

Dear Managing Board of PCI Registered Reports,

Thank you for your editorial letter dated 20/03/2022 concerning our manuscript *Stage 1 Registered Report: Stress regulation via being in nature and social support in adults - a meta-analysis*. In the current letter we addressed the concerns that reviewers raised in the second round of revisions. As we did in our previous attempt we will provide point-by-point answers to the issues expressed by reviewers. You can easily spot the changes made to the newest version of the manuscript by consulting the version with track changes, attached to this letter. We are grateful for the contribution that reviewers gave to the manuscript also in the second round of feedback and we believe that their suggestions greatly improved the quality of our meta-analysis. We hope that the third version of the manuscript will now meet the high standards for In Principle Acceptance with PCI Registered Reports.

Sincerely and on behalf of all the co-authors,

Alessandro Sparacio

Reviews

Reviewer 1: Dr. Felix Schönbrodt

Comment 1: The authors did an excellent job in addressing my points. I am very happy with the revision; just some minor comments:

Authors' Response: We thank Dr. Schönbrodt for his constructive feedback and his positive response.

Comment 2: re comment 7: "averaging over the iterations by picking a model having the median ES estimate".

--> From my reading "averaging over" is a bit misleading, as you don't really average over all estimates, but pick a single estimate lying in the middle of the distribution.

Authors' Response: We see Dr. Schönbrodt's point. We deleted the misleading part of the sentence that is now worded as follows:

"To deal with dependencies in the data and avoid arbitrariness in the selection of effects within studies, we applied a permutation-based procedure, iteratively selecting only a single focal effect size from each independent study, estimating the model in 5000 iterations, and then picking model having with a median ES estimate (where both, the interpretation and inference was based on that median model).¹"

Comment 3: re comment 24: "We will exclude each study in which participants engage in any type of physical activity other than walking. This is because in such a scenario it would be difficult to disentangle the stress-reducing effect of physical activity and that of being in nature."

¹ That is, we picked the median estimate from the parameter distribution and, with it, the corresponding model that the estimate was originating from. The goal of this procedure was to preserve the mutual consistency between the estimate, *z*-value, *CI*s, and *p*-value.

--> I still don't get it. If the control group also does the same physical activity (running), but just not in nature (but indoors), this would, in my opinion, be a great control group to disentangle the stress-reducing effect of physical activity and that of being in nature.

Authors' Response: We thank the reviewer for making this point and we agree with his reasoning. For this reasons we have reformulated our inclusion criterion as follow;

“For being in nature we included studies with participants who performed any type of physical activity as long as the same activity was performed in the same way by the corresponding control group in a non-natural setting.”

Comment 4: Re comment 1: "The originally detected effect was thus largely due to publication bias (Sparacio et al., 2022)". I'd suggest to phrase it somewhat less determined, e.g. "the analysis suggests that the originally detected effect was largely due to publication bias"

Authors' Response: We agree with Reviewer 1 that the previous wording of the sentence was misleading and we further reformulated the sentence in the way he suggested:

“However, when we applied the same publication bias techniques as we intend to apply here, we found no more evidence that self-administered mindfulness and biofeedback were successful in reducing stress. Indeed, our analyses suggest that the originally detected effect was largely due to publication bias (Sparacio et al., 2022)”

Reviewed by Siu Kit Yeung, 14 Mar 2022 07:05

Thank you very much for the revision. My review here focuses on responses to my previous review (but not responses to another reviewer). Excellent responses to my review, well done!

Authors' Response: We also thank Dr. Yeung for his positive comments and constructive feedback.

Comment 1: Just one minor issue. Now you have explained in the *response letter* what does $k = 10$ mean. That's clear. Maybe add "the *total number* of included effects" in the manuscript.

Authors' Response: We thank Reviewer 2 for making this comment. We currently are not aware of the total number of effects we might encounter for each category as we have not started the data collection yet. However, to better clarify what we meant with $k=10$, we added a footnote to the manuscript, which mirrored the answer we provided in the previous letter to the same concern:

“10 is to be considered for the total effects by type of subgroup analysis, not by category. For instance, if there are 5 studies on physical social support and 15 on verbal social support we will conduct the relative subgroup analyses, as the total number of effects is 20. However, if the total number of effects is below 10, we will not run that subgroup analysis.”

Comment 2: Regarding mailing lists, maybe great to add this ENVPSY (and maybe other environmental psychology mailing lists if you are aware) mailing list as well:

<https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=ENVPSY>

Authors' Response: We thank Reviewer 2 for the suggestion and we added “ENVPSY” as a mailing list for our meta-analysis.

Comment 3:The coding sheet is much better now.

A suggestion: Would be great to add "measure_explanation_page_no", "type of stress component_explanaton_page_no", etc. columns next to "measure", "type of stress component", "affect" (categorical columns), etc. This is to ensure the coding is accurate and to minimize risk of mistakes. There are some situations where two coders may arrive to different categorical coding.

Authors' Response: We thank Reviewer 2 for the suggestion. We have improved the coding sheet following the recommendations provided.