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

Minor Revision

I have now obtained one evaluation of your Stage 2 submission from one of the reviewers who was involved at Stage 1, and I have decided that we can proceed on the basis of this review and my own reading of your manuscript.

I would like to commend you for an excellent study and an exemplary Stage 2 submission. There are only two minor issues to address: the first is a comment from the reviewer regarding consideration of limitations in the Discussion. The second is a request of my own: if you could please add a column to the right of the study design table that includes a simple description of observed outcome for each row (i.e. hypothesis confirmed or disconfirmed) -- this will be a useful addition for readers.

Once these small issues are addressed I will issue a final Stage 2 recommendation.

Chris Chambers

PCI-RR recommender

Dear Chris,

We write with a revised manuscript following your comments.

We have updated the Study Design Table to include a "Results" column where we specify that we did not confirm our hypotheses. We also updated the title of the table from "Study Design Template" to "Study Design Table".

We also edited our title to reflect our result. Our original title was "Replicating the facilitatory effects of transcranial random noise stimulation on motion processing: A registered report" and we have updated the title to: "No facilitatory effects of transcranial random noise stimulation on motion processing: A registered report".

Following the review of Dr. Westwood, we also added a section in the discussion on the number of participants we included in our study and how that may have limited our ability to detect a smaller effect size than that of the study we were replicating.

Thank you for your consideration, we look forward to hearing from you.

Best,

Grace Edwards, Ryan Ruhde, Mica Carroll, and Chris Baker

Reviewer 1:

This is a robust and well-executed replication study that provides a valuable contribution to the literature on non-invasive brain stimulation (NIBS), particularly regarding the effects of high-frequency transcranial random noise stimulation (hf-tRNS) on visual motion processing. The clarity of the experimental rationale, adherence to preregistration principles, and overall transparency of reporting are refreshing.

I am broadly satisfied with the manuscript in its current form. However, I encourage the authors to reflect more deeply on the limitations of their design in the discussion. In particular, although the sample size (n = 42) was justified based on the available evidence and preregistered criteria, it may still be underpowered to detect potentially small effect sizes typical of tRNS interventions. This limitation does not undermine the study but rather highlights the need for further large-scale replications and meta-analyses to better estimate the true effect size of hf-tRNS. Additionally, this underscores the broader challenge in the field: whether the variability in tRNS outcomes is due to small, context-dependent effects or insufficient methodological sensitivity.

Overall, this is a strong and necessary replication that raises important questions about the robustness and generalisability of previously reported effects.

I always sign my reviews,

Samuel Westwood, PhD

Thank you for your comments!

As suggested, we have added a section in our discussion where we outline that our sample may not have been large enough to detect a smaller effect size than demonstrated in the paper we aimed to replicate, Ghin et al., (2018).