

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"

Jingjing Zhao¹

¹ Shaanxi Normal University

Potential competing interests: No potential competing interests to declare.

This paper presented a novel mobile app that has an embedded dyslexia biomarker based on Z-score QEEG data that had accomplished a high accuracy rate in diagnosing dyslexia. The creativity and novelty of this study is very high, and it is an interesting topic to use mobile app to diagnose dyslexia. If the mobile App can be used in real life in the future, it will be a thing meaningful. However, there are some question should be considered in the revision.

1. Many small details of this article need to be revised. For example, it is better to give the full name of the abbreviations when it appears in the article for the first time, such as DSM-V, QEEG, rather than using the full name or abbreviation arbitrarily. Furthermore, the first line of the paragraph should be two blank spaces.
2. List research questions is a good job in the introduction, but the statement of "H0" and "H1" is somewhat redundant. Moreover, "H0" and "H1" should be the terms used in hypothesis testing. If it is only the percentage of problem investigation, it is not appropriate to use "H0" and "H1". And I think these questions not be called research questions but investigation questions.
3. Similarly, in the introduction, the author has used the phrase "best accuracy" for many times. Is the author sure that the articles you cited are "best accuracy"? This statement is too strong to reliable.
4. The purpose of this article was to diagnose children aged 3 to 7 years, but the age of the participants was 7-10 years old, while the data collected by Auto Train Brain was 4-80 years old. The inconsistency of group age leads to the loss of credibility of the results. It would be better if author could revise this problem, or make a explain about this problem.
5. Too little has been said about the Auto Train Brain. Is it a mature app? If it's a mature software, who developed it for what? Which groups of people mainly use it on what occasions? These issues should be clarified.
6. The participants in the experimental group used Auto Train Brain at home, so did the participants collect EEG data at home by themselves? In addition, how many days did the participants use Auto train Brain at home? Each participant has 60 sessions, so are these 60 sessions collected once or multiple times? How did the control group collect EEG data? Did they also collect EEG data at home using Auto Train Brain by themselves? Or how to collect it? If the EEG data is collected by the participants themselves, how to ensure that the data is effective and correct, and how to deal with the differences between the participants?
7. "41 people participated in the survey. These are middle-aged parents (35- 45 years old, 60% female, 40% male)", "60% females" are 24.6 females, do the author think this is reasonable?

8. In figure 1, there were 8301 samples, these data from where, it need to be noted clearly. If they are the 12,420 sessions, it should indicated where the other sessions that were not included have gone?
9. The location of pictures should be adjusted, some pages has a lot of blank space, which looks terrible. The color of figures and tables should be avoided as much as possible.