Author’s response to reviews

Title: Associations between Occupational Stress, Burnout and Well-being among Manufacturing Workers: Mediating Roles of Psychological capital and Self-esteem

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Author’s response to reviews:

Dear Editors and Reviewers:

Thank you for your letter and for the reviewer’s comments concerning our manuscript entitled “Associations between Occupational Stress, Burnout and Well-being among Manufacturing Workers: Mediating Roles of Psychological capital and Self-esteem” (ID: BPSY-D-17-00203). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have studied comments carefully and have made correction which we hope meet with approval. Revised portion are marked in red in the paper. The main corrections in the paper and the responds to the reviewers’ comments are as following:

Response to the reviewer’s comments:

Damiano Girardi (Reviewer#1):

1. Response to comment: p.3, lines 73-76: The authors described the original model of burnout, although in their study they (consistently) administered the Maslach Burnout Inventory-General Survey, as they pointed out at p.7, lines 168-170, that can be used in different occupational contexts. Therefore, in my opinion, the authors could provide a short description of the MBI-GS in the introduction.

Response: We have re-written this part according to the Reviewer’s comments (p3. lines 76-80).
2. Response to comment: p.4, lines 88-90: the authors do not mention specific form of well-being considered in the present study (which is flourishing, as pointed out in the following "Materials and Methods" section). Therefore, I would provide a short description of flourishing in the introduction. Additionally, why do the authors consider flourishing and not (for example) work engagement? Indeed, work engagement is often regarded as a form of well-being (see for example Bakker & Oerlemans, 2011, Subjective well-being in organizations), which is also related to job burnout.

Response: Firstly, as Reviewer suggested that we added some instructions about well-being and flourishing in the introduction (p4, lines 93-101). Additionally, the major advantages of the FS, compared with existing measures, are its briefness and reasonable comprehension. Of course some positive outcomes such as work engagement, even life satisfaction, are also regarded as forms of well-being. Different from subjective well-being, flourishing represent a form of eudaimonic well-being which describe the optimal psychological functioning of the individuals (meaning in life, positive relationships, and self-acceptance). And studies on flourishing are still limited. So we considered to introduce flourishing (a higher level of happiness) as positive psychological outcomes to study the associations of job stress with psychological health.

3. Response to comment: p.5, lines 133-134: As far as I understand, cases with missing values were included in the following analyses. If this is the case, how did the authors address missing values?

Response: Actually in the process of investigation, our investigators used face to face survey method. So the percentage of missing data is relative small. We adopted mean substitution to address these missing values.

4. Response to comment: p.8, lines 184-197: this section is not clear, in my opinion. How many models were estimated (e.g., were ERI and overcommitment entered in the same model or in different models? What about mediators)? Were the models estimated using a macro? Results from Table 3 and 4 are from the same models?

Response: Yes, ERI and overcommitment entered in the same model. We built four models in total. The three dimensions of burnout were three models, respectively, and the forth model is well-being. The advantage of the spssmacro is that we can do multiple mediations, and control the covariates at the same time.

5. Response to comment: p.9, lines 227-233. Usually, mediation is established when the indirect effect is different from zero. Since in the present study the significance of the indirect effects was determined using bootstrapping, in my opinion the authors should first describe the results of the resampling technique (the "Mediating effects of PsyCap and self-esteem" section), and then describe the mediation, in terms of "partial" or "full" mediation. p.9, lines 239-242: the same applies to this section of the manuscript, in my opinion.
Response: We are very sorry for negligence of this part of description. Thank you for your kindly suggestions on revision. We have described these parts in the indirect effects examination. p10. lines271-276; p11. lines284-286.

6. Response to comment: 1) p.9, lines 232-233, "PsyCap and self-esteem were probably and partially mediated the relationship between ERR and professional efficacy". In my opinion, this sentence is not clear. 2) p.9, line 237-238: "PsyCap and self-efficacy were positively and significantly associated with well-being, respectively". Did the authors mean "self-esteem" (instead of self-efficacy)?

Response: Both of these problems have been corrected. We deleted the “probably” and corrected the writing mistake.

7. Response to comment: p.10, line 278-281, "Workers with high effort, such as time and energy, might tend to experience more negative emotions. When the level of extrinsic effort exceeded intrinsic reward, physical and mental health could easily lead to burnout and decrease the level of psychological well-being". Interestingly, in my opinion, the relationships between occupational stress, emotions, and job burnout could be explained in the light of the Allostatic Load model (see for example Girardi et al., 2015, The mediating role of interpersonal conflict at work in the relationship between negative affectivity and biomarkers of stress).

Response: p12. line311-313. We have read this paper and we are also interested in the field of the Allostatic Load model. Interestingly, we have looked through a lot of relevant literatures in the past year about AL model. Thank you so much. We have added this article to explain our manuscript results. Please allow me to express my sincere thanks.

8. Response to comment: p.12, line 326: the word "traits" could be misleading in my opinion, since it usually refers to stable individual characteristics, whereas the authors previously pointed out that "PsyCap refers to a positive state of mind exhibited during the growth and development of an individual and consists of four state-like psychological resources: hope, self-efficacy, optimism and resilience, all of which are measurable, developable and manageable" (p.4, lines 103-105).

Response: We used “psychological resources” instead of “traits”. p10. line395.

9. Response to comment: p.12, lines 330, "limitation" section of this manuscript. In my opinion, as a minor concern, the authors could acknowledge that some associations, such as the correlation between overcommitment and professional efficacy in Table 2 (as well as some regression coefficients in Table 3), are statistically significant - given the large sample size - but very small, for example being below the cut-off value proposed by Cohen for small correlations (see Cohen, 1992, A power primer).

Response: We have added this on the limitation section.
10. Response to comment: Table 3: I found this table quite difficult to follow (formatting problems). The same also applies to Table 2 and Table 4.

Response: We are very sorry for the difficulty reading table. We have adjusted the table layout.

Susana Llorens (Reviewer 2)

Theoretical development and hypothesis

Response to comment:

− More justification is needed about the expected relationships.

− Maybe, it will be interesting to define the main variables in the study.

− More justification is needed about why burnout is conceptualized in the introduction section according to its traditional definition (emotional exhaustion, depersonalization) but it has been measured by the MBI-GS. I think the best is to define burnout in a more synthetic approach for example following to Schaufeli and Enzmann' definition (1998).

− If the objective is to test the role of PsyCap and self-esteem among work stress, and burnout and Flourishing, please specify in the objective and in the title in order to be more precise.

− Authors should specify in more detail the hypothesis of the study, which should be based on recent theory and specifically formulated.

− Authors should be more precise in order to stress, which the specific contributions of the manuscript are. What is 'new' or innovative in your current study?

Response: Thank you for your valuable and precise suggestions to help us improving this article. We made the following modifications to the introduction section:

We added more description and justification about the expected relationships. Firstly, the definition of burnout has been replaced with Maslach and Schaufeli’s definition, which is in accordance with the MBI-GS (p3, line73-75). The revised manuscript also introduced the MBI-GS (p3, line76-80, p4, line81-83), definition of flourishing (p4, line93-101), the theoretical framework (for example, stress and coping theory), and some justification about the associations of psychological capital and self-esteem (p4-5, line106-114, line125-132). We also revised the paper title order to be more precise. If the revision is still not enough, please kindly give us your advice.

Participants, and procedure
Response to comment: More information is needed about the different organizations that participate in the study. There are significant differences on the main variables based on the different companies?

Response: Our sample enterprise includes more than one hundred factories. Every factory consists of various types of workers. That is why we choose cluster sampling method to select the samples to keep the sample equilibrium. So there are not significant differences on the main variables among different companies.

Response to comment: Please, give more information about the procedure: for example, time spends to answer the questionnaire and about the confidentiality or anonymity in the study.

Response: The study wasn’t an anonymity study during the investigative procedure. Our investigator gave the participants confidentiality statements and commitments, and distributed the written informed consents. The average questionnaire spent 10-15 minutes. We have added some instruction into the paper (p6.lines160-163.)

Measures, and Results

Response to comment: In the analyses, take care since scales are evaluated using different Likert ranges. For example, extrinsic effort and reward were tested on a 5-point scale, overcommitment was scored from 1 to 4, PsyCap from 1 to 6 and burnout from 0 to 6.

Response: Thank you for your kindly suggestions. In our original paper, all the data were standardized before analysis to avoiding the effects of different dimension (such as Likert ranges). But in the revised version, according another reviewer’s advice, data standardization is unnecessary during mediation test. So we canceled data standardization in the intermedation test part. Actually, in our experience, the results might not be affected by the different Likert ranges.

Response to comment: Authors should to think about the possibility to test for method common variance.

Response: Thank you for this important comment. It’s a pity that we neglect the possibility of common method variance during designing stage of the survey. As far as I know, common-method variance could be tested by confirmatory factor analysis (CFA) in the process of analysis. But it is a new method for me to learn how to operate. Could you give me a chance to learn and amend it if it is necessary for this paper? I’m sorry that due to the urgency of the time, I cannot improve it in this revision.

Response to comment: 1)Since authors have a large sample (MacCallum, Browne, & Sugawara, 1996) they should think about the possibility to compute SEM (instead of Hierarchical Regression Analyses) following the conditions of Baron and Kenny and the Sobel or following to procedure of MacKinnon et al. (2002). 2) Since the data are dependent that is, employees are embedded in 26 factories, authors should re-think if multilevel treatment of the data is appropriated.
Response: We must thank the expert for giving us a lot of scientific advices. These suggestions gave us a lot of inspiration. To do the mediation function test, we firstly adopted the Hierarchical Regression Analyses, and then used asymptotic and resampling strategies to verify it. There is no doubt that SEM is a more scientific method for examining mediating roles in a large sample. However, based on the relationships between multiple variables, we have less confidence that we can express it in a scientific and concise language. There were so many psychological and demographic variables have to be considered. Although we have tried several times through the method of SEM in the process of modification, we still choose the traditional method of testing to ensure the accuracy of the articles. We sincerely hope that you will give us the opportunity to publish this article. We will make these comments as references for our future research. Likewise, we will make a systematic learning about the multilevel treatment of data in future data analysis. At last, thank you very much again for spending your valuable time on my paper.

Prof. Lie Wang