Review of: "Identifying Psychological Distress Patterns during the COVID-19 Pandemic using an Intersectional Lens"

Michela Borghesi[1]

1 University of Ferrara

Potential competing interests: No potential competing interests to declare.

The paper deals with the psychological distress due to the COVID-19 pandemic by examining the influences of social variables on it. The method faces conditional inference trees and random forests. The results show that age, gender, socioeconomic status, community attachment, and race and ethnicity most influenced distress in March and April 2020.

First of all, I would like to congratulate the authors for this peculiar and current research. In my opinion, the manuscript is quite interesting and has some value. In order to assess the psychological distress suffered by various intersecting social identities during the COVID-19 pandemic, this study used nationally representative data and applied conditional inference trees and random forests as analytical tools.

I would just like to make a few observations and suggestions for the authors to contemplate:

1. Please look at the following sentence in the subsection called*Intersectionality*, it appears there is a missing reference at the end: “Instead of race, it is racism that shapes mental health (Williams, Lawrence, and Davis 2019) and both gender and race intersect to create intricate differences in experiences and health **()**.”
2. It is not very clear what is the motivation for the analysis used. The authors provide a good overview of the process involved in and benefits from analyzing data using conditional information trees and random forests. But at the same time, it is not so clear why it was necessary to analyze these data using such methods rather than the traditional linear regression models. Emphasizing this point, I would like to mention a paper published in *Mathematics* by my co-author and myself, which concerns the mental health effects of the Covid-19 lockdown [Bonnini, S., Borghesi, M. (2022). Relationship between Mental Health and Socio-Economic, Demographic and Environmental Factors in the COVID-19 Lockdown Period-A Multivariate Regression Analysis. *Mathematics*, 10(18), 3237]. In this work, a multivariate regression with the application of combined permutation tests on the significance of the coefficients was carried out. This method is non-parametric, hence it is appropriate even when model assumptions for traditional parametric statistical approaches are violated.
3. The last point concerns missing data mentioned in the*Sample and Data* subsection. How large was the sample before omitting them? Why weren’t performed imputation techniques for missing data?

Finally, I would thank you for the opportunity to review and comment on this research and I think addressing the above-mentioned aspects can strengthen this important investigation.