Recommender's and Reviewer's comments = black
Authors' comments = blue

PCI-RR Invitation to revise

Thank you for your revised Stage 1 manuscript. Both of the original reviewers have re-assessed the manuscript, and are happy with the revisions made.

However, I have a few small remaining issues that you may wish to give some consideration before we issue In Principle Acceptance for your protocol. These relate to the precise statement of hypotheses, and relation to the statistical tests proposed, which are critical features of the RR.

Dear Dr. McIntosh,

Thank you for your comments, we have addressed each below, and updated the manuscript accordingly.

Thank you for your consideration.

Best,

Grace Edwards, Mica Carroll, and Chris Baker

Recommender Comments:

1) In Methods Section IX (and elsewhere) you refer to "Expected results". It would generally be better to talk about the results that are predicted by the hypotheses that they test (as in your design table) than to talk about your personal "expectations", which seem like they could be more subjective. (*Also, roman numerals is these days a very unconventional system for numbering sub-sections – you may want to reconsider this, as you will probably be forced to change it if eventually publishing in a journal. In order to enhance comparability between the Stage 1 and Stage 2 documents, I would suggest looking at your target journal's sub-section conventions, and following these.)

According to the recommender's comment, we have updated our "Expected results" section to read as "Hypothesized results". We have also moved from roman numerals to numbering for the sub-sections in our methods section.

2) In your design table, the statement of your research questions (column 1) seems like it could do with some tightening up.

For Question 1, you ask "Does stimulation targeted at left hMT+ facilitate motion processing in the contralateral visual field only?" However, this is not exactly what your statistical comparison will test, which is whether left hMT+ facilitates motion processing in the contralateral visual field more than in the ipsilateral visual field.

For Question 2, you ask “Is hf-tRNS stimulation targeted at left hMT+ necessary to elicit the contralateral motion coherence change, or is the effect caused by the placebo effect of the application of the electrodes alone”. Technically, you cannot ask whether left hMT+ stimulation is “necessary” without testing every other conceivable stimulation site. It might be better to ask whether the facilitation of contralateral motion coherence induced by left hMT+ exceeds that of the placebo effect of the application of electrodes to that same area.”

For Question 3, a similar comment applies about the use of the word “necessary”.

Following the suggestion of the recommender, we have tightened up our research questions in the Study Design Template (Table 2, pages 19-21):

“Question 1: Does stimulation targeted at left hMT+ facilitate motion processing in the contralateral visual field more than in the ipsilateral visual field?”
“Question 2: Does the facilitation of contralateral motion coherence induced by hf-tRNS targeted at left hMT+ exceed that of the placebo effect of the application of the electrodes to the same area with no stimulation?“
“Question 3: Does the facilitation of contralateral motion coherence induced by hf-tRNS targeted at left hMT+ exceed that of stimulation targeted at the control region, the forehead?”

3) It seems to me that Questions 2 and 3 are not really separate questions but are conjoined sub-questions for one larger question, which is whether the facilitation of contralateral motion coherence induced by left hMT+ exceeds that of appropriate control conditions, which will allow you to conclude in favour of a causal role of left hMT+”. You would need both outcomes to be significant in order to conclude that the effect is caused specifically by the stimulation of left hMT+. If this is correct, then it should be indicated in some appropriate way in the design table that your conclusion will be drawn across these two results. (If I have misinterpreted the design, and this is not the intention, then you still need to indicate how the overall conclusions will be informed by the combination of outcomes across questions 2 and 3.)

Following the recommender’s suggestion, we have added the following note in the title of the Study Design Template (Table 2, pages 19-21):

“To conclude contralateral facilitation of motion coherence processing is caused specifically by hf-tRNS targeted at hMT+, all three hypotheses need to be supported.”

4)In the section on power calculation, you give the raw size of the targeted effect, and a measure of SD, but it might be useful to the reader if you were also to express the targeted effect size in terms of the standardised effect size measure (e.g. dz) that you have entered into the power calculation.

Following the recommender’s suggestion, we have added the standardized effect size measure (Cohen’s d) to both the Study Design Template (Table 2, pages 19-21) and *Appendix B: Power analyses* (pages 23-24).

As ever, you are free to reject any of these suggestions with an appropriate rationale, but it would be good to consider them before the protocol is finalised.

Best wishes,

Rob McIntosh

PCI-RR Recommender

Reviews

Reviewer 1:

I think the authors did an excellent job replying to all the issues raised in this revision stage. Therefore, I have no further comment for them.

Reviewer 2:

I am satisfied that the changes I requested have been attended to. Best of luck with the project

Sam Westwood

We thank both Reviewers for their comments and feedback.