

Haben Michael
Department of Mathematics & Statistics
University of Massachusetts
710 N. Pleasant St.
Amherst, MA 01003

March 31, 2023

Editorial Board, *Journal of Statistical Planning and Inference*

Dear Editors,

Please find enclosed a copy of our manuscript, “The Population and Personalized AUCs,” which we submit for consideration for publication in the *Journal of Multivariate Analysis*. The manuscript describes ways of extending the area under the curve, a popular measure of discrimination, to accommodate clustered, possibly paired data. The need for such an extension arises frequently, including in the authors’ previous work with medical professionals, yet to our knowledge statistical models and parameters have not been carefully described. We describe two population parameters that may produce substantially different inferences and conclusions. A careful consideration of the assumptions and goals of analyzing clustered data is therefore necessary, rather than the more ad hoc procedures currently in employ.

We are re-submitting this manuscript (JSPI-D-23-00108) in response to suggestions from the executive editors:

1. *Your paper in its present form cannot be assigned to an Associate editor. To start with, you need to define AUC in the title and the abstract since this abbreviation may not be familiar to the journal readership.* We agree that, coming from a biostatistics readership where the abbreviation shows up in many article titles, we may have overlooked its opacity. We have written out the abbreviation and given a brief description of the comment in the abstract. An alternative that may be more familiar to JSPI’s readership would be to use “Mann-Whitney statistic” rather than “AUC”, though we believe the latter is currently much more popular in biostatistics and data science.
2. *Second, the references on the subject are very limited. You need to add references and to carry out an exhaustive literature review.* We agree with this suggestion and have added a literature review. Our references have more than doubled. We have also included the 3 references cited in the data analysis.
3. *Finally, when you submit the new version of the paper, make sure that the body of the paper precedes the appendix. After these revisions are done, your paper will be re-evaluated.* We believe this must be a quirk of the uploading system. We will check the proofs to make sure parts have been ordered correctly.

Sincerely,

Haben Michael