Reviewer’s report

Title: The impact of nurses’ working hours on patient safety culture -A Cross National Survey among Japan, the United States, and Chinese Taiwan using Hospital Survey on Patient Safety Culture-

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Reviewer: Yvonne Pfeiffer

Reviewer’s report:

In studying the relation of nurses’ working hours with patient safety culture and its outcomes, the paper makes a contribution to the research on how safety culture is related to aspects of healthcare institutions’ management or national healthcare policy.

However, the following questions and issues came up in reading the manuscript. Generally, I advise the authors to revise their manuscript in more clearly describing the questions that guided their research.

Major compulsory revisions

1) Introduction: The basic rationale underlying the hypothesis (saying that it is interesting to investigate the relationship between patient safety culture factors and nurses’ working hours) could be elaborated more deeply. Why do the authors expect that there is a relationship? What processes do they expect to mediate this relationship?

2) The underlying rationale for doing an international comparison of HSOPS-results is not clear to me: Why are the three countries compared? How do the countries differ in their healthcare policies relating to nurses’ working hours? Did the authors expect any country-related effects relating to the impact of nurses’ working hours on patient safety culture? Or did they expect any differences in the safety culture levels between the countries?

3) The lacking development of the basic study rationale also influences the quality and discussion and conclusions sections. A) Organizing the paper around clearly presented research questions would allow the authors commenting on them in the discussion and conclusion sections in a structured and meaningful way. B) The statement of the last sentence in the discussion section (page 13) is not clear. C) It is not clear to me whether the statement on page 13 “The increased fatigue and stress caused by long working hours would lead to…” is a conclusion of the own results or whether it relies on other previously cited studies. However, the authors bring up ideas about which processes could mediate the effects of long working hours on patient safety culture. Thus, I wonder why they did not assess for example subjective stress and fatigue levels (at least for their Japanese sample, for which they gathered the data as a part of the reported study).
4) There is evidence that a high number of reported events is not necessarily a sign of a bad safety culture (see for example Edmondson, 1996). It could, in contrast, be considered a sign of a vivid and positive safety culture when the employees of a hospital report a lot of incidents. (Furthermore, the number of reported incidents does not reflect their actual rate.) As the authors use this measure in their study, they should elaborate more on this and how they interpret their results in the light of this discussion.

5) Methods: Data cleaning is mentioned multiple times, however no information is given on how this was done. The reader would like to know what criteria were used for data cleaning.

6) From the text, it is not entirely clear whether the development of the Japanese and especially the Taiwanese versions of the HSOPS were part of this study – as other preliminary studies are mentioned, I assume the authors relied on their work. However, the translation and adaptation processes are described in a way that makes the reader assume that this work is part of the presented study. The authors could also reference the studies which have done adaptation work and only report the important aspects of the adapted versions they use. (Additionally, I do not agree in considering a Cronbach’s alpha value of .46 as “acceptable”, see page 7, second paragraph).

7) Data Analyses: Giving the summated score as a dimension score (see page 9) makes the results harder to read (table 4). As the dimensions have different numbers of items, the “means” indicated in table 4 are not easily comparable.

8) Data Analyses: The development of the different working hour groups is not clear to me. How were the three groups defined? What impact does their different sample sizes across the different countries have on the data and on the interpretation of the international comparisons? The authors could comment/elaborate more on that, and potentially on the national backgrounds of why the working hours differ between the countries the way they do.

9) In order to investigate the mediating processes between working hours and safety culture, it would have been interesting to assess some more objective measures such as there are men- tioned on page 12, e.g., the nurse to patient ratio. Why did the authors not assess an indicator like that, at least in their Japanese sample?

10) Table 1: To me, it would be more interesting to see the percentages across the whole sample than reading only the percentage within a country. For example, for the bed size, I would consider it more interesting to read which percentage of the hospitals with a bed size of <300 beds is Japanese, which is Taiwanese and which is US-American compared to the whole sample. The same applies to table 2.

Minor Essential Revisions
The font size seems to change within the text body.
Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests.