Review of: "Parents' mHealth App for promoting 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.

This work claims that the findings indicate that characteristic patterns of artificial neural networks within the reading network predict the severity of reading difficulty in children diagnosed with developmental reading disorders, and thus establish a relationship between reading difficulty and the manner in which information is transferred through the network of brain areas involved in reading. Moreover, these relationships varied by presentation modality, suggesting that a child's ability to modulate network processing dynamics in response to different task-modality demands may be an important factor in reading skills.

Complementing conventional contrast-based analyses, these artificial network analyses of reading provide important additional insight into the processing dynamics that may underlie reading difficulty.

The work needs some additional information:

A brief description of the artificial neural network (ANN), K-means, fuzzy logic classifiers, and support vector machine algorithm (SVM, not only mentioned abbreviations) in the introduction or in the methods could be useful to understand the basic idea of their application for diagnostics of dyslexia.

The Auto Train Brain apps, the test of integrated language and literacy skills (TILLS test), and the DSM-V dyslexia criteria should be described in detail for each experimental group (children in kindergarten aged 3-7, children at schools aged 7-8, aged 8-9) and their corresponded controls in methods or an appendix.

The sentence needs to be clarified: "The participant uses Auto Train Brain software as a neurofeedback device".

The training procedure (at rest or a task) and the EMOTIV APP mobile applications need to be described in the methods, as well as the 70 features in the dataset with information of a person whether the patient is dyslexic or not. How was the most appropriate multi-sensory learning method offered during the training session?

The Statistical Analysis section only listed terms such as the Python/Google Collab, Sci-kit Learn, TensorFlow Machine Learning libraries, K-Folding, Cross-validation, confusion matrix generator functions from Machine Learning libraries, Machine Learning model architecture for the statistical and data analysis. Their applications need to be described in separate subsections. The Model Architecture and TFLITE model in the results should be explained in the methods.

What did children observe during multisensory training sessions and how did the paradigm change in the rehabilitation process if the diagnosis of dyslexia was made with 2-min resting state QEEG data collected by Auto Train Brain?