

1 Re-analysing the data from Moffatt et al. (2020): A textbook illustration of the fallacy of
2 the null hypothesis

3 Ladislav Nalborczyk¹

4 ¹ Univ. Grenoble Alpes, CNRS, Grenoble INP, GIPSA-lab, 38000 Grenoble, France

5 Author Note

6 Correspondence concerning this article should be addressed to Ladislav Nalborczyk,
7 GIPSA-lab, CNRS, Univ. Grenoble Alpes, 11 Rue des Mathématiques, 38400
8 Saint-Martin-d'Hères, France. E-mail: ladislav.nalborczyk@gipsa-lab.fr

Abstract

Moffatt et al. (2020) reported the results of an experiment ($N = 26$ in the final sample) comparing the facial (surface) electromyographic correlates of induced rumination and distraction, following a stressful event. Based on the observation... We show ou this conclusion seems at best hasty... Indeed, concluding on the null, relation between self-reports and physiological measures... Although the question Moffatt et al. (2020) pursued if of interest, and meholds... it is unclear whether this contribution really adds to the current knowledge... Complete source code, reproducible analyses, and figures are available at https://github.com/lhalboczyk/inner_experience_EMG.

Keywords: NHST, Bayesian, fallacy, reanalysis, inner speech, rumination, electromyography

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21 the null hypothesis

22 Wordcount (excluding abstract, references, tables, and figures): 107

Introduction

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Some thoughts on the data

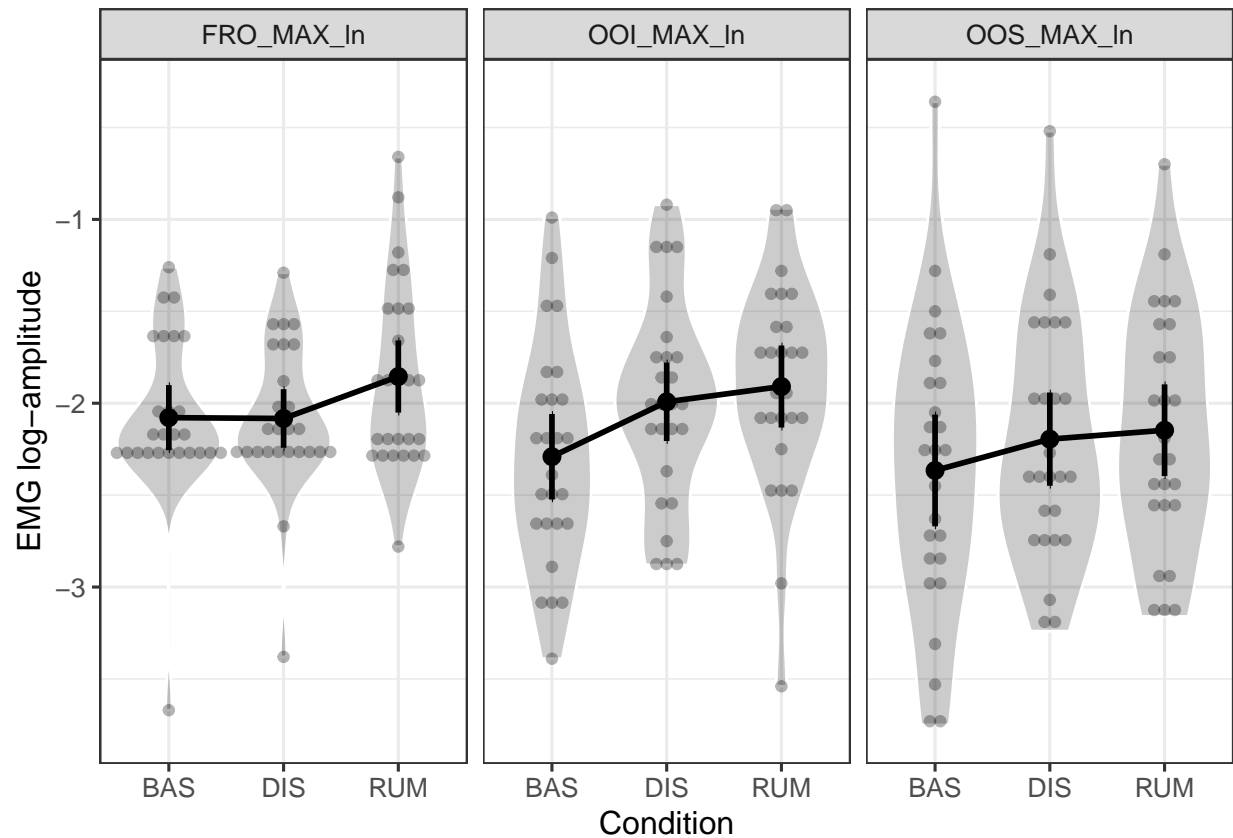


Figure 1. General plot (N = 26)...

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Concluding on the null from low-powered studies

<https://theethicalskeptic.com/2015/08/17/the-four-types-of-null-hypothesis-fallacy/>...

Unfortunately, the same line of reasoning applies for testing the effect of the order,
 which is even less powered than the test of the main effect of interest, rendering it
 practically uninformative...

Does everyone?

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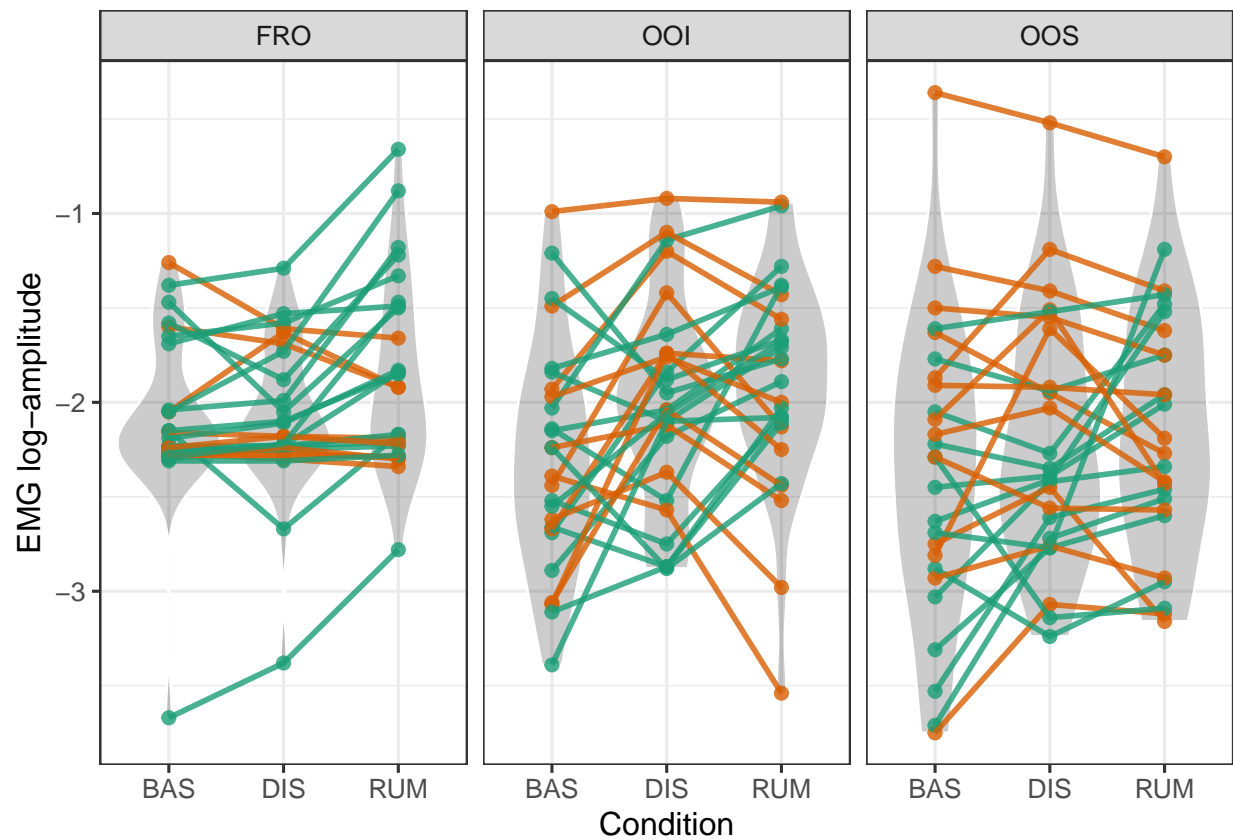


Figure 2. General plot (mean and 95% CI)... showing the inter-individual variability...

Huge inter-individual variability... which leads to the next point, what is the relation
 between self-reports and EMG?

Relation between self-report and EMG correlates

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Discussion and conclusions

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Supplementary materials

Reproducible code and figures are available at
https://github.com/lnalborczyk/inner_experience_EMG.

Acknowledgements

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