Review of: "Artifact Subspace Reconstruction (ASR) for electroencephalography artifact removal must be optimized for each unique dataset"

Christopher Harvey[1]

1 University of Kansas

Potential competing interests: The author(s) declared that no potential competing interests exist.

Purpose/Abstract:

The purpose is clear and justified well. The abstract is succinct and well put together. The abstract needs a more concrete end. "This is the first study to systematically analyze ASR's effectiveness in rPDC-based functional connectivity research." This line isn't needed at the end of the abstract. Either remove it or move it toward the middle of the abstract.

Content:

The need for this study is well thought out. I think the experiments were well designed and communicated well. The results, tables, and graphs are well made and provide clarity to the reader.

Language:

The overall use of grammar and language is well done. Some revision is necessary to correct grammar mistakes. An example would be "nor it is not possible" in the 5th paragraph. Or the repeated phrase "the lower the lower" in the last paragraph of your introduction.

Suggestions:

I believe it would be better to conduct this survey with more data and data variance. Giving more general and more difficult examples would allow for a more accurate measure of what level of ASR is needed. This could also include increasing the variance of the age of participants. 19-29 is a relatively small sample size. Including older brains would allow the conclusions of this paper to apply more generally.

You may also consider using artifact removal techniques that do not use ICA. If ICA diminishes or alters the underlying EEG signal, than another method should be developed to effectively filter EEG signal data.