

## Reviewer 1

Thank you for submitting the Stage 2 manuscript of your Registered Report. While there were some deviations from the original protocol, I do not consider these to be major concerns. However, I would like to suggest two additional analyses to potentially strengthen the manuscript:

**RESPONSE: We would like to thank the reviewer once more for their thoughtful comments on our manuscript.**

1. Given that the current results appear inconclusive, I suggest calculating Bayes factors for the main analyses. This would provide a more nuanced understanding of the evidence for the hypotheses under investigation.

**RESPONSE: We agree that calculating Bayes factors can add to the understanding of our findings. We decided to refer to this analysis as a non-preregistered *robustness check* alongside the preregistered equivalence tests. We summarize the results on P. 32 but present the full results in the supplemental materials to clearly separate them from the preregistered analyses. In contrast to the preregistered (frequentist) equivalence tests, Bayes factors indicated that the for the most part provided at least strong evidence for practical equivalence. We have rewritten the discussion to give a full overview of the exploratory findings on P. 35.**

2. As I understand that your database contains a larger sample, I propose conducting a replication analysis using an additional 800 participants from your existing dataset. This would enhance the robustness and generalizability of your findings.

**RESPONSE: We agree that this would be an informative extension. Unfortunately, it is not possible to draw an additional sample. The 800 participants included in this study are the only participants in the sample who have completed the WM tasks. It concerns an external panel in which we have no direct involvement other than the isolated study reported in this manuscript.**

Please note that you are not obligated to conduct all of these analyses. I encourage you to use your discretion and perform only those analyses that you deem necessary and beneficial to your study. Your expertise in the subject matter will guide you in determining which of these suggestions, if any, would most effectively bolster your research.

These supplementary analyses, if undertaken, would significantly contribute to the comprehensiveness and reliability of your study. I look forward to reviewing the revised manuscript and the rationale behind any additional analyses you choose to include.

## Reviewer 2

The authors have thoroughly addressed the comments from the reviewers. I appreciate the extra detail in the methods and data analysis.

**RESPONSE: We would like to thank the reviewer once more for their thoughtful comments on our manuscript.**

I think the discussion is very balanced, especially given the lack of evidence in line with hypotheses. My only comment here is that the conclusion would benefit with a sentence repeating the main findings.

**RESPONSE: The conclusion paragraph now includes a sentence repeating the main findings (P. 39 L. 13-14):**

“Here, our psychometric investigation of WM yielded inconclusive associations with adverse experiences in adulthood. Building on this work will ultimately lead to a better understanding of the unique abilities that develop in contexts of adversity, as well as more precise intervention targets.”

I just have one concern, and a minor point:

1. I still think the terms lowered, intact, and enhanced are problematic. In their response, the authors point out that using language such as predicted would imply causality as is not appropriate in this case, but this is the same point about the lowered, intact and enhanced terminology. “Lowered” implies that adversity caused WM to be lower: but this cannot be determined from a statistically significant negative association between adversity and working memory. I do not want to be pedantic, but I think this language point is important because “lowered” implies an experimental manipulation that *led to* lower WM or that the study tested how adversity lowered WM, but the negative association doesn’t confirm this. I recommended changing the terminology to “lower” and “higher” WM, and “middle” or “average” or something similar for the “intact” group. I’m open to a rebuttal here but I do think this could be something easily misinterpreted by the reader.

**RESPONSE: In line with the reviewer’s suggestion, we have changed lowered to lower and enhanced to higher throughout the manuscript. Instead of *intact* performance, we opted for *practically equivalent* performance to stay close to the language of equivalence testing. We made these changes in all places where it relates to our (hypothesized) empirical findings.**

**As a result of these changes, and to more directly reflect the main findings in the paper, we have also decided to change the title of the manuscript to “*Inconclusive evidence for associations between adverse experiences in adulthood and working memory performance*” (previous title: “*Working memory performance in adverse environments: Enhanced, impaired, or intact?*”).**

2. Table 2 is a helpful addition but it is not clear what is in the “Statistic” column, especially with reference to education, are they percentages? Are the threat etc. rows mean or sum? Please add this info.

**RESPONSE: We have updated Table 1 (which includes the ‘Statistic’ column) to make clear that education levels reflect percentages, and that we present the mean number of waves available for each measure of adversity (P. 16).**