Cruz, J. P., Colet, P. C., & Gloe, D. S. (2018). Organizational commitment and turnover intention among rural nurses in The Philippines: Implications for nursing management. *International Journal of Nursing Sciences*, *5*(4), 403–408. https://doi.org/10.1016/j.ijnss.2018.09.001

Lee, K. S., Lennie, T. A., Wu, J. R., Biddle, M. J., & Moser, D. K. (2014). Depressive symptoms, health-related quality of life, and cardiac event-free survival in patients with heart failure: A mediation analysis. *Quality of Life Resarch*, *23*(6), 1869–1876. https://doi.org/10.1007/s11136-014-0636-5

Lee, Y. H., & Chelladurai, P. (2018). Emotional intelligence, emotional labor, coach burnout, job satisfaction, and turnover intention in sport leadership. *European Sport Management Quarterly*, *18*(4), 393–412. https://doi.org/10.1080/16184742.2017.1406971

Li, C. (2003). The influence of distributive justice and procedural justice on job burnout. *Acta Psychologica Sinica*, *35*(5), 677–684. http://journal.psych.ac.cn/xlxb/EN/Y2003/V35/I05/677

Li, N., Zhang, L. C., Xiao, G. Q., Chen, Z. J., & Lu, Q. (2020). Effects of organizational commitment, job satisfaction and workplace violence on turnover intention of emergency nurses: A cross-sectional study. *International Journal of Nursing Practice*, *26*(6), e12854. https://doi.org/10.1111/ijn.12854

Li, Y., Sawhney, R., & Tortorella, G. L. (2019). Empirical analysis of factors impacting turnover intention among manufacturing workers. *International Journal of Business and Management*, *14*(4), 1–18. https://doi.org/10.5539/ijbm.v14n4p1

Liu, J. C., Chang, L. Y., Wu, S. Y., & Tsai, P. S. (2015). Resilience mediates the relationship between depression and psychological health status in patients with heart failure: A cross-sectional study. *International Journal of Nursing Studies*, *52*, 1846–1853. https://doi.org/10.1016/j.ijnurstu.2015.07.005

Liu, Q., Liu, T., Zhang, Y. Y., Zhang, L. J., & Lu, Y. Q. (2021). The construction of norm of Chinese Maslach burnout inventory for workers in factories and miners in Urumqi. *Chinese Journal of Preventive Medicine*, *22*(10), 777–782. https://doi.org/10.16506/j.1009-6639.2021.10.010

Liu, W., Zhao, S., Shi, L., Zhang, Z., Liu, X., Li, L., Duan, X., Li, G., Lou, F., Jia, X., Fan, L., Sun, T., & Ni, X. (2018). Workplace violence, job satisfaction, burnout, perceived organisational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: A cross-sectional study. *BMJ Open*, *8*(6), 1–11. https://doi.org/10.1136/bmjopen-2017-019525

Liu, X., Zheng, J., Liu, K., Baggs, J. G., Liu, J., Wu, Y., & You, L. (2018). Hospital nursing organizational factors, nursing care left

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

undone, and nurse burnout as predictors of patient safety: A structural equation modeling analysis. *International Journal of Nursing Studies*, *86*, 82–89. https://doi.org/10.1016/j.ijnurstu.2018.05.005

Manomenidis, G., Panagopoulou, E., & Montgomery, A. (2019). Job burnout reduces hand hygiene compliance among nursing staff. *Journal of Patient Safety*, *15*(4), e70–e73. https://doi.org/10.1097/PTS.0000000000000435

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99–113. https://doi.org/10.1002/job.4030020205

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397–422. https://doi.org/10.1146/annurev.psych.52.1.397

Melnick, E. R., & Powsner, S. M. (2016). Empathy in the time of burnout. *Mayo Clinic Proceedings*, *91*, 1678–1679. https://doi.org/10.1016/j.mayocp.2016.09.003

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, *1*(1), 61–89. https://doi.org/10.1016/1053-4822(91)90011-z

Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, *78*(4), 538–551. https://doi.org/10.1037/0021-9010.78.4.538

Mirzaei, A., Rezakhani Moghaddam, H., & Habibi Soola, A. (2021). Identifying the predictors of turnover intention based on psychosocial factors of nurses during the COVID-19 outbreak. *Nursing Open*, *8*, 3469–3476. https://doi.org/10.1002/nop2.896

Nazir, S., Shafi, A., Qun, W., Nazir, N., & Tran, Q. D. (2016). Influence of organizational rewards on organizational commitment and turnover intentions. *Employee Relations*, *38*(4), 596–619. https://doi.org/10.1108/ER-12-2014-0150

Occupational Safety and Health Administration. (2018). Workplace violence. https://www.osha.gov/SLTC/workplaceviolence/

Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsi, E., & Katsaounou, P. (2020). Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*, *88*, 901–907. https://doi.org/10.1016/j.bbi.2020.05.026

Park, M., Cho, S. H., & Hong, H. J. (2015). Prevalence and perpetrators of workplace violence by nursing unit and the relationship between violence and the perceived work environment. *Journal of Nursing Scholarship*, *47*(1), 87–95. https://doi.org/10.1111/jnu.12112

Peltier, B. D., & Walsh, J. A. (1990). An investigation of response bias in the Chapman Scales. *Educational and Psychological Measurement*, *50*(4), 803–815. https://doi.org/10.1177/0013164490504008

Perreira, T. A., Berta, W., & Herbert, M. (2018). The employee retention triad in health care: Exploring relationships amongst organisational justice, affective commitment and turnover intention. *Journal of Clinical Nursing*, *27*(7–8), e1451–e1461. https://doi.org/10.1111/jocn.14263

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, *63*, 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, *12*(4), 531–544. https://doi.org/10.1177/014920638601200408

Pompeii, L., Dement, J., Schoenfisch, A., Lavery, A., Souder, M., Smith, C., & Lipscomb, H. (2013). Perpetrator, worker and workplace characteristics associated with patient and visitor perpetrated violence on hospital workers: A review of the literature and existing occupational injury data. *Journal of Safety Research*, *44*, 57–64. https://doi.org/10.1016/j.jsr.2012.09.004

Price, J. L. (2000). Reflections on the determinants of turnover. *International Journal of Manpower*, *22*, 600–624. https://doi.org/10.1108/EUM0000000006233

Rawashdeh, A. M., & Tamimi, S. A. (2019). The impact of employee perceptions of training on organizational commitment and turnover intention. *European Journal of Training and Development*, *44*, 191–207. https://doi.org/10.1108/EJTD-07-2019-0112

Ruiz-Fernández, M. D., Ramos-Pichardo, J. D., Ibáñez-Masero, O., Cabrera-Troya, J., Carmona-Rega, M. I., & Ortega-Galán, Á. M. (2020). Compassion fatigue, burnout, compassion satisfaction and perceived stress in healthcare professionals during the COVID-19 health crisis in Spain. *Journal of Clinical Nursing*, *29*(21–22), 4321–4330. https://doi.org/10.1111/jocn.15469

Said, R. M., & El-Shafei, D. A. (2020). Occupational stress, job satisfaction, and intent to leave: Nurses working on front lines during COVID-19 pandemic in Zagazig City, Egypt. *Environmental Science and Pollution Research International*, *28*(7), 8791–8801. https://doi.org/10.1007/s11356-020-11235-8

Salvador, J. T., Alqahtani, F. M., Al-Madani, M. M., Jarrar, M. T. K., Dorgham, S. R., Victoria Reyes, L. D., & Alzaid, M. (2021). Workplace violence among registered nurses in Saudi Arabia: A qualitative study. *Nursing Open*, *8*(2), 766–775. https://doi.org/10.1002/nop2.679

Schindeler, E., & Reynald, D. M. (2017). What is the evidence? Preventing psychological violence in the workplace. *Aggression and Violent Behavior*, *36*, 25–33. https://doi.org/10.1016/j.avb.2017.07.004

Schonfeld, I. S., & Bianchi, R. (2016). Burnout and depression: Two entities or one? *Journal of Clinical Psychology*, *72*, 22–37. https://doi.org/10.1002/jclp.22229

Schutte, N., Toppinen, S., Kalimo, R., & Schaufeli, W. (2000). The factorial validity of the Maslach burnout inventory-general survey (MBI-GS) across occupational groups and nations. *Journal of Occupational and Organizational Psychology*, *73*(1), 53–66. https://doi.org/10.1348/096317900166877

Serrano-Ripoll, M. J., Meneses-Echavez, J. F., Ricci-Cabello, I., Fraile-Navarro, D., Fiol-deRoque, M. A., Pastor-Moreno, G., Castro, A., Ruiz-Pérez, I., Zamanillo Campos, R., & Gonçalves-Bradley, D. C. (2020). Impact of viral epidemic outbreaks on mental health of healthcare workers: A rapid systematic review and meta-analysis. *Journal of Affective Disorders*, *277*, 347–357. https://doi.org/10.1016/j.jad.2020.08.034

Shanafelt, T. D., & Noseworthy, J. H. (2017). Executive leadership and physician well-being: Nine organizational strategies to promote engagement and reduce burnout. *Mayo Clinic Proceedings*, *92*(1), 129–146. https://doi.org/10.1016/j.mayocp.2016.10.004

Smyth, E., Healy, O., & Lydon, S. (2015). An analysis of stress, burnout, and work commitment among disability support staff in the UK. *Research in Developmental Disabilities*, *47*, 297–305. https://doi.org/10.1016/j.ridd.2015.09.023

Sun, J., Lv, Y. L., & Li, R. (2020). Correlation analysis of ICU workplace violence on nurses turnover tendency and degree of depression. *Journal of Clinical Psychosomatic Diseases*, *26*(1), 54–56. https://doi.org/10.3969/j.issn.1672-187X.2020.01.015

Tan, C. X., Zou, H. Y., Liu, Y. S., & Hu, X. H. (2014). Job burnout in ICU nurses and its relationship with turnover intention. *Hainan Medical Journal*, *25*(11), 1695–1697. https://doi.org/10.3969/j.issn.1003-6350.2014.11.0659

Tang, X. F., Zhu, Y., Wang, X. X., & Liu, Q. (2019). A survey of workplace violence experienced by psychiatric intensive care unit nurses. *Qilu Journal of Nursing*, *25*(21), 71–74. https://doi.org/10.3969/j.issn.1006-7256.2019.21.024

Tarigan, V., & Ariani, D. W. (2015). Empirical study relations job satisfaction, organizational commitment, and turnover intention. *Advances in Management and Applied Economics*, *5*(2), 21–42.

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

meta-analytic findings. *Personnel Psychology*, *46*, 259–293. https://doi.org/10.1111/j.1744-6570.1993.tb00874.x

Theorell, T., Hammarström, A., Aronsson, G., Bendz, L. T., Grape, T., Hogstedt, C., Marteinsdottir, I., Skoog, I., & Hall, C. (2015). A systematic review including meta-analysis of work environment and depressive symptoms. *BMC Public Health*, *15*(1), 738. https://doi.org/10.1186/s12889-015-1954-4

Wang, J., & Chen, S. Y. (2021). Study on the current situation of nurses' turnover intention in public hospitals in Harbin in the late stage of the COVID-19 and its influencing factors. *Journal of Harbin Medical University*, *55*(6), 671–675.

Wei, C. Y., Chiou, S. T., & Chien, L. Y. (2016). Workplace violence against nurses-prevalence and association with hospital organizational characteristics and health-promotion efforts: Cross-sectional study. *International Journal of Nursing Studies*, *56*, 63–70. https://doi.org/10.1016/j.ijnurstu.2015.12.012

Welp, A., Meier, L. L., & Manser, T. (2015). Emotional exhaustion and workload predict clinician-rated and objective patient safety. *Frontiers in Psychology*, *5*, 1573. https://doi.org/10.3389/fpsyg.2014.01573

Wen, Z. L., Kit-Tai, H., & Marsh, H. W. (2004). Structural equation model testing: Cutoff criteria for goodness of fit indices and chi-square test. *Acta Psychologica Sinica*, *36*(2), 186–194. http://journal.psych.ac.cn/xlxb/EN/Y2004/V36/I02/186

Woo, T., Ho, R., Tang, A., & Tam, W. (2020). The global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. *Journal of Psychiatric Research*, *123*, 9–20. https://doi.org/10.1016/j.jpsychires.2019.12.015

World Medical Association. (2013). Declaration of helsinki: Ethical principles for medical research involving human subjects. *JAMA*, *310*(20), 2191–2194.

Wynendaele, H., Willems, R., & Trybou, J. (2019). Systematic review: Association between the patient-nurse ratio and nurse outcomes in acute care hospitals. *Journal of Nursing Management*, *27*(5), 896–917. https://doi.org/10.1111/jonm.12764

Xu, W. X. (2014). Violence against doctors in China. *The Lancet*, *384*(9945), 745. https://doi.org/10.1016/s0140-6736(14)61438-0

Yang, B. X., Stone, T. E., Petrini, M. A., & Morris, D. L. (2018). Incidence, type, related factors, and effect of workplace violence on mental health nurses: A cross-sectional survey. *Archives of Psychiatric Nursing*, *32*(1), 31–38. https://doi.org/10.1016/j.apnu.2017.09.013

Yang, Y., Wang, P., Kelifa, M. O., Wang, B., Liu, M., Lu, L., & Wang, W. (2021). How workplace violence correlates turnover intention among Chinese health care workers in COVID-19 context: The mediating role of perceived social support and mental health. *Journal of Nursing Management*, 1–8. https://doi.org/10.1111/jonm.13325

Zack, S. E., Castonguay, L. G., Boswell, J. F., McAleavey, A. A., Adelman, R., Kraus, D. R., & Pate, G. A. (2015). Attachment history as a moderator of the alliance outcome relationship in adolescents. *Psychotherapy*, *52*(2), 258–267. https://doi.org/10.1037/a0037727

Zhang, L., Wang, A., Xie, X., Zhou, Y., Li, J., Yang, L., & Zhang, J. (2017). Workplace violence against nurses: A cross-sectional study. *International Journal of Nursing Studies*, *72*, 8–14. https://doi.org/10.1016/j.ijnurstu.2017.04.002

Zhang, S. E., Liu, W., Wang, J., Shi, Y., Xie, F., Cang, S., Sun, T., & Fan, L. (2018). Impact of workplace violence and compassionate behavior in hospitals on stress, sleep quality and subjective health status among Chinese nurses: A cross-sectional survey. *BMJ Open*, *8*(10), e019373. https://doi.org/10.1136/bmjopen-2017-019373

Zhang, Y., Wu, X. X., Wan, X. J., Hayter, M., Wu, J. F., Li, S., Hu, Y., Yuan, Y., Liu, Y. B., Cao, C. Y., & Gong, W. J. (2019). Relationship between burnout and intention to leave amongst clinical nurses: The role of spiritual climate. *Journal of Nursing Management*, *27*(6), 1285–1293. https://doi.org/10.1111/jonm.12810

Zhang, Y., Xiang, S., Wu, L. X., Zhao, Y., Yan, L. X., & Zhou, M. (2017). Study on turnover intention and influencing factors among ICU nurses. *Chinese Health Service Management*, *34*(6), 419–422.

How to cite this article: Wang, T., Abrantes, A. C. M., & Liu, Y. (2023). Intensive care units nurses' burnout, organizational commitment, turnover intention and hospital workplace violence: A cross-sectional study. *Nursing Open*, *10*, 1102–1115. https://doi.org/10.1002/nop2.1378

20541058, 2023, 2, Downloaded from https://onlinelibrary.wiley.com/doi/10.1002/nop2.1378, Wiley Online Library on [15/08/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License