

Review of: "A mobile app for dyslexia biomarker detection in children at home or at school: Feasibility, Acceptability, Economic impact, Pilot Study and Survey Results"

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Potential competing interests: No potential competing interests to declare.

First of all, before I begin to review this article, I would like to congratulate all the authors for coming up with the idea of promoting biomarker detection for dyslexia. It's rarely been done, so well done!

However, as I go through this article, there are many lacking that I suggest should be revised.

Typos and grammar should be revised.

-I am quite confused on the link between the title, introduction, method & discussion. There seems to be incoherence between all the components.

My suggestion in general is:

- For the introduction, please briefly explain the prevalence of dyslexia in Turkey & the challenges to get early age diagnosis. Then, please include current studies that suggest that an early diagnosis is crucial for their learning development. Add current available technologies/studies in effort to detect dyslexia early age. Then, by doing so, a gap of study can be clearly seen by the readers. From there, you can highlight due to the 'gap', which is why this current study was performed.
- Disconnection hypothesis is not an evidence based. Please update the citation to the latest one.
- There is a lack of the latest/updated studies being cited in this article in the introduction and discussion. Please add a brief definition of ANN, fuzzy logic. Some abbreviations have no full term, such as SVM, SVM-RFE. Not all readers can follow the meaning of each abbreviation.
- "Visiting a psychiatrist could be a horrifying experience for a 7-year-old child, as dyslexia is not classified as a mental disease; instead, it is solved with rehabilitation and special education after the diagnosis" is a very strong statement which I suggest you rephrase/edit to make it more suitable for a scientific article.
- To make readers can follow the idea of gap in accuracy of this current study & previous studies (referring to Al-Barhamtoshy and Motaweh (2017); Frid and Breznitz (2018); (Chimeno et al.,2014), you can make a table of these and at the end mentioned that from this study we 'e wanted to see if we could accurately diagnose dyslexia using z-scored QEEG recordings from 14-channel band power data (greater than 95 percent)' β- I quoted this from your sentences (2nd last introduction para).
- You also need to mention that the Auto Train Brain is an app that based on the utilization of the z scores calculation of

qEEG recordings from 14 channels. The neurofeedback definition should be clearly defined in introduction, as this app is considered as neurofeedback that use bio feedback from the subject's brain. I noticed that neurofeedback term was only used in method section, without any explanation in the introduction.

- The end of introduction need to state the aim of this study.

Methods & discussion

- How come the number of subjects became 96 children when only 70 males & 20 females involved? Please kindly check.
- I suggest a research flow diagram could help readers to visually see the process of data collection.
- Figure 4 is nice but the face of subject should be blurred out & the figure of screen interface of the app should be put as well.
- For discussion: Please cite current & latest studies, especially when referring to the link between Broca's & wernicke's area. Please do cite more papers on fMRI & connectivity of dyslexic brains.
- Is mHealth is the name for the auto train brain? If yes, then should be mentioned in introduction & method section as well.

This article has the potential to be published in a good journal, but it needs to be revised with consultation from other authors as well. I sincerely wish you the best for the future publication. Thank you.