

# Factors Associated with Management of Workplace Violence Competence Among Chinese Nursing Interns

Lingyao Meng<sup>1,2</sup>, Lifang He<sup>1</sup>, Lu Ouyang<sup>3</sup>, Mengxue Fu<sup>2</sup>, Pan Li<sup>1,\*</sup>, Yongmei He<sup>1,\*</sup>

<sup>1</sup>School of Nursing, Xiangnan University, Chenzhou, 423000, People's Republic of China; <sup>2</sup>College of Nursing and Allied Health Sciences, St. Paul University Manila, Manila, Philippines; <sup>3</sup>Bidding Center, Xiangya Hospital, Central South University, Changsha, 410008, People's Republic of China

\*These authors contributed equally to this work

Correspondence: Pan Li, School of Nursing, Xiangnan University, Chenzhou, 423000, People's Republic of China, Tel +86 17773560292, Email lipan1020@xnu.edu.cn; Yongmei He, School of Nursing, Xiangnan University, Chenzhou, 423000, People's Republic of China, Tel +86 13873566000, Email hlxyhym@163.com

**Purpose:** The cases of workplace violence (WPV) experienced by nurses and nursing students in recent years has become alarming high. However, managing and developing WPV competence among nursing students remain underreported. Therefore, this study investigated the current status of management of workplace violence competence (MWVC) and identify associated factors affecting their MWVC among nursing interns.

**Participants and Methods:** A total of 817 nursing interns from six tertiary hospitals in Hunan Province, China, participated in this study in July 2023. Data were collected via online survey questionnaires using the Management of Workplace Violence Competence Scale (MWVCS), the Patient Risk Identification Ability Assessment Questionnaire, and the Professional Identity Questionnaire for Nursing Students (PIQNS).

**Results:** Among participants, 91.1% were female (n=744), 68.1% (n=556) were between 21 to 23 years old, and 54.1% (n=442) obtained a bachelor's degree. The score of management of workplace violence competence was 123.25 (SD=11.06). The multiple linear regression analysis showed that the diploma degree (B=3.152, p<0.001, 95% CI: 2.087–4.217), witnessed a workplace violence incident in a hospital (B=4.274, p<0.001, 95% CI: 3.164–5.384), trained in WPV prevention skills (B=7.196, p<0.001, 95% CI: 6.007–8.386), patient risk identification ability (B=1.006, p<0.001, 95% CI: 1.163–0.893), and professional identity (B=0.693, p<0.001, 95% CI: 0.571–0.815) were the associated factors of MWVC among nursing interns.

**Conclusion:** The MWVC among nursing interns was at an intermediate level. To enhance MWVC, it is recommended to strengthen WPV prevention and management training, particularly for interns with diploma degrees, no experience witnessing WPV incidents, no prior training in WPV prevention skill, and lower levels of patient risk identification ability and professional identity. Our findings may guide the establishment of focused training programs and support measures to improve interns' capacity to manage WPV, increasing their professional growth and mental health while giving significant insights and intervention techniques for nursing educators and managers.

**Keywords:** nursing interns, management workplace violence competence, patient risk identification ability, professional identity, associated factors

## Introduction

In recent years, with the rapid development of the healthcare sector, workplace violence (WPV) against healthcare professionals has become a global public health concern. Studies indicate that the incidence of physical violence against nurses in the past year ranges from 4.9% to 83.3%, while verbal violence ranges from 66.2% to 95.1%.<sup>1,2</sup> In China, the reported incidence of workplace violence is between 42.2% and 83.3%.<sup>3–7</sup> Nurses, due to frequent interactions with patients and their families, are five times more likely to experience WPV compared to other professions.<sup>8</sup> A large-scale survey in China reported that 68.31% of nurses experienced workplace violence, with the incidence of physical and non-

physical violence being 25.77% and 63.65%, respectively.<sup>9</sup> Research has shown that WPV severely affects nurses' physical and mental health, leading to a decline in the quality of care and talent attrition.<sup>10</sup>

Clinical nursing interns, due to their transition from academic to professional settings, are particularly vulnerable to WPV.<sup>11</sup> During internships, they frequently rotate through different departments, requiring them to quickly adapt to new environments and establish relationships, which increases their stress levels. Furthermore, nursing interns often lack the clinical and social experience of registered nurses, have inadequate communication skills, and possess limited awareness of WPV, making them more susceptible to being victims of violence. Studies show that the prevalence of WPV among nursing interns during clinical placements ranges from 65.7% to 87.8% both domestically and internationally,<sup>12–15</sup> with rates of 35.5% and 50.1% reported in the UK and Australia, respectively.<sup>16</sup> In surveys conducted in Xiamen city and Beijing city,<sup>17,18</sup> 66.2% and 69.2% of nursing interns, respectively, reported experiencing violence. This indicates that the incidence of WPV among nursing interns is comparable to that of clinical nurses, with higher rates in China compared to other countries.

WPV is a predictor of psychological disorders in healthcare professionals.<sup>19</sup> Studies have shown that nursing interns have low psychological resilience and poor coping skills when faced with stressful events. After experiencing violence, 71.5% of interns reported feeling anxious, 53.6% felt depressed, and many experienced negative emotions such as frustration, fear, anger, and guilt.<sup>20,21</sup> WPV also affects their caregiving behavior, with 12.3% indicating a decrease in motivation and a decline in the quality of care provided.<sup>22</sup> Additionally, WPV diminishes their professional identity. Multiple studies have shown that after experiencing WPV, nursing interns' attitudes towards the nursing profession change significantly, leading to lower career satisfaction, feelings of low professional status, a lack of job security, and the desire to change careers.<sup>23–25</sup> Research indicates that 46.9% of nursing interns reconsidered their career plans following WPV incidents.<sup>26</sup>

Patient risk identification is the ability of healthcare workers (eg, nurses, doctors, midwives) to determine factors (eg, falls, medication errors, patient identification) that contribute to patients' conditions that result in accidents and disabilities, hence adversely impacting patient safety.<sup>27,28</sup> Nurses and nursing students are central to safe patient care.<sup>29</sup> Previous studies reported that integrating patient identification safety systems optimizes patient safety and outcomes.<sup>30,31</sup> Nurses and nursing students must be competent in implementing patient risk identification to prevent adverse patient effects during their hospital stays.<sup>32</sup> A systematic review by Dionisi et al<sup>33</sup> reported that nursing students have limited competence with patient risk identification, and thus, they were not confident in performing patient safety protocols. Therefore, there is a need to strengthen patient risk identification abilities during laboratory, simulation, and clinical placements.

Management of workplace violence competence involves institutional strategies to eliminate violence in workplace and it requires a multi-level approach. Several recommendations and training initiatives have been developed in nursing education to avoid WPV amongst nursing students.<sup>34</sup> For example, in Australia, nursing students received a one-day Management of Aggression Training session that addressed the definition, forms, laws, and repercussions of WPV, as well as the assault cycle and relevant breakaway skills.<sup>35</sup> In addition, certain training sessions were held in Europe and America.<sup>34</sup> Despite nursing students who engaged with these programs expressed high levels of contentment with the programs, the degree of confidence and change in attitude, knowledge, and abilities was not extensive, and the measuring instruments utilized were invalid. Therefore, complete evaluation of nursing students' skill in WPV management is necessary.

Studies also reveal that nursing interns often feel inadequately prepared to handle WPV, typically seeking help from security personnel or colleagues, with limited and often ineffective coping strategies.<sup>36</sup> However, nursing interns who have undergone systematic training are better equipped to handle violent situations calmly, reducing psychological stress and emotional fluctuations. Nonetheless, the factors impacting nursing interns' MWVC remain unclear, and there is a major gap in understanding how competent nursing students can manage WPV throughout their internship, which is understudied in various parts of China. This study aims to investigate the current status of WPV among nursing interns from six tertiary hospitals in Hunan Province and identify key factors affecting their MPVC. The findings from this research can inform the development of targeted training programs and support measures to enhance interns' ability to manage WPV, thereby promoting their professional development and mental health and providing valuable insights and intervention strategies for nursing educators and managers.

## Material and Methods

### Study Design

A cross-sectional and correlational study. This design provides a comprehensive understanding of workplace violence competence, patient risk identification ability, and professional identity in a specific period without evaluating causality among these study variables. The patient risk identification ability and professional identity, and workplace violence competence were designated as independent and dependent variables, respectively.

### Participants, Setting, Sampling, and Data Collection

The study included 817 nursing interns from six tertiary hospitals in Hunan Province, China. Participants were conveniently selected based on the following inclusion criteria: having a diploma degree or higher, being over 18 years old, and having an internship duration of more than 8 months. Informed consent was obtained from all participants. Exclusion criteria included leaving the internship for over one week due to personal or family reasons or withdrawing from the study midway. Using the Soper online calculator for sampling size, with anticipated effect size of 0.05, statistical power level of 0.90, and probability level of 0.05, the minimum sample size was 355.

Data collection began after ethics approval and permission to conduct the study in the study settings were obtained. Data collection run for the entire month of July 2023. A survey team of four members underwent a one-week training period, including assessments, to ensure data collection accuracy. Data accuracy was ensured by the researchers in terms of distributing the survey forms, follow-up, answering queries from participants, checking the returned survey forms for completeness, and, once complete, categorizing them as valid for data analysis. Data were gathered through the Wenjuanxing, an online survey platform, the responses were stored in a password-protected laptop that only the researchers had access.

### Research Tools

#### General Information

A self-designed general information questionnaire was used to collect demographic data. The questionnaire included items on gender, age, education, internship duration, do you like the nursing major, have you witnessed a WPV incident in the hospital during your internship, and have you been trained in WPV prevention skills, these variables were included as associated factors with MWVC.

#### Management of Workplace Violence Competence

The Management of Workplace Violence Competence Scale, developed by Lu,<sup>34</sup> comprises seven dimensions: post-event recovery, nurse-patient interaction, response to violence, violence awareness, utilization of protective facilities, knowledge renewal, and risk assessment. Post-event recovery refers to providing post-incident care, behavioral adjustment, and experiential response to workplace violence. Nurse-patient interaction refers to the dialogue and interaction that occurs between nursing students and patients when delivering nursing services. Response to violence entails employing de-escalation skills to slow the progression of violence while also defending oneself and leaving risky circumstances as soon as feasible. Violence awareness refers to nursing students' comprehension of fundamental theoretical knowledge of workplace violence, including causes, present circumstances, psychological knowledge, and impacts of workplace violence. The use of protective facilities comprises nursing students' comprehension and usage of hospital-provided violence prevention devices and safety measures. Knowledge renewal entails actively engaging in workplace violence education and training, as well as obtaining relevant information to improve one's capacity to handle violence. Risk assessment involves nursing students to analyze risks and identify early warning indicators of workplace violence.<sup>34</sup> The scale consists of 39 items, each rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with total scores ranging from 39 to 195. Higher scores indicate a higher level of competence in managing workplace violence. The Cronbach's  $\alpha$  coefficient for this scale is 0.955,<sup>34</sup> indicating excellent reliability.

### Patient Risk Identification Ability

The Patient Risk Identification Ability Assessment Questionnaire developed by Wu et al.<sup>28</sup> The scale includes three dimensions: risk knowledge mastery, risk perception, and risk analysis ability. It consists of 21 items, each rated on a 5-point Likert scale from 1 (very poor) to 5 (excellent). The total scores range from 21 to 105, with higher scores indicating a better ability to identify patient risks. The Cronbach's  $\alpha$  coefficient for this scale is 0.938,<sup>28</sup> indicating high reliability.

### Professional Identity

The professional identity of nursing interns was assessed using the Professional Identity Questionnaire for Nursing Students (PIQNS) developed by Hao.<sup>37</sup> This scale includes five dimensions: professional self-image, benefits of retention and risks of turnover, social comparison and self-reflection, independence of career choice, and social modeling. It comprises a total of 17 items, each scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total scores range from 17 to 85, with higher scores indicating a higher level of professional identity. The Cronbach's  $\alpha$  coefficient for this scale is 0.827,<sup>37</sup> reflecting good reliability.

### Statistical Analysis

Categorical data were presented as frequencies or percentages, while continuous data were expressed as means and standard deviations. Scores for MWVC, patient risk recognition ability, and professional identity were normally distributed and are reported as means and standard deviations. The independent sample *t*-test was used to compare MWVC scores across different demographic characteristics of nursing interns. A multiple linear regression analysis was performed with the MWVC score of nursing interns as the dependent variable. The independent variables included the patient risk identification ability and professional identity. Data preprocessing was first conducted to remove missing values and outliers, ensuring data quality. Relevant variables were then selected based on data characteristics, and an optimal set of independent variables was determined using stepwise regression. After fitting the multiple linear regression model, the model's overall significance was assessed using the *F*-test. Regression coefficients were calculated to examine the effect of each independent variable. The model's goodness of fit and assumptions were evaluated using  $R^2$ , adjusted  $R^2$ , the Durbin-Watson test, and VIF values. Statistical significance was set at  $P < 0.05$  (2-tailed). All analyses were conducted using IBM SPSS 22.0 software.

## Results

### Characteristics of Participants

A total of 830 questionnaires were distributed, and 817 valid responses were received, resulting in a response rate of 98.43%. Of the 817 clinical intern nursing students, 8.9% were male ( $n = 73$ ), and 91.1% were female ( $n = 744$ ). 68.1% ( $n = 556$ ) of the participants were between 18 and 23 years old, with an average age of 21.07 ( $SD = 1.25$ ). Regarding the nursing program, 54.1% ( $n = 442$ ) obtained a bachelor's degree and 45.9% ( $n = 375$ ) had a diploma. The internship duration ranges from 8 to 12 months. 44.5% ( $n = 343$ ) witnessed a WPV incident during their internship, while 27.9% ( $n = 228$ ) of the students reported that they disliked the nursing major. Overall, 67.8% ( $n = 554$ ) of nursing interns have not received WPV prevention skill training; 32.2% ( $n = 263$ ) of participants received WPV prevention skill training. Detailed information is shown in [Table 1](#).

### Scores of MWVC, Patient Risk Identification Ability and Professional Identity of Nursing Interns

The scores for the management workplace violence competence (MWVC) of nursing interns averaged 123.2 ( $SD = 11.06$ ). The scores for patient risk identification ability averaged 54.29 ( $SD = 6.37$ ), and the scores for professional identity averaged 62.39 ( $SD = 7.12$ ). Please refer to [Table 2](#) for detailed data.

**Table 1** Demographic Characteristics of Nursing Interns (n=817)

Categories		Number	Proportion (%)
Gender	Male	73	8.9
	Female	744	91.1
Age (y old)	18~20	261	31.9
	21~23	556	68.1
Education levels	Diploma	375	45.9
	Bachelor	442	54.1
Internship duration (months)	8–10	533	65.2
	10–12	284	34.8
Do you like the nursing major	Like	589	72.1
	Dislike	228	27.9
Witnessed a WPV incident in hospital	Yes	343	42.0
	No	474	58.0
Have you been trained in WPV prevention skills	Yes	263	32.2
	No	554	67.8

**Table 2** Comparison of MWVC Scores of Participants by Demographic Characteristics (n=817)

Variables	Management of Workplace Violence Competence	t	P
Gender			
Male	124.76±11.24	1.212	0.226
Female	123.10±11.16		
Age (y old)			
18~20	123.94±11.07	1.220	0.223
21~23	122.93±11.02		
Education levels			
Diploma	119.83±10.64	8.112	<0.001
Bachelor's degree	126.15±11.47		
Internship duration (months)			
8–10	122.95±11.24	1.041	0.298
10–12	123.81±11.26		
Do you like the nursing major			
Like	122.05±11.43	0.588	0.557
Dislike	121.53±11.17		
Have you witnessed a WPV incident in the hospital			
Yes	128.09±11.86	10.804	<0.001
No	119.75±10.13		
Have you been trained in WPV prevention skills			
Yes	131.24±12.15	14.470	<0.001
No	119.46±10.21		

## Correlation of MWVC, Patient Risk Identification Ability and Professional Identity of Nursing Interns

The results of the Pearson correlation analysis indicate that the MWVC of nursing interns is positively correlated with both patient risk identification ability and professional identity ( $r = 0.503$ ,  $r = 0.447$ , both  $p < 0.01$ ). See Table 3 for detailed results.

**Table 3** Assignment Rules of the Respective Variables

Variables	Assignment Rules
Education levels	Diploma=0, bachelor's degree=1
Witnessed a Workplace Violence incident in hospital	No=0, yes=1
Trained in WPV prevention skills	No=0, yes=1
Patient risk identification ability	Input the actual score
Professional identity	Input the actual score

## Associated Factors on the Score of MWVC Among Nursing Interns

The results showed that there were differences in MWVC among students with different education levels, Have you witnessed a workplace violence incident in a hospital, Have you been trained in WPV prevention skills, patient risk identification ability, and professional identity ( $P < 0.01$ ). The indexes with statistically significant differences in univariate analysis were put into the multiple linear regression model as covariates.

The regression model had an  $R^2=0.733$ , and an adjusted  $R^2=0.535$ , indicating that the model explained approximately 53.5% of the variance in WPV scores. The Durbin-Watson statistic was 0.982, suggesting a slight positive correlation between the residuals, but within acceptable limits. The ANOVA and F analysis results ( $F = 188.678$ ,  $df = 5$ ,  $P < 0.001$ ), indicating statistical significance. Additionally, the variance inflation factor (VIF) for each independent variable was below 1.2, suggesting no serious multicollinearity among the variables.

The multiple linear regression analysis indicated that diploma degree ( $B = 3.152$ ,  $p < 0.001$ , 95% CI:2.087–4.217), witnessed a WPV incident in hospital ( $B = 4.274$ ,  $p < 0.001$ , 95% CI:3.164–5.384), had been trained in WPV prevention skills ( $B = 7.196$ ,  $p < 0.001$ , 95% CI:6.007–8.386), patient risk identification ability ( $B = 1.006$ ,  $p < 0.001$ , 95% CI:1.163–0.893), and professional identity ( $B = 0.693$ ,  $p < 0.001$ , 95% CI:0.571–0.815) were significant associated factors on the MWVC of nursing interns. See Table 4 for detailed results.

## Discussion

Our study aimed to examine the different factors associated with MWVC. The following were the significant findings. Firstly, nursing interns with moderate MWVC and those with bachelor's degrees exhibited stronger MWVC. Secondly, nursing interns who witnessed WPV incidents showed greater awareness of the harm and prevention techniques. Thirdly, participants who received WPV prevention skills training were more proactive in avoiding violent incidents. Fourthly, enhanced risk identification skills contribute to excellent proficiency in managing WPV. Finally, WPV is an independent predictor of professional identity.

The results of this study indicate that the mean MWVC score among nursing interns was at a moderate level. This score is lower than the MWVC scores reported in previous studies conducted by Liang et al<sup>38</sup> and Xu et al,<sup>39</sup> which were in Sichuan

**Table 4** Multiple Linear Regression Analysis of Factors Related to Participants' Management of Workplace Violence Competencies

Variables	$\beta$	SE	$\beta$ -95% CI	$\beta'$	t	P
Constant	16.333	5.334	5.862–26.804	-	3.062	0.002
Education levels	3.152	0.542	2.087–4.217	0.141	5.811	<0.001
Witnessed a workplace violence incident in hospital	4.274	0.566	3.164–5.384	0.189	7.558	<0.001
Trained in WPV prevention skills	7.196	0.606	6.007–8.386	0.301	11.876	<0.001
Patient risk identification ability	1.006	0.080	1.163–0.893	0.317	12.560	<0.001
Professional identity	0.693	0.062	0.571–0.815	0.277	11.120	<0.001
Model statistics	Overall $R^2=0.733$ ; Adjusted $R^2=0.535$ ; $F=188.678$ , $P<0.001$					

**Abbreviations:**  $\beta$ , unstandardized beta; SE, standard error; t, t-test statistic; p, probability value;  $R^2$ , coefficient of determination;  $\beta'$ , standardized beta.



Province and Liaoning Province, respectively. These discrepancies may be due to differences in implementing the nursing education curricula across provinces and schools, as well as variations in sample sources and sizes. Nursing students from UK and Australia also experience workplace violence during their clinical placements and they reported that physical bullying mostly came from patients.<sup>15,25</sup>

Nursing interns with a bachelor's degree exhibited stronger MWVC, consistent with the findings of Jin et al<sup>40</sup> and Zhang et al.<sup>41</sup> Bachelor's degree programs in nursing focus on developing well-rounded professionals through comprehensive curricula that emphasize both foundational nursing theory and practical skills in patient communication and humanistic care. This holistic approach likely contributes to enhanced workplace violence management abilities among interns.<sup>42</sup> In contrast, diploma programs tend to prioritize technical skills over communication and humanistic care, potentially limiting the development of MWVC. Therefore, it is recommended that nursing educators may adopt diverse teaching methods, such as standardized scenario-based simulations, to strengthen communication and violence prevention training for diploma-level interns.

In this study, nursing interns who had witnessed WPV incidents showed a significant increase in their awareness of the harm caused by such events and a heightened sense of prevention. This finding aligns with the results reported by Zhu et al.<sup>43</sup> Similarly, nurses and nursing students from Italy and Iran who encountered MVP manifested higher awareness but experienced negative impacts such as increased smoking, lack of sleep, and elevated stress.<sup>18,24</sup> Additionally, according to Social Cognitive Psychological Stress Theory,<sup>44</sup> interns who experience violent incidents are likely to take proactive measures to prevent future harm, such as learning prevention strategies and familiarizing themselves with escape routes and alarm systems, thereby improving their MWVC. Thus, it is recommended that nursing educators may enhance WPV prevention skills among interns through real-case discussions and sharing sessions.

The study also revealed that nursing interns who received training in WPV prevention skills were more proactive in avoiding violent incidents during their clinical practice and exhibited higher MWVC by effectively applying their knowledge to respond to WPV. These results correspond with the observations reported by Lu et al.<sup>34</sup> Multiple studies<sup>38,45</sup> have shown that interns who received training scored higher in MWVC than those who did not, indicating that systematic training, including online courses, classroom instruction, or scenario simulations, can effectively enhance nurses' understanding of violence and preventive awareness.<sup>46–48</sup> However, only 32.19% of the interns in this study had received such training. Moreover, our finding extends the 4R Crisis Management Theory, particularly the reduction dimension. This dimension allows individuals to acquire skills via diverse crises reduction techniques to minimize WPV such as recognition of violence and psychological debriefing.<sup>34,49</sup>

It is recommended that nursing schools could integrate violence management into their curricula to enrich occupational safety education, and that hospitals collaborate closely with educational institutions to emphasize practical violence management training for interns. Simulation exercises and other interactive methods should be employed to help interns gradually master and apply violence management techniques, enhancing their calmness and confidence in real WPV situations. Additionally, improving WPV incident reporting processes, organizing regular violence prevention training sessions, and using games or competitions may boost engagement can further elevate MWVC levels.

These results corroborate previous research by Wu et al<sup>28</sup> and Jiang et al,<sup>50</sup> which show that enhanced risk identification skills contribute to greater proficiency in managing workplace violence (WPV). The readiness dimension of the 4R Crisis Management Theory supports our findings. Risk assessment includes determining the early and nuance signs of WPV before it actually happens so that it can be averted, and long-term impacts will be mitigated.<sup>34,49</sup> Effective risk identification and mitigation are crucial for ensuring nursing safety in clinical practice.<sup>51</sup> A systematic review of 18 studies from different countries (eg, the US, Australia, Germany, UK) reported that managing WPV among nursing students during clinical placements should include education and training about WPV classification, understanding causes and perpetrators, and managing the consequences.<sup>23</sup>

However, interns, being new to the clinical environment, often lack the experience to analyze and solve problems, leading to the oversight of potential risks. Their limited ability to assess early signs of violence and identify high-risk individuals also makes them more susceptible to WPV incidents. Enhancing interns' risk identification skills not only helps prevent nursing errors and ensures patient safety but also reduces the occurrence of WPV. Therefore, it is recommended that nursing educators develop targeted training programs to improve patient risk identification skills. Internship hospitals should optimize their risk management systems and strengthen the role of clinical instructors in providing risk education. These measures may contribute to interns' abilities to identify risks and improve their MWVC levels.

Additionally, this study confirms that WPV is an independent predictor of professional identity (PI), in line with previous findings by Wang et al.<sup>52</sup> Prior researches have shown a positive correlation between MWVC and PI among nursing interns, with higher PI associated with better MWVC.<sup>52,53</sup> Interns with a strong sense of professional identity are more likely to actively apply their knowledge when faced with WPV incidents, reflecting on the causes and their own shortcomings, thereby enhancing their management abilities. However, WPV can diminish interns' PI, leading to negative perceptions of the nursing profession and even considerations of career change. Studies indicate that interns who experience WPV have significantly lower PI compared to those who have not, with the impact being particularly pronounced in cases of physical assault.<sup>54</sup> The negative effects of WPV not only reduce work efficiency but also increase burnout and turnover intentions, which can jeopardize the future of the nursing workforce.<sup>55</sup> Therefore, nursing educators and administrators could enhance PI as a means to indirectly improve MWVC among interns. Developing strategies for professional maturity education is essential to ensure that interns are equipped to effectively manage WPV incidents in their clinical practice.

## Limitations and Recommendations

The cross-sectional design cannot determine the study variables' causality. Although our participants were more than twice the minimum sample size, it cannot represent the entire Chinese nursing interns. Moreover, we did not collect several demographic profiles (academic year of the nursing interns, departments [eg, emergency, outpatient, clinic, operating room] they interned, and total number of nursing interns per hospital) that may affect the study variables. The self-report scales were also vulnerable to social desirability bias. Therefore, our study's findings have limited generalization. Future researchers may use experimental or longitudinal designs to establish causality. They may also include the mentioned demographic profiles to enhance the presentation of the nursing interns' characteristics. Finally, future researchers may use a qualitative investigation (eg, phenomenology, ethnography) to understand nursing students' MWVC better.

## Conclusion

To conclude, the overall level of MWVC among nursing interns is moderate. Interns with a bachelor's degree, those who have witnessed WPV incidents, and those trained in WPV prevention skills, as well as those with high patient risk identification skills and strong professional identity, demonstrate superior MWVC. These findings extend the tenets of 4R Crisis Management theory. Thus, highlighting the need for a comprehensive nursing education that integrates technical, communication, and humanistic skills. Therefore, nursing programs may incorporate violence management into their curricula and collaborate with hospitals to provide practical, scenario-based training. Additionally, enhancing professional identity is crucial, as it could positively influence MWVC and help mitigate the negative impact of WPV on career perceptions. Implementing these strategies may better equip interns to manage workplace violence and improve patient care quality.

## Abbreviations

MWVC, Management of workplace violence competence; WPV, workplace violence; PIQNS, Professional Identity Questionnaire for Nursing Students. VIF: Variance inflation factor.

## Ethics Consideration

All processes of this study follow the Declaration of Helsinki and have obtained approval by Xiangnan University Ethics Committee (Ethics Review and Approval No. 2023YXLL025). The data collected during the research is strictly confidential.

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## Disclosure

The author(s) report no conflicts of interest in this work.

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