Author’s response to reviews

Title: Predictors of Burnout, Work Engagement and Nurse Reported Job Outcomes and Quality of Care: a Mixed Method Study

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Author’s response to reviews:

To the editor,

We are grateful for the extensive suggestions by the reviewers for improving our article. Please find our responses to the reviewers’ comments below:

Reviewer #1:

Suggestions - Perhaps the authors’ can answer the following questions:

1) The authors’ qualifications are not clear in the manuscript.
   • Authors’ qualifications were admitted in the title page
2) The authors' refer to two previously tested models with a link in the manuscript, however this reviewer was unable to open the link to review this. This reviewer suggests including a brief overview of the previously tested models for future audiences that are unable to open the link.

- Both models were published and references were admitted in the manuscript. In order to be more clearly a short model description was added under each Table (Figure 1a and 1b).

3) The authors' briefly mention ethical considerations at the end of the article. This reviewer suggests mentioning ethical considerations earlier in the manuscript rather than at the end of the manuscript.

- We have followed journal guidelines though we have added following paragraph in the method section (heading ethical considerations): The institutional review board of each study hospital approved the qualitative study. In addition, a qualified ethics review committee (Antwerp University Hospital – University of Antwerp Belgium) approved the qualitative study.

4) Is it necessary for all 64 references need to be included?

- We have reviewed the reference and deleted some references

5) The number of articles not cross-referenced or checked included 16 out of the 64 articles referenced by the authors'.

- We have reviewed and adjusted these references.

6) Of the 64 references listed - 37 references were older than 5 years (including 2010, now that we are in 2016).

- See point 4.

7) This reviewer noticed the references are NOT in APA 6th edition, which made it difficult to research the articles.

- We adjusted the references as mentioned.
8) Reference # 7 is not in the correct reference format - Reference # 25 is not in the correct reference format - Reference # 28 is not in the correct reference format - Reference # 40 is not in the correct reference format.

• We have adjusted these references

9) Figure 1a. Model 1 - is confusing to this reviewer - perhaps the authors' can develop a model that is less confusing? Figure 1b. Model 2 - is confusing to this reviewer - perhaps the authors' can develop a model that is less confusing?

• Both models were published as mentioned in point 2, in order to be more clearly a short model description was added under each Table (Table 2).

Reviewer 2

Overall Comments:

1. In particular, the design and methods require much more explicit description. The study appears to be a mixed methods approach, but this is not explicitly stated.

• Indeed as the reviewer suggested the study was a mixed method study based on an explanatory sequential study design.

We adjusted the title of the paper: Predictors of Burnout, Work Engagement and Nurse Reported Job Outcomes and Quality of Care: a Mixed Method Study.

We adjusted the study aims: the study aims were threefold: (1) To retest and confirm two structural equation models exploring associations between practice environment and work characteristics as predictors of burnout (model 1) and engagement (model 2) as well as nurse-reported job outcome and quality of care; (2) To study staff nurses’ and nurse managers’ perceptions and experiences of staff nurses’ workload; (3) To explain and interpret the two models by using the qualitative study findings.

We added a paragraph in the methods section see point 4.
We adjusted the method section see point 10.

2. The manuscript requires strong editing for grammar and sentence structure. Many sentences are awkwardly written and the tense structure lacks consistency throughout. Please avoid the passive tense in your writing.

• The manuscript was reviewed and edited.

Introduction:

3. Please explicitly describe what your 10-year research program adds to this particular study. What specific gaps are addressed with literature to support your direction? What are key differences in theBelgian context between your work and that of other scholars?

a. As described in the introduction section our programme adapted certain insights and knowledge in the Belgian context and in addition aims to better understand associations between study variables. Each of our papers discussed study results related to international study insights (as we did in this paper). It is clear that although differences in healthcare systems and socio-economic context between (western) countries important similarities were identified. The gap we addressed is the development of evidence about associations between nurses practice environment and outcomes providing clear understanding that could support and guide the practice community. Following paragraph was added: Our research initiatives have been contributing to a clear understanding of nurses their practice environment that could support and guide the practice community. Therefore, this study based on an explanatory sequential design, was a next step in a series of studies that developed comprehensive models providing a deep understanding of various associations and impacts on studied outcome variables.

Overall Design:

As stated above, this appears to be a mixed methods study. Please explicitly describe and provide rationale for the approach. It is unclear how the quantitative and qualitative data are linked/merged for analysis. It appears to be an explanatory sequential design but this is not stated. We added following paragraph in the methods section: This mixed method study was based on an explanatory sequential study design (Creswell & Plano Clark 2011). The study started in a first phase with a quantitative approach collecting and analysing of quantitative data with the aim to retest and confirm two previous developed models. The second phase, a qualitative study, existed of collecting and analysing qualitative data based on semi-structured
interviews. Both study phases were conducted independently. Finally, in a third phase qualitative study results assisted in explaining and interpreting the findings of the two model.

4. Please also provide rationale for why nurse managers were not included in the quantitative component but then included in the qualitative phase? If this is an explanatory sequential design, it is unclear how nurse manager experiences can be used to explain the quantitative data of staff nurses. Please explain with rationale.

   • The nurse managers were interviewed about staff nurses’ perception of workload and relevant to use in this study. We added following sentence in the methods section: The purpose of the qualitative study was to investigate staff nurses’ and nurse managers’ perceptions and experiences of staff nurses’ workload.

Quantitative Component:

5. Please report the Cronbach alphas by instrument. The range reported is broad with the lowest considered unacceptable at .639 for a well-developed instrument.

   • Cronbach’s alpha coefficients were added in Table 3a & 3b.

   • We added following sentence in the manuscript and below Table 2: However, job outcomes’ Cronbach’s alpha coefficient was in our studies low. Inter-item correlations, an alternative measurement technique assessing internal consistency (Briggs and Creek, 1986), for the indicators of the job outcome dimension ranged from fair to moderate with values between .15 and .21 (Van Bogaert et al. 2013c).

6. The qualitative component is methodologically weak in its description. In the qualitative component, why are only medical surgical staff nurses purposely selected when the quantitative component included a diverse sample of nurses (OB, geriatric, ICU, OR and pediatric)? Was this sample specifically chosen because of the quantitative findings?
• The qualitative study was focused on staff nurses of medical and surgical wards assuming that medical and surgical nursing units are relatively comparable in terms of staff nurse practice environment and nurse work characteristics such as workload, we might expect similar perceptions and experiences. We adjusted following paragraph in the discussion section (limitations): However, the study was conducted with staff nurses and nurse managers of medical and surgical wards of one study hospital. Other wards and the second hospital were not involved. Future qualitative research with other wards such as obstetric, geriatric and/or intensive care units or services such as operation theatre could confirm and extent study results.

7. Please reference the descriptive phenomenology approach used and describe it in detail with appropriate citations. You refer to a “dedicated scenario”. Please cite and describe this so that it makes sense to the reader. It appears to be connected to the interview schedule, but the link is unclear. Please describe and reference the thematic analysis approach used in the qualitative component, with a more detailed description of how the data were categorized and reduced into themes.

• We adjusted following paragraph (methods section heading qualitative study: semi-structured interviews): The interviewers use a topic guide starting from the last personal experiences with perceived workload, aspects that influence perceived workload and impact of workload (see Table 1a and 1b), which encouraged interviewer and respondent to go in-depth interaction. Each participant completed a short questionnaire about demographic characteristics. All interviews were audio recorded and study investigators took notes on non-verbal communication during the interviews. The two study investigators performed a descriptive thematic analysis with themes emerging from the data during the analysis. Researchers used also their field notes and put their own ideas carefully on paper before starting the analysis (bracketing). Credibility was achieved through the independent coding by two investigators, followed by comparing and discussing the codes and developing a codebook in consensus. The whole research team reflected on the results and discussed the rearrangement under the different themes. (King & Horrocks, 2010). Data collection and analysis occurred simultaneously; the codebook was developed iteratively, with the final codes confirmed before the final analysis was completed.

8. You refer to a codebook that was “developed afterwards”. In qualitative research, data collection and analysis occur simultaneously in qualitative research; thus the codebook should be developed iteratively during the analysis, with the final codes confirmed before the final analysis is completed, not following analysis.
• Indeed, data collection and analysis occurred simultaneously; the codebook was developed iteratively, with the final codes confirmed before the final analysis was completed. We adjusted following paragraph in the methods section (heading qualitative study): Credibility and confirmability were achieved through the two investigators who independently coded the transcripts of the interviews and then developed a codebook in consensus. These codes were rearranged under different themes. Data collection and analysis occurred simultaneously; the codebook was developed iteratively, with the final codes confirmed before the final analysis was completed.

9. Please provide a detailed report of how the retested models were developed, and how specifically the qualitative findings were used to inform the rested models. This is currently unclear. A chart or table might be helpful to show the reader how the models were revised based on the quan and qual findings.

• The models were quantitative retested and confirmed (except one association) using a new study population as described in the method section. In methods section (heading model analysis using qualitative study findings) we adjusted following paragraph: We performed a new analysis of the two models by using the qualitative findings. These findings could provide a deep understanding of the various associations and impacts on studied outcomes. The use of the qualitative data might have an additional value to strengthen models.

10. Results: The qualitative data are poorly integrated in the narrative text. It appears as though they are transplanted without clear connection to the text.

• The qualitative results were reported based on the Sandelowski and Leemans’ paper “Writing Usable Qualitative Health Research Findings” (Qualitative Health Research 2012, 22(10) 1404–1413) making a clear distinction between the quotes and the text. We added following sentence in the methods section (heading qualitative study): Moreover, as Sandelowski and Leemans suggested (2012) each quote was clear separate reported in the results section.

11. Ethics – Was clearance obtained for the quantitative study? This is not explicitly stated.

• As described in the manuscript (heading ethical considerations and consent to publish) the institutional review board of each study hospital obtained clearance for the quantitative study;
qualified ethics review committee (Antwerp University Hospital – University of Antwerp Belgium) approval for the qualitative part of the study was obtained.

We thank you and the reviewers for careful reading of our article and helpful suggestions” as well as the opportunity to resubmit our work.

Yours sincerely,

The authors