

Cover Letter

21 May, 2021

To the Editor:

Please find attached the paper titled “The importance of reproducibility in COVID-19 research: the case of population density and the spread of the pandemic”. The paper illustrates the importance of reproducibility in research in the particular context of COVID-19. It takes a recent paper from the literature (Sy et al., 2021, published in PLoS ONE) and demonstrates how openly sharing data and code can accelerate research.

This paper makes the following contributions to the literature:

1. It reviews the emerging literature on the relationship between population density and the spread of COVID-19.
2. It shows that reproducibility in this literature remains an elusive goal.
3. It reanalyzes the data of Sy et al., and demonstrates that a different technical approach can lead to substantially different conclusions from those reached by the original analysis of Sy et al.
4. The reanalysis and reappraisal of the conclusions in a matter of weeks demonstrates the importance of reproducible research.
5. Finally, the paper provides an example of a reproducible research project, with extensively documented workflows, from raw data processing, to modelling, and post-modelling outputs. The source document is an R Markdown file, a self-contained document with the text and *all* the analysis. These materials are publicly available in a repository, as indicated in the paper.

I trust that you will find that the paper is technically correct, and suitable for publication.

Sincerely,

Antonio Paez