

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Workplace violence, job satisfaction, burnout, perceived organizational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study
AUTHORS	Liu, Wenhui; Zhao, Shihong; Shi, Lei; Zhang, Zhong; Liu, Xinyan; Li, Li; Duan, Xiaojian; Li, Guoqiang; Lou, Fengge; Jia, Xiaoli; Fan, Lihua; Sun, Tao; Ni, Xin

VERSION 1 – REVIEW

REVIEWER	Dr. Leodoro J. Labrague Sultan Qaboos University, Om
REVIEW RETURNED	27-Sep-2017

GENERAL COMMENTS	<p>In general the paper is very interesting and is worth publishing. However, some points need to be clarified before publication. As much as possible avoid using first person (we, I) in sentences. In your abstract under 'methods'. You may start by introducing the samples and sampling before mentioning the different scales used. Health resources report is quiet old. I would suggest looking for recent report as physician to nurse ratio might have changed significantly.</p> <p>Your introduction should be split into introduction and review of literature.</p> <p>Page 6, line 51=include relevant literature regarding workplace violence and try to connect it with the aim of your study.</p> <p>Under methods, was a power analysis done to obtained sample size?</p> <p>Page 8, line 26= indicate cronbachs alpha of the scale from the original author if possible. The same true with other scales used. Please consider adding another section for 'nursing situation in china' perhaps after the introduction so your reader would be able to understand the context of the study and how it is important in China.</p> <p>Page 20, line 31, provide explanation as to why workplace violence in high in china considering the context and factors surrounding their workplace.</p> <p>Under level of education, please use generic name for ' junior college' as readers from other countries may not understand the term.</p> <p>Under discussion section, strengthen your implications and recommendations. You may include certain policy that is applicable in Chinese hospital to prevent workplace violence.</p> <p>I suggest using fresh references below: Olsen, E., Bjaalid, G., & Mikkelsen, A. (2017). Work climate and the mediating role of workplace bullying related to job performance, job satisfaction, and work ability: a study among hospital nurses. Journal of Advanced Nursing.</p>
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	<p>Choi, S. H., & Lee, H. (2017). Workplace violence against nurses in Korea and its impact on professional quality of life and turnover intention. <i>Journal of Nursing Management</i>.</p> <p>Lu, Y., Hu, X. M., Huang, X. L., Zhuang, X. D., Guo, P., Feng, L. F., ... & Hao, Y. T. (2017). The relationship between job satisfaction, work stress, work-family conflict, and turnover intention among physicians in Guangdong, China: a cross-sectional study. <i>BMJ open</i>, 7(5), e014894.</p> <p>Li, L., Ai, H., Gao, L., Zhou, H., Liu, X., Zhang, Z., ... & Fan, L. (2017). Moderating effects of coping on work stress and job performance for nurses in tertiary hospitals: a cross-sectional survey in China. <i>BMC health services research</i>, 17(1), 401.</p> <p>Labrague, L. J., McEnroe-Petitte, D. M., Gloe, D., Tsaras, K., Arteche, D. L., & Maldia, F. (2017). Organizational politics, nurses' stress, burnout levels, turnover intention and job satisfaction. <i>International nursing review</i>, 64(1), 109-116.</p> <p>Zhang, Y., Wu, J., Fang, Z., Zhang, Y., & Wong, F. K. Y. (2017). Newly graduated nurses' intention to leave in their first year of practice in Shanghai: A longitudinal study. <i>Nursing outlook</i>, 65(2), 202-211.</p>
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REVIEWER	Judith Arnetz, PhD, MPH, PT Professor Dept. of Family Medicine, College of Human Medicine Michigan State University, USA
REVIEW RETURNED	25-Oct-2017

GENERAL COMMENTS	<p>This cross-sectional studying examines the relationships between workplace violence, job satisfaction, burnout, perceived organizational support, and turnover intention among hospital nurses in China. The main aim of the study was to identify factors associated with turnover intention. This is an interesting and well-executed study. However, there are details missing that make the contribution of the study's findings difficult to judge. The paper's conclusions, that improved job satisfaction and organizational support could reduce nurse turnover intention, are very general and don't really capture the essence of the findings, which in my view (and according to the study's final model) centered on workplace violence.</p> <p>1. Introduction: The first paragraph of this paper is confusing. It states that the actual number of nurses per 1000 in the Chinese population has actually increased between 2010-2015, as has the ratio of physicians to nurses. This ratio is then compared to the physician-nurse ratio in other countries, where there are more nurses per physician. This of course has implications for patient care and very likely for work stress; but what is the relationship to nurse turnover intention? This is never clearly stated. On p.6, lines 19-24, one reference on turnover is made to a Chinese study in Tianjin, reporting that work support had an impact on turnover intention (that study is not referenced). Are the authors suggesting that there is a lack of studies on turnover intention among Chinese nurses?</p> <p>2. Introduction: In view of the fact that this paper cites multiple studies of workplace violence, nurse burnout, work satisfaction, and turnover intention, the rationale for this study is simply not clear. What is new with this paper? In what way is it contributing to the existing literature? The introduction needs to make a stronger case for analyzing these particular variables together. Some hypothesized</p>
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	<p>associations between these variables are needed in the introduction in order for the reader to understand the final model that is presented.</p> <p>3. Methods: It is stated that questionnaires were distributed and collected by investigators and hospital coordinators. This raises a serious red flag regarding possible coercion of study participants. The fact that all 2067 questionnaires were returned is therefore not surprising. However, 15% of them (306) were missing data or blank. It is not known whether those returning incomplete questionnaires differed in any significant way from those who completed it. At the very least, this point should be raised in the study's limitations section.</p> <p>4. Methods: What is meant by "technical title" (primary, intermediate, senior)? What is the difference between "formal" and "appointment" staff?</p> <p>5. Methods: The study utilized previously validated scales. The methods section would be improved by presentation of sample items for each of the measures for workplace violence, burnout, job satisfaction, perceived organizational support, and turnover intention for those readers not familiar with these scales. This is particularly true of the organizational support scale, which is only described in very general terms, making it difficult for the reader to understand what it measures.</p> <p>6. Methods: What is the rationale for utilizing both linear regression and structural equation modeling?</p> <p>7. Table 2: Why is Workplace Violence missing from the analysis of respondent characteristics? The footnote in Table 2 indicates that * denotes $p < .01$ and ** denotes $p < .05$. I assume that these were reversed, since they are presented correctly in tables 3 and 4.</p> <p>8. Table 3: The variables in the first column should be numbered to correspond with the headings for each of the following columns, which is usual praxis with correlation matrices.</p> <p>9. Discussion: In my view, this paper fails to really synthesize the study findings, which would entail a closer examination of the results of the regression and the SEM analyses. Table 4 reveals that workplace violence only contributed an additional 2% to the overall variance in turnover intention, for a total of 4.7% when including demographic variables. The addition of burnout and work satisfaction measures significantly increased the explained variance to 28.7%, indicating that it was those variables that had the greatest influence on turnover intent. Why were these variables added in one step, and not separately? Perceived organizational support contributed very little, less than 1%. These results are never really discussed, especially not in relation to the SEM findings on the direct and indirect effects of workplace violence. Again, what was the authors' rationale for using both linear regression and SEM?</p> <p>10. Despite a rather long reference list, I believe the authors have missed several relevant studies. One example: Heponiemi et al, The prospective effects of workplace violence on physicians' job satisfaction and turnover intentions: the buffering effect of job control. BMC Health Services Research 2014, 14:19.</p>
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	In summary, this is a well-done study that in its present form does not convince this reader of the importance, novelty, or usefulness of its findings.
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VERSION 1 – AUTHOR RESPONSE

Respond to the Reviewer's Comments :

Reviewer: 1

Institution and Country: Sultan Qaboos University, Oman

Dear Dr. Labrague,

Thank you very much for your valuable advice. Thank you again for the work that you have done for this manuscript. We revised the manuscript according to your suggestion (The traces of change are represented in blue and purple). Modify as follows :

1. Competing interests None declared.

2. Advice: As much as possible avoid using first person (we, I) in sentences.

We modified the first person in sentences. See the manuscript concretely.

3. Advice: In your abstract under 'methods'. You may start by introducing the samples and sampling before mentioning the different scales used.

We changed to "The purposive sampling method was used to collect data from August 2016 through January 2017. A total of 1761 nurses from 9 public tertiary hospitals in 4 provinces (municipalities) located in eastern (Beijing), central (Heilongjiang, Anhui), and western (Shaanxi) of China completed the questionnaires (effective response rate = 85.20%). A cross-sectional study was conducted using the Workplace Violence Scale, Chinese Maslach Burnout Inventory General Survey, Minnesota Job Satisfaction Questionnaire Revised Short Version, Perceived Organizational Support–Simplified Version Scale, and Turnover Intention Scale. "

4. Advice: Health resources report is quiet old. I would suggest looking for recent report as physician to nurse ratio might have changed significantly.

We changed to " In 2016, the total number of registered nurses in China reached 3.507 million. Compared with 2010, the number of registered nurses per 1,000 people increased from 1.52 to 2.54. The ratio of physicians to nurses in China has increased from 1:1.16 in 2010 to 1:45 in 2016, and the inverse ratio of physician and nurse was fundamentally reversed for a long time."

5. Advice:Your introduction should be split into introduction and review of literature.

Page 6, line 51=include relevant literature regarding workplace violence and try to connect it with the aim of your study.

We divided the introduction split into introduction and review of literature. We try to connect relevant literature regarding workplace violence with the aim of this study. " Workplace violence is a widely reported phenomenon among nurses in medical settings, and it influences the turnover intention of nurses. A study indicated that turnover intention was positively associated with exposure types of violence. McDowell found workplace violence to be significantly related to burnout ($r = 0.56$, $P < 0.01$) and turnover intention ($r = 0.24$, $P < 0.01$) for all direct care paraprofessionals. The previous results determined that a statistically significant relationship existed between turnover intention and workplace violence. Therefore, workplace violence is one of the influential factors in turnover intention."

6. Advice: Under methods, was a power analysis done to obtained sample size?

Yes, We estimate the total sample size by using PASS 11.0. Then we take some of the factors into consideration (the quality of the questionnaire, the difficulty of recycling). The number of effective questionnaires that are actually recovered is still higher than the estimated sample size.

The total number of nurses in 9 hospitals (9 hospitals were similar in size, department setting and number of nurses) is about 18,900; extracted a total of 2,067 samples, with these nurses accounting for 10.9% of the total nurses. On average, 225 nurses from each hospital were extracted (in the actual sampling process, the sample size of each hospital was slightly different, but all were roughly 225 people).

7. Advice: Page 8, line 26= indicate cronbachs alpha of the scale from the original author if possible. The same true with other scales used.

We added the cronbachs alpha of the scale from the original author "The Cronbach alpha of each original scale was as follows: Workplace Violence Scale was 0.873, Chinese Maslach Burnout Inventory General Survey was 0.864, Minnesota Job Satisfaction Questionnaire Revised Short Version was 0.891, Perceived Organizational Support–Simplified Version Scale was 0.921, and Turnover Intention Scale was 0.770."

8. Advice: Please consider adding another section for 'nursing situation in china' perhaps after the introduction so your reader would be able to understand the context of the study and how it is important in China.

We changed to "In China, a study from Shanghai indicated that 22.5% of nurses expressed their intention to leave the emergency department within the following year. The mean score for turnover intention of ICU nurses was between 1.95 and 2.92 in Shandong. A survey of turnover intention among 10 tertiary hospitals' nurses in Beijing showed that 16.5% of nurses may leave the current work unit in the following year. An investigation in Tianjin showed that work support had a negative influence on turnover intention. Previous results reflected a significant correlation between psychological capital, work engagement, and turnover intention among primary nurses. Substantial studies have mainly investigated the relationship among job stress, job satisfaction, job engagement, organizational support and turnover intention among Chinese nurses in one province. Therefore, the researchers selected nurses from tertiary hospitals in several provinces and further verified the relationship between workplace violence frequency and turnover intention in this study."

9. Advice: Page 20, line 31, provide explanation as to why workplace violence in high in china considering the context and factors surrounding their workplace.

We provided explanation as to why workplace violence in high in china considering the context and factors surrounding their workplace. We changed to "As far as the personal characteristics of nurses are concerned, previous studies have proved that young age, lack of life and work experience, low professional titles, low education levels and poor interpersonal relationships are the risk factors for workplace violence against Chinese nurses. In terms of organizational characteristics, high-risk departments (emergency department, orthopedics department, and pediatrics department), poor organizational climate, lack of team spirit, heavy workload, and shortage of nurses are also frequent factors of occupational violence among nurses. In China, imperfect healthcare laws and regulations, insufficient practice in dealing with medical disputes, and negative reports from the media are also an important inducing factor. Regarding aspect of patients and their relatives, high medical service expectations, long waiting times, high medical costs, unmet requirements, and poor communication between nurses and patients also lead to workplace violence. "

10. Advice: Under level of education, please use generic name for ' junior college' as readers from other countries may not understand the term.

We changed to "Below undergraduate."

11. Advice: Under discussion section, strengthen your implications and recommendations. You may include certain policy that is applicable in Chinese hospital to prevent workplace violence.

Under discussion section, we further strengthen implications and recommendations. We changed to “Therefore, we suggest that the government should supervise the media to ensure the accuracy and authenticity of media coverage. Ward management needs strengthening; for example, surveillance cameras and alarms should be installed in hospital ward corridors, lights should be sufficiently bright in work areas during the night, etc. We further advise hospitals to provide violence –related training for nurses and provide psychological support, to instruct all staff about the value of nurses, and to foster nurses’ pride in their work and develop an excellent hospital culture. These measures are conducive to reducing the occurrence of hospital workplace violence.”

“To improve the job satisfaction of nurses, it is suggested that hospital managers provide organizational support for nurses from the following three aspects: first, strengthen communication, understand the needs of nurses, and take targeted organizational support measures so that nurses can really appreciate the hospitals’ support; second, pay attention to the work of nurses, provide necessary work resources and condition support for them, pay attention to the problems faced by nurses and try their best to provide help to alleviate nurses’ emotional exhaustion and reduce the degree of depersonalization; and finally, pay attention to the welfare of nurses, implement reasonable salaries and performance incentive system, pay attention to the interests of nurses in decision-making, and at the same time, pay attention to the professional development of nurses, and provide more development platforms for nurses so that they can find their own value and personal accomplishment in the process of career development.”

“Hospitals can carry out a variety of amateur activities to reduce the work stress of nurses. The hospital can also set up a psychological decompression room, regularly conduct psychological counseling for nurses through a psychologist, and conduct emotional management well.¹⁷ In brief, the more comprehensive the support provided by the organization, the less likely the nurses are to have bad emotions. Moreover, hospitals can provide diverse emotional support for nurses who have experienced different types of workplace violence so that they feel the concern of the hospital, reduce the harm to nurses.”

12. We used some fresh references below :

18. Utriainen K, Kyngäs H. Hospital nurses’ job satisfaction: a literature review. *J Nurs Manag* 2009;17:1002-1010.
19. Maslach C, Jackson SE. The measurement of experienced burnout. *Journal of Organizational Behavior* 1981;2(2):99-113.
20. Rhoades L, Eisenberger R. Perceived organizational support: A review of the literature. *Journal of Applied Psychology* 2002;87(4):698-714.
27. Choi SH, Lee H. Workplace violence against nurses in Korea and its impact on professional quality of life and turnover intention. *J Nurs Manage* 2017;1-11.
28. Labrague LJ, McenroccEtitte DM, Gloe D, et al. Organizational politics, nurses’ stress, burnout levels, turnover intention and job satisfaction. *Int Nurs Rev* 2017;64(1):109.
30. Seo, Min S, Kim, et al. Effect of Workplace Bullying, Job Satisfaction and Self-Esteem on Turnover Intention in Clinical Nurses. *Journal of the Korean Society for Wellness* 2017;12(2):105-115.
31. Mcdowell SS. Client-Inflicted Workplace Violence, Burnout, Job Satisfaction, and Turnover Intention: A Comparative Analysis Between Institution-Based and Home-Based Direct Care Paraprofessionals. *Dissertations & Theses - Gradworks* 2015;208.
32. Olsen E, Bjaalid G, Mikkelsen A. Work climate and the mediating role of workplace bullying related to job performance, job satisfaction, and work ability: A study among hospital nurses. *J Adv Nurs* 2017.
34. Christensen MP. Relationships between workplace violence, burnout, and intent to leave in emergency department nurses. *Dissertations & Theses-Gradworks* 2014;21(21):984-90.
35. Kim JI, Kim TS. Violence episodes and turnover among clinical nurses. *Journal of Korean Academy of Nursing Administration* 2004;10(4):427-436.
44. Zhang Y, Wu J, Fang Z, et al. Newly graduated nurses’ intention to leave in their first year of practice in Shanghai: A longitudinal study. *Nurs Outlook* 2017;65(2):202-209.

45. Sun FF, Xu CP. Job stress and its relationship with quality of life and turnover intention of ICU nurses in general hospital. Shandong University 2016.
46. Lei W, Hong S, Xin G, et al. Correlation research between nurses' status of career planning and job satisfaction, turnover intention. Chin J Mod Nurs 2015;21(31):3721-3723.
47. Zhang HF, Liu YH, Yang Y, et al. The influencing factors of nurses' turnover tendency. Chinese Journal of Nursing 2015;50(2):155-160.
48. Hongmei YI, Lanxian YU, Tang J, et al. Relationship between psychological capital, work engagement and turnover intention among primary nurses in Traditional Chinese Medicine hospitals. Chinese Nursing Management 2015.
49. Li L, Ai H, Gao L, et al. Moderating effects of coping on work stress and job performance for nurses in tertiary hospitals: a cross-sectional survey in China. BMC Health Serv Res 2017; 17(1):401.
66. Lu Y, Hu XM, Huang XL, et al. The relationship between job satisfaction, work stress, work-family conflict, and turnover intention among physicians in Guangdong, China: a cross-sectional study. BMJ Open 2017;7(5):e014894.

Hope you have a nice day.

Best wishes,

Lei Shi

Department of Health Management, School of Public Health, Harbin Medical University, China

Respond to the Reviewer's Comments :

Reviewer: 2

Institution and Country: Dept. of Family Medicine, College of Human Medicine
Michigan State University, USA

Dear Prof. Arnetz,

Thank you very much for your valuable advice. Thank you again for the work that you have done for this manuscript. We revised the manuscript according to your suggestion (The traces of change are represented in red and purple). Modify as follows :

1. Competing interests None declared.

2. Advice: The first paragraph of this paper is confusing. It states that the actual number of nurses per 1000 in the Chinese population has actually increased between 2010-2015, as has the ratio of physicians to nurses. This ratio is then compared to the physician-nurse ratio in other countries, where there are more nurses per physician. This of course has implications for patient care and very likely for work stress; but what is the relationship to nurse turnover intention? This is never clearly stated. On p.6, lines 19-24, one reference on turnover is made to a Chinese study in Tianjin, reporting that work support had an impact on turnover intention (that study is not referenced). Are the authors suggesting that there is a lack of studies on turnover intention among Chinese nurses?

We changed to "(1) A nursing shortage is occurring worldwide and is arousing great concern.1 The European Commission reported that 590,000 nurses would be shortage by the end of 2020.2 In the United States, by the end of 2020, the nursing shortage will reach 340,000 nurses.....The most recognized cause of nursing shortage seems to be nurses leaves the nursing profession.6-7 Many nurses tend to leave the nursing profession, and this is regarded as a global political concern."

“(2) 47. Zhang HF, Liu YH, Yang Y, et al. The influencing factors of nurses’ turnover tendency. Chinese Journal of Nursing 2015;50(2):155-160.”

“(3) In China, a study from Shanghai indicated that 22.5% of nurses expressed their intention to leave the emergency department within the following year. The mean score for turnover intention of ICU nurses was between 1.95 and 2.92 in Shandong. A survey of turnover intention among 10 tertiary hospitals’ nurses in Beijing showed that 16.5% of nurses may leave the current work unit in the following year. An investigation in Tianjin showed that work support had a negative influence on turnover intention. Previous results reflected a significant correlation between psychological capital, work engagement, and turnover intention among primary nurses. Substantial studies have mainly investigated the relationship among job stress, job satisfaction, job engagement, organizational support and turnover intention among Chinese nurses in one province. ”

3. Advice: Introduction: In view of the fact that this paper cites multiple studies of workplace violence, nurse burnout, work satisfaction, and turnover intention, the rationale for this study is simply not clear. What is new with this paper? In what way is it contributing to the existing literature? The introduction needs to make a stronger case for analyzing these particular variables together. Some hypothesized associations between these variables are needed in the introduction in order for the reader to understand the final model that is presented.

We changed to “Substantial studies have mainly investigated the relationship among job stress, job satisfaction, job engagement, organizational support and turnover intention among Chinese nurses in one province. Therefore, the researchers selected nurses from tertiary hospitals in several provinces and further verified the relationship between workplace violence frequency and turnover intention in this study.”

“Based on the above evidence, researchers proposed the present study with the following hypotheses: (1) workplace violence, job satisfaction, burnout and organizational support had different effects on turnover intention; (2) workplace violence had a significant impact on job satisfaction and burnout; (3) organizational support served as a moderator between workplace violence and turnover intention; and (4) organizational support served as a moderator between job satisfaction and burnout.”

4. Advice: Methods: It is not known whether those returning incomplete questionnaires differed in any significant way from those who completed it. At the very least, this point should be raised in the study’s limitations section.

We added this point in the study’s limitations section. “Second, it was not known whether those returning incomplete questionnaires differed in any significant way from those who completed them.”

5. Advice: What is meant by “technical title” (primary, intermediate, senior)? What is the difference between “formal” and “appointment” staff?

We changed to “ Professional qualifications/title” and “ Formal employee, Temporary employee”

6. Advice: The study utilized previously validated scales. The methods section would be improved by presentation of sample items for each of the measures for workplace violence, burnout, job satisfaction, perceived organizational support, and turnover intention for those readers not familiar with these scales. This is particularly true of the organizational support scale, which is only described in very general terms, making it difficult for the reader to understand what it measures.

We presented of items for scale of perceived organizational support in the manuscript. The items for other scales were presented in the questionnaire(We submitted a questionnaire) .

7. Advice: Methods: What is the rationale for utilizing both linear regression and structural equation modeling?

Using linear regression analysis is mainly to predict the impact of research variables on turnover intention, and structural equation model is mainly used to explore how research variables affect turnover intention, whether it is direct or indirect influence. In the path analysis, the relationship

between each research variable can be understood more intuitively, and it is easy to understand how organizational support regulates other variables and turnover intention.

8. Advice: Table 2: Why is Workplace Violence missing from the analysis of respondent characteristics? The footnote in Table 2 indicates that * denotes $p < .01$ and ** denotes $p < .05$. I assume that these were reversed, since they are presented correctly in tables 3 and 4. We changed to “** denotes $p < 0.01$ and * denotes $p < 0.05$.”

9. Advice: Table 3: The variables in the first column should be numbered to correspond with the headings for each of the following columns, which is usual praxis with correlation matrices. We have revised the table 3 as required.

10. Advice: Why were these variables added in one step, and not separately? Perceived organizational support contributed very little, less than 1%. These results are never really discussed, especially not in relation to the SEM findings on the direct and indirect effects of workplace violence. We have revised the table 4 as required.

We changed to “The SEM results clearly stated that organizational support serves as a moderator between job satisfaction and burnout. This means that organizational support (paying attention to employees’ feelings and salary benefits) can relieve nurses’ job burnout to some extent and then improve their satisfaction with various systems and policies of the organization. As a reward for the organization, employees will also enhance their commitment and loyalty to the organization and will improve their efforts to work. To improve the job satisfaction of nurses, it is suggested that hospital managers provide organizational support for nurses from the following three aspects: first, strengthen communication, understand the needs of nurses, and take targeted organizational support measures so that nurses can really appreciate the hospitals’ support; second, pay attention to the work of nurses, provide necessary work resources and condition support for them, pay attention to the problems faced by nurses and try their best to provide help to alleviate nurses’ emotional exhaustion and reduce the degree of depersonalization; and finally, pay attention to the welfare of nurses, implement reasonable salaries and performance incentive system, pay attention to the interests of nurses in decision-making, and at the same time, pay attention to the professional development of nurses, and provide more development platforms for nurses so that they can find their own value and personal accomplishment in the process of career development.”

“In the linear regression analysis, Block 2 showed that workplace violence has a significant effect on turnover intention, which was consistent with earlier findings. Based on the SEM, the total impact of workplace violence on turnover intention was 0.53. Workplace violence is a particularly shocking event within our model. Workplace violence can provoke in nurses a sense of extreme insecurity and reduced self-value which may directly lead to turnover intention. SEM also stated clearly that perceived organizational support played a moderating role in the impact of workplace violence on turnover intention. Workplace violence not only causes physical and psychological harm to nurses but also aggravates nurses’ stress and reluctance to work, resulting in an increase in turnover intention. Hospitals can carry out a variety of amateur activities to reduce the work stress of nurses. The hospital can also set up a psychological decompression room, regularly conduct psychological counseling for nurses through a psychologist, and conduct emotional management well. In brief, the more comprehensive the support provided by the organization, the less likely the nurses are to have bad emotions. Moreover, hospitals can provide diverse emotional support for nurses who have experienced different types of workplace violence so that they feel the concern of the hospital, reduce the harm to nurses.”

11. We used some fresh references below :

6. You LM, Ke YY, Zheng J, et al. The development and issues of nursing education in China: a national data analysis. *Nurse Educ Today* 2015;35(2):310-314.

7. Janiszewski GH. The nursing shortage in the United States of America: an integrative review of the literature. *J Adv Nurs* 2003;43(4):335-350.

8. Anderson DJ, Chan E, Dresner P, et al. *Nursing and Midwifery Services Strategic Directions, 2011-2015*. World Health Organization 2010.

33. Tarja H, Anne K, Marianna V, et al. The prospective effects of workplace violence on physicians' job satisfaction and turnover intentions: the buffering effect of job control. *BMC Health Serv Res* 2014;14(1):1-8.

44. Zhang Y, Wu J, Fang Z, et al. Newly graduated nurses' intention to leave in their first year of practice in Shanghai: A longitudinal study. *Nurs Outlook* 2017;65(2):202-209.

45. Sun FF, Xu CP. Job stress and its relationship with quality of life and turnover intention of ICU nurses in general hospital. Shandong University 2016.

46. Lei W, Hong S, Xin G, et al. Correlation research between nurses' status of career planning and job satisfaction, turnover intention. *Chin J Mod Nurs* 2015;21(31):3721-3723.

47. Zhang HF, Liu YH, Yang Y, et al. The influencing factors of nurses' turnover tendency. *Chinese Journal of Nursing* 2015;50(2):155-160.

48. Hongmei YI, Lanxian YU, Tang J, et al. Relationship between psychological capital, work engagement and turnover intention among primary nurses in Traditional Chinese Medicine hospitals. *Chinese Nursing Management* 2015.

49. Li L, Ai H, Gao L, et al. Moderating effects of coping on work stress and job performance for nurses in tertiary hospitals: a cross-sectional survey in China. *BMC Health Serv Res* 2017; 17(1):401.

VERSION 2 – REVIEW

REVIEWER	Judith Arnetz Professor Department of Family Medicine College of Human Medicine Michigan State University USA
REVIEW RETURNED	19-Dec-2017

GENERAL COMMENTS	<p>The authors have been quite responsive to the reviewers' comments and this paper is much improved. Nevertheless, a few issues remain and there are still a number of ways in which the results of this paper can be further highlighted.</p> <p>1. Abstract: The Conclusions paragraph, both here and at the end of the paper (p.26), is not adequate. Conclusions should be a succinct summary of the implications of your findings. That turnover intention was along the lines of what you expected does not tell the reader anything. You suggest measures to reduce turnover intention, but this is not really what the Conclusion section should be used for.</p> <p>2. Strengths and limitations: The first point is an aim, neither a strength nor a limitation. The second point, "a variety of statistical methods," needs to be further explained. What is the benefit of using both linear regression and SEM. I posed this question twice in my first review, and the authors responded well in their response document, but did not incorporate that into the manuscript. This is where it should be explained.</p> <p>3. Introduction, pp.6-7: The authors need to make a better case as to what this paper is adding to the literature. Almost all of the relationships studied (violence, satisfaction, burnout) regarding association to turnover intention have been previously published.</p>
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	<p>Perhaps the novelty with this paper is the inclusion of organizational support and the use of both regression and SEM.</p> <p>4. Participants and sampling: It is still not clear to me who conducted the survey. On p.8, it now states that surveys were conducted face-to-face. Does that mean that they were structured interviews, or paper-and-pencil questionnaires filled out by each participant? Investigators were trained so I assume they conducted the surveys, but please clarify that it was not unit supervisors.</p> <p>5. Results: There is much more to be said regarding the results of the linear regression (p.16). The authors really fail to report the overall explained variance at each step, which is the benefit of utilizing a hierarchical method. Demographic variables alone explained less than 3% of the overall variance in turnover intention; workplace violence explained another 2%. With the addition of organizational support to the model, the explained variance jumped to nearly 18%, so it was this factor that explained most of the variance. Extrinsic satisfaction added another 3%, while depersonalization contributed nearly 9%. It is these factors – organizational support and burnout - that should be highlighted in your discussion. Furthermore, it should be noted that professional qualifications were significant in every step except in the final step, when burnout was added to the model. Employment role (a variable that is not clear to me) was significant throughout.</p> <p>6. Discussion: Synthesize your results and discuss what the linear regression and SEM together have contributed to our knowledge of turnover intention among Chinese nurses.</p>
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VERSION 2 – AUTHOR RESPONSE

Respond to the Reviewer's Comments :

Reviewer: 2

Institution and Country: Dept. of Family Medicine, College of Human Medicine
Michigan State University, USA

Dear Prof. Judith,

Thank you very much for your valuable advice. Thank you again for the work that you have done for this manuscript. We revised the manuscript according to your suggestion (The traces of change are represented in red). Modify as follows :

1. Please state any competing interests or state “ None declared”

Answer: Competing interests None declared (p27).

2. Advice: Abstract: The Conclusions paragraph, both here and at the end of the paper (p.26), is not adequate. Conclusions should be a succinct summary of the implications of your findings. That turnover intention was along the lines of what you expected does not tell the reader anything. You suggest measures to reduce turnover intention, but this is not really what the Conclusion section should be used for.

Answer: We changed to “Perceived organizational support served as a moderator between workplace violence, job satisfaction, burnout, and turnover intention, and it had a significant negative impact on turnover intention. Therefore, nursing managers should understand the importance of the organization’s support and establish a reasonable incentive system to decrease turnover intention.”

3. Advice: Strengths and limitations: The first point is an aim, neither a strength nor a limitation. The second point, “a variety of statistical methods,” needs to be further explained. What is the benefit of using both linear regression and SEM. I posed this question twice in my first review, and the authors responded well in their response document, but did not incorporate that into the manuscript. This is where it should be explained.

Answer: We deleted the first point of strengths and limitations.

We further explained “A variety of statistical methods (descriptive analysis, Pearson correlation analysis, linear regression analysis, and structural equation model) were employed to investigate the relationship between independent variables and turnover intention.”

We changed to “The benefits of using the both linear regression and structural equation model are the ability to understand the relationship between variables more clearly and intuitively and to better master the role of organizational support in the relationship between other variables and turnover intention. ”

4. Advice: Introduction, pp.6-7: The authors need to make a better case as to what this paper is adding to the literature. Almost all of the relationships studied (violence, satisfaction, burnout) regarding association to turnover intention have been previously published. Perhaps the novelty with this paper is the inclusion of organizational support and the use of both regression and SEM.

Answer: We changed to “The novelty of this study was the inclusion of organizational support and the use of both linear regression and the structural equation model.”

5. Advice: Participants and sampling: It is still not clear to me who conducted the survey. On p.8, it now states that surveys were conducted face-to-face. Does that mean that they were structured interviews, or paper-and-pencil questionnaires filled out by each participant? Investigators were trained so I assume they conducted the surveys, but please clarify that it was not unit supervisors.

Answer: We changed to “Paper-and-pencil questionnaires were filled out by each participant. Investigators (who were not unit supervisors) conducted the surveys, and they were responsible for explaining the purpose of the study and reminding participants of the matters to pay attention to in filling out the questionnaire.”

6. Advice: Results: There is much more to be said regarding the results of the linear regression (p.16). The authors really fail to report the overall explained variance at each step, which is the benefit of utilizing a hierarchical method. Demographic variables alone explained less than 3% of the overall variance in turnover intention; workplace violence explained another 2%. With the addition of organizational support to the model, the explained variance jumped to nearly 18%, so it was this factor that explained most of the variance. Extrinsic satisfaction added another 3%, while depersonalization contributed nearly 9%. It is these factors-organizational support and burnout - that should be highlighted in your discussion. Furthermore, it should be noted that professional qualifications were significant in every step except in the final step, when burnout was added to the model. Employment role (a variable that is not clear to me) was significant throughout.

Answer: We changed to “Demographic variables alone explained less than 3% of the overall variance in turnover intention. As shown in Block 2, workplace violence was positively associated with turnover intention ($\beta = 0.034$, $P < 0.001$). It explained another 2% of the overall variance in turnover intention. In Block 3, with the addition of organizational support to the model, the explained variance jumped to 13%, meaning that it was this factor that explained most of the variance. Extrinsic satisfaction added another 3%, while emotional exhaustion and depersonalization contributed nearly 9%. Furthermore, it should be noted that professional qualifications were significant in every step except in the final step, when burnout was added to the model. It was interesting that employment form was significant throughout.”

Employment role was changed to employment form. Employment form was categorized as long-term employee and temporary employee.

In the discussion, we emphasized the effect of organizational support and burnout. “Synthesizing the results of the linear regression analysis and SEM showed that perceived organizational support had a negative influence on turnover intention, that is, the higher the sense of organizational support, the lower the turnover intention. Organizational support explained 13% of the overall variance in turnover intention regarding the results of the linear regression. The results of the SEM also showed that organizational support has a direct or indirect effect on turnover intention. These results suggested that organizational support makes the greatest contribution to the model of turnover intention. ”

“ As knowledge workers, nurses generally have higher achievement motivation, because they hope to achieve and get social recognition value. When a nurse thinks that hospitals and departments must pay attention to his or her contributions and are concerned about their personal interests and occupation development, this will reduce turnover intention and will lead to a higher organizational commitment and work ability. After workplace violence has occurred, hospitals need to provide care and support to nurses as far as possible to reduce the harm of violence inflicted on them, which, in turn, is likely to increase their emotional commitment to the hospital, and reduce the possibility of leaving. ”

“Clinical nurses often undertake overloaded work, and especially young nurses who have just started work, have relatively insufficient clinical technical ability and effective communication skills. When their behavior is different from the expectations of doctors/administrators/patients, the doctor/manager’s criticism and patient’s dissatisfaction will reduce their work enthusiasm and easily lead to emotional exhaustion, and causing turnover intention. ”

7. Advice: Discussion: Synthesize your results and discuss what the linear regression and SEM together have contributed to our knowledge of turnover intention among Chinese nurses.
 Answer: We changed to “Synthesizing the results of the linear regression analysis and SEM showed that perceived organizational support had a negative influence on turnover intention, that is, the higher the sense of organizational support, the lower the turnover intention. Organizational support explained 13% of the overall variance in turnover intention regarding the results of the linear regression. The results of the SEM also showed that organizational support has a direct or indirect effect on turnover intention. These results suggested that organizational support makes the greatest contribution to the model of turnover intention.”

8. We added a reference below :
 Arnetz J, Hamblin L, Ager J, et al. Using the Hazard Risk Matrix to identify hospital workplaces at risk for violence. Apha Meeting and Exposition 2014;1276-1284.

VERSION 3 – REVIEW

REVIEWER	Judy Arnetz Department of Family Medicine Michigan State University College of Medicine USA
REVIEW RETURNED	15-Feb-2018
GENERAL COMMENTS	Comments to authors: I appreciate the efforts that the authors have made in responding to my previous comments. Despite improvements, especially in the results section, there are still sections of this manuscript that are unclear and the discussion lacks focus. Major concerns

	<p>1. Introduction: In my initial review (October 2017), I questioned the paper's first paragraph. The text on p.4, lines 13-20 still does not make sense to me. The authors report that the number of registered nurses per 1,000 people has increased since 2010. This would lead me to understand that the number of nurses in the population is increasing. The following sentence is more confusing: the ratio of physicians to nurses has also increased since 2010, "and the inverse ratio of physician and nurse was fundamentally reversed for a long time." What are the authors trying to say with these statistics? In what way are they adding to the paper? Is there a nursing shortage, or predicted nursing shortage, in China?</p> <p>2. Discussion: In my view, much of the text in this section is irrelevant and not concerned with the primary aims of the study. As clearly stated in the abstract, the objective was to assess the relationship between workplace violence, job satisfaction, burnout, organizational support, and turnover intention. Moreover, you were specifically interested in determinants of turnover intention. The entire first section of the discussion (p. 21, lines 16-55-p.22, lines 3-21) is not really related to your study aims. Your discussion should focus on (a) the relationships between your study variables, based on your initial statistical analyses and complemented by your path analyses, and (b) the significant predictors of nurse turnover. The focus should really be on organizational support, which mediated the relationships between workplace violence, burnout, and job satisfaction on turnover intention. Organizational support was clearly the most significant predictor in the regression analysis also, as mentioned in my previous review. There are large sections of text related to workplace violence (mentioned above) and efforts that might improve nurse satisfaction (pp.23-24). These may be interesting but are not based on your analyses. As suggested in my previous review, discuss how the results of the linear regression and SEM together have contributed to our knowledge of turnover intention among Chinese nurses.</p> <p>Minor concerns</p> <p>3. Abstract – conclusions: organization support served as a mediator, not a moderator</p> <p>4. Methods, p.9: move the section reporting the Cronbach's alphas to the end of the questionnaire section, or incorporate this information when presenting each scale.</p> <p>5. Table 2: Workplace violence is missing from the title to this table.</p>
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VERSION 3 – AUTHOR RESPONSE

Respond to the Reviewer's Comments :

Reviewer: 2

Institution and Country: Dept. of Family Medicine, College of Human Medicine

Michigan State University, USA

Dear Prof. Judith,

Thank you very much for your valuable advice. Thank you again for the work that you have done for this manuscript. Your advice makes me learn a lot. We revised the manuscript according to your suggestion (The traces of change are represented in blue). Modify as follows :

1. Competing interests None declared.

Major concerns

2.Introduction: We deleted “the number of registered nurses per 1,000 people has increased since 2010. This would lead me to understand that the number of nurses in the population is increasing. The ratio of physicians to nurses has also increased since 2010, and the inverse ratio of physician and nurse was fundamentally reversed for a long time.”

3.Discussion: We deleted the sections of text related to workplace violence (p. 21, lines 16-55-p.22, lines 3-21) and efforts that might improve nurse satisfaction (pp.23-24).

Then, we changed to “ According to linear regression analysis, Block 1 showed that professional qualifications and employment form are two important demographic variables that affect nurses’ turnover intention, which is different from the findings of Almalki et al.’s study. The results of single factor analysis indicated that nurses with lower–level professional qualifications had a higher turnover intention, and full–time employed nurses had a lower turnover intention than temporarily employed nurses. This may be attributed to nurses with low professional qualifications being generally in first-line clinical work, facing a heavy workload and finding it difficult to cope with the patients or their relatives. They are confronted with an imbalance between pay and return, as well as social ignorance of their role, which affects their work enthusiasm, and thereby increasing the possibility of leaving. In addition, the temporarily employed nurses’ income is unstable and these nurses do not have a strong sense of belonging to the hospital, so a turnover intention possibility is stronger.

In the linear regression analysis, Block 2 showed that workplace violence is one of the significant predictors of turnover intention, which was consistent with earlier findings. Workplace violence is a particularly shocking event within our model. Workplace violence not only causes physical and psychological harm to nurses but also aggravates nurses’ stress and reluctance to work, resulting in an increase in turnover intention. Meanwhile, workplace violence can provoke in nurses a sense of extreme insecurity and reduced self–value which may directly lead to turnover intention. The results of linear regression analysis also demonstrated that emotional exhaustion and depersonalization had a positive significant influence on turnover intention, and they explained 9% of the overall variance in turnover intention. In short, our findings showed that job burnout is positively related to turnover intention, which is similar to previous results. Clinical nurses often undertake overloaded work, and especially young nurses who have just started work, have relatively insufficient clinical technical ability and effective communication skills. When their behavior is different from the expectations of doctors/administrators/patients, the doctor/ manager’s criticism and patient’s dissatisfaction will reduce their work enthusiasm and easily lead to emotional exhaustion, and causing turnover intention. Another noteworthy result of our study was that job satisfaction was found to be negatively related to turnover intention in the SEM and Pearson correlation analysis, similar to previous results. Therefore, hospitals should pay greater attention to the working conditions and health status of nurses and increase their job satisfaction and sense of organizational belonging to reduce their turnover intention.

Organizational support explained 13% of the overall variance in turnover intention regarding the results of the linear regression, and it was the most significant predictor of turnover intention. The results of the SEM also showed that organizational support has a direct or indirect effect on turnover intention. These results suggested that organizational support makes the greatest contribution to the model of turnover intention, which were similar to previous findings. The psychological mechanism embodied in the perceived organizational support is the social exchange between employees and organizations. From the view of social exchange, the exchange consciousness of employees concerning perceived organizational support depends entirely on the level of that organizational support. The fundamental reason employees are willing to stay in an organization is that they feel the contributions of employees to the organization are equal or fair in respect of what they receive in return from the relevant organization. As knowledge workers, nurses generally have higher achievement motivation, because they hope to achieve and get social recognition value. When a nurse thinks that hospitals and departments must pay attention to his or her contributions and are concerned about their personal interests and occupation development, this will reduce turnover intention and will lead to a higher organizational commitment and work ability.

Synthesizing the results of the linear regression analysis and SEM showed that perceived organizational support played a mediating role in the relationships between workplace violence, burnout, and job satisfaction on turnover intention. This result is a flash point in our study. After workplace violence has occurred, hospitals need to provide care and support to nurses as far as possible to reduce the harm of violence inflicted on them, which, in turn, is likely to increase their emotional commitment to the hospital, and reduce the possibility of leaving. The hospital can set up a psychological decompression room, regularly conduct psychological counseling for nurses through a psychologist, and conduct emotional management well.¹⁶ Hospitals can also provide a series of organizational support to reduce effect of low job satisfaction and high burnout of nurses on the turnover intention. First, strengthen communication, understand the needs of nurses, and take targeted organizational support measures so that nurses can really appreciate the hospitals' support; second, pay attention to the work of nurses, provide necessary work resources and condition support for them, pay attention to the problems faced by nurses and try their best to provide help to alleviate nurses' emotional exhaustion and reduce the degree of depersonalization; and finally, pay attention to the welfare of nurses, implement reasonable salaries and performance incentive system, pay attention to the interests of nurses in decision-making, and at the same time, pay attention to the professional development of nurses, and provide more development platforms for nurses so that they can find their own value and personal accomplishment in the process of career development. In brief, the more comprehensive the support provided by the organization, the less likely the nurses are to have bad emotions.

In conclusion, the hospital should provide active support measures, including: giving respect, welfare support, and practical support; effectively conveying the support of upper management; ensuring a relationship of trust and support between employees and their immediate supervisors; emphasizing procedural justice in the organization; and creating a supportive organizational climate. These measures are likely to encourage nurses to stay in their present position, and improve their job satisfaction and reduce their job burnout, thus reducing their turnover rate.

The SEM results also clearly stated that organizational support serves as a mediator between job satisfaction and burnout. This means that organizational support (paying attention to nurses' feelings and salary benefits) can relieve nurses' job burnout to some extent and then improve their satisfaction with various systems and policies of the organization. As a reward for the organization, nurses will also enhance their commitment and loyalty to the organization and will improve their efforts to work. ”

Minor concerns

4. Abstract-conclusions: We changed to “Perceived organizational support served as a mediator between workplace violence, job satisfaction, burnout, and turnover intention, and it had a significant negative impact on turnover intention.”

5. Methods, We moved the section reporting the Cronbach’s alphas to the end of the questionnaire section.

6. Table 2: We added workplace violence to the title of table.2.

VERSION 4 – REVIEW

REVIEWER	Judy Arnetz Michigan State University, USA
REVIEW RETURNED	27-Mar-2018

GENERAL COMMENTS	The authors have done a very good job in revising their paper. I have no further comments.
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