

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Burnout, emotional labor, and psychological resilience among gastroenterology nurses during COVID-19: A cross-sectional study
<b>AUTHORS</b>	Lin, Huayan; Li, Zhangjie; Yan, Mengting

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Jalili, Mohammad Tehran University of Medical Sciences
<b>REVIEW RETURNED</b>	11-Jul-2022

<b>GENERAL COMMENTS</b>	<p>Thank you very much for giving me the opportunity to review this manuscript. The authors evaluated the situation of burnout, emotional labor, and psychological resilience of nurses and tried to figure out the inter-relationship between these parameters and also the effect of some socioeconomic factors on them.</p> <p>The study was a cross-sectional study with an acceptable number of participants and benefits from valid instruments to measure the study outcome variables. The authors have done a good job in presenting the method and results and have discussed their findings in comparison to previous studies.</p> <p>I have two major concerns which I would like to share with you: Firstly, the study is conducted on a very selected population, namely the nurses of the gastroenterology department in one province of China. This greatly limits the generalizability of the findings.</p> <p>Moreover, I cannot realize how specifically nurses in gastroenterology department were affected by COVID-19. Were they forced to work in other department outside the GI ward during the pandemic?</p> <p>I do not know much about the working conditions of the nurses in China, but as I understand from this study, about half of the nurses did not have college study or a bachelor degree. Is that right? Is it common in China?</p> <p>The response rate was quiet good, but still about a quarter of the participants did not respond. Do the authors think that this no reply may be a sign of burnout and hence this study might have underestimated the prevalence of burnout among the study population?</p> <p>Secondly, I would wonder to what extent the study was informed by the scientific theories in the field and more specifically, was it hypothesis driven or not. Did the investigators just collected some basic data and administered three questionnaires and then tried to find patterns and relations between their data? This is important because in the former case the data collected as well as the findings should be elaborated on in the context of the background theory and the sample size should also be collected so that the study has enough power to answer that specific question.</p>
-------------------------	--

	Although the survey was conducted during the COVID-19 pandemic and the authors focus on this in the introduction of their paper, none of the general and work related characteristics reported were not related to COVID-19
--	---

<b>REVIEWER</b>	Ebrahimi Ghassemi, Akhtar Hartwick College
-----------------	---

<b>REVIEW RETURNED</b>	24-Oct-2022
------------------------	-------------

<b>GENERAL COMMENTS</b>	<p>Major Comments N/A</p> <p>Minor Comments</p> <p>Abstract</p> <p>Authors might consider adding a clarifying statement in the abstract or introduction to clarify less experienced readers regarding “superficial play” and “deep play” associated with “emotional Labor”. The authors may consider to clearly state the research questions in the abstract or the introduction section.</p> <p>Page 4 Lines 72 &amp;73: The statement seems a little vague. The authors might consider re-wording and relate this limitation to the data collection strategy.</p> <p>Page 4 Lines 75 &amp; 76: The authors may re-word the limitations of the self-reported measures and include “social desirability” effect.</p> <p>Introduction</p> <ul style="list-style-type: none"> <li>• Page 5 Line 101: The authors may re-word or clarify “to explore their associated factors and the relationship between them” which is stated as an element of the “purpose of the study.”</li> <li>• Page 5 Line 102: The authors may consider revising or re-wording the purpose of the study regarding “to provide a basis for improving nurses’ professional identity.” How does the study results provide a basis for improving nurses’ professional identity?</li> <li>• The authors may consider adding a transitional paragraph at the end of this section.</li> </ul> <p>Methodology</p> <ul style="list-style-type: none"> <li>• The authors may consider explaining the rationale for collecting data from the gastroenterology departments or the nurses who work in the gastroenterology units.</li> <li>• Page 7 Line 140: The authors may consider stating cross-sectional correlational design</li> <li>• Page 7 Lines 144 to 147: The authors may consider re-wording the statements to convey the objectives clearly</li> <li>• Page 7 Line 147: The authors stated the concept of “Professional identity” and they may consider defining it operationally</li> <li>• Page 7 Line 151: The authors may consider using a CONSORT diagram regarding the data collection strategy or sampling and referring to the diagram</li> <li>• Page 8 Line 156: The authors may consider adding a statement to address some examples of the “special reasons” in the exclusion criteria</li> </ul>
-------------------------	--

	<p>Discussion</p> <ul style="list-style-type: none"> <li>• The authors may consider explaining the limitations of the study and the magnitude of potential biases</li> </ul>
--	--

### VERSION 1 – AUTHOR RESPONSE

Response to Reviewer #1:

We thank you for your valuable suggestions, which have proved very helpful in revising and improving our paper. According to your suggestions, we have made the following revisions to our manuscript:

Comment 1: The study is conducted on a very selected population, namely the nurses of the gastroenterology department in one province of China. This greatly limits the generalizability of the findings.

Response: Thank you for your valuable comment. Following your observation, we have added detail in the discussion to explain this limitation (page 19, lines 421-423).

Comment 2: I cannot realize how specifically nurses in gastroenterology department were affected by COVID-19. Were they forced to work in other department outside the GI ward during the pandemic?

Response: Thank you for your insightful question. Accordingly, we have added a statement in the introduction to clarify how specifically nurses in gastroenterology departments were affected by COVID-19 (page 4, lines 82-92).

Comment 3: I do not know much about the working conditions of the nurses in China, but as I understand from this study, about half of the nurses did not have college study or a bachelor degree. Is that right? Is it common in China?

Response: Thank you for highlighting this point. In response, we have added a statement in the discussion and a link to the China Health Statistics Yearbook 2020 (Chinese version): <http://www.nhc.gov.cn/mohwsbwstjxxzx/tjtjn/202112/dcd39654d66c4e6abf4d7b1389becd01.shtml> (page 16, lines 327-340).

Comment 4: The response rate was quiet good, but still about a quarter of the participants did not respond. Do the authors think that this no reply may be a sign of burnout and hence this study might have underestimated the prevalence of burnout among the study population?

Response: Thank you so much for your valuable and insightful comment. We agree with your opinion and have added relevant detail in the strengths and limitations section (page 3, lines 66-68).

Comment 5: I would wonder to what extent the study was informed by the scientific theories in the field and more specifically, was it hypothesis driven or not. Did the investigators just collected some basic data and administered three questionnaires and then tried to find patterns and relations between their data? This is important because in the former case the data collected as well as the findings should be elaborated on in the context of the background theory and the sample size should also be collected so that the study has enough power to answer that specific question.

Response: Thank you for your constructive comment. We confirm that this study was not hypothesis driven.

Comment 6: Although the survey was conducted during the COVID-19 pandemic and the authors focus on this in the introduction of their paper, none of the general and work related characteristics reported were not related to COVID-19.

Response: Thank you for your helpful comment. In response, we added further detail in the introduction, indicating that the focus in terms of the study population was not on nurses directly involved in the care of patients with COVID-19 (page 4, lines 90-92).

Response to Reviewer #2:

We appreciate your thoroughness in reviewing our paper. Your suggestions are indeed valuable and helpful for revising and improving our paper. Following your suggestions, we have made the following revisions to our manuscript:

Comment 1: Abstract: Authors might consider adding a clarifying statement in the abstract or introduction to clarify less experienced readers regarding “superficial play” and “deep play” associated with “emotional Labor”. The authors may consider to clearly state the research questions in the abstract or the introduction section.

Response: Thank you for your insightful comment. Following your suggestions, we have removed the previously unclear description (page 5, line 117). We have added a clarifying statement in the introduction to aid readers without relevant specialist knowledge regarding “surface acting” and “deep acting” associated with “emotional labor” (page 5, lines 117–126). We also apologize for inconsistencies in wording regarding the three dimensions of emotional labor. After reviewing the literature (DOI: 10.1016/j.jvb.2004.02.001), we replaced “surface play,” “deep play,” and “emotional expression requirements/requirement” with “surface acting,” “deep acting,” and “emotional expression” uniformly throughout the text and in Table 2 (page 2, lines 48– 50, 52; page 8, lines 201–202; page 15, lines 298–300; page 18, lines 386, 396; page 19, lines 412–413, 415, 433).

Comment 2: Page 4 Lines 72 &73: The statement seems a little vague. The authors might consider re-wording and relate this limitation to the data collection strategy.

Response: Thank you for your valuable comment. Following your suggestions, we have provided relevant detail in the discussion, which focuses on the limitations of cross-sectional survey data collection, the limitations of the study, and possible bias (page 19, lines 416–427).

Comment 3: Page 4 Lines 75 & 76: The authors may re-word the limitations of the self-reported measures and include “social desirability” effect.

Response: Thank you for your helpful comment. Following your suggestion, we have revised the description of the limitations of the self-reported measures and have included the “social desirability” effect (page 3, lines 63–65).

Comment 4: Introduction: Page 5 Line 101: The authors may re-word or clarify “to explore their associated factors and the relationship between them” which is stated as an element of the “purpose of the study.”

Response: Thank you for your valuable comment. Following your suggestion, we have revised the description of the purpose of the study and repositioned it in the introduction (page 6, line 148).

Comment 5: Introduction: Page 5 Line 102: The authors may consider revising or re-wording the purpose of the study regarding “to provide a basis for improving nurses’ professional identity.” How does the study results provide a basis for improving nurses’ professional identity?

Response: Thank you for your insightful comment. Following your suggestion, we have revised the description of the purpose of the study and repositioned it in the introduction (page 6, lines 149–150).

Comment 6: Introduction: The authors may consider adding a transitional paragraph at the end of this section.

Response: Thank you for your helpful comment. Following your suggestion, we have added a transitional paragraph accordingly to enhance clarity and understanding (page 6, lines 143–150).

Comment 7: Methodology: The authors may consider explaining the rationale for collecting data from the gastroenterology departments or the nurses who work in the gastroenterology units.

Response: Thank you for your helpful comment. Following your suggestion, we have added a description in the introduction to explain the rationale for collecting data from nurses who work in gastroenterology units (page 4, lines 98–101).

Comment 8: Methodology: Page 7 Line 140: The authors may consider stating cross-sectional correlational design.

Response: Thank you for your insightful comment. Following your suggestion, we have revised the description of the study design (page 7, line 158).

Comment 9: Methodology: Page 7 Lines 144 to 147: The authors may consider re-wording the statements to convey the objectives clearly.

Response: Thank you for your valuable comment. Following your suggestion, we have revised the description of the study objectives (page 7, lines 162–164).

Comment 10: Methodology: Page 7 Line 147: The authors stated the concept of “Professional identity” and they may consider defining it operationally.

Response: Thank you for your helpful comment. As the concept of “professional identity” is not defined operationally in this study, we have revised the description of the study objectives (page 7, lines 162–164).

Comment 11: Methodology: Page 7 Line 151: The authors may consider using a CONSORT diagram regarding the data collection strategy or sampling and referring to the diagram.

Response: Thank you for your valuable comment. Following your suggestion, we have added a CONSORT diagram regarding the sampling, with a caption at the end of the manuscript (page 25, line 645), with an explanation in the setting and sample (page 7, line 181).

Comment 12: Methodology: Page 8 Line 156: The authors may consider adding a statement to address some examples of the “special reasons” in the exclusion criteria.

Response: Thank you for your constructive comment. Following your suggestion, we have added a statement to address some examples of the “special reasons” in the exclusion criteria (page 7, lines 172-175).

Comment 13: Discussion: The authors may consider explaining the limitations of the study and the magnitude of potential biases.

Response: Thank you for your valuable comments. Following your suggestions, we have added a description in the discussion to explain the study's limitations and the magnitude of potential biases (page 19, lines 416–427).

In addition to the modifications mentioned above, we have made the following changes to this manuscript:

1. We have revised the word count of the main body of the manuscript (page 2, line 28) and the number of figures (page 2, line 30).
2. We removed the subsection at the end of the references (page 24, line 639).
3. We retouched the whole manuscript at Editage (<https://www.editage.cn/>).

#### **VERSION 2 – REVIEW**

<b>REVIEWER</b>	Jalili, Mohammad Tehran University of Medical Sciences
<b>REVIEW RETURNED</b>	02-Dec-2022

<b>GENERAL COMMENTS</b>	Thanks for considering the comments and suggestions.
-------------------------	--

#### **VERSION 2 – AUTHOR RESPONSE**

Response to Reviewer #1:

We thank you for your affirmation and have made revisions based on the editor's comments.

In addition to the modifications mentioned above, we have made the following changes to this manuscript:

1. We have revised the word count of the main body of the manuscript (page 2, line 28).
2. We have revised the competing interests in the manuscript (page 20, lines 471-472).
3. We have modified the formatting of the tables by removing the tabs and some of the spaces in the tables, and bolded the first row of tables 2 and 3.