

Review of: "Deep Learning Modeling for Prediction of Cognitive Task Related Features from Resting-state fMRI Data"

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Potential competing interests: No potential competing interests to declare.

In this work, the authors modified the cGCN developed by Wang et al.(2021) for ASD classification into a regression model and used rs-fMRI data to predict the scores on the offline Kohs block-design test. A regression model was constructed using a deep learning model called cGCN-LSTM. The results showed that the model in this study was more accurate than the baseline LASSO regression model, and the model could predict the scores of the offline Kohs block-design test using only the rs-FC data of 695 healthy subjects. I have some questions as listed below.

1. In the introduction part, the authors mentioned the challenges of predicting a participant's test scores with respect to task-related cognitive functions or score regression. Can you give examples of challenges through specific data or research? In addition, the authors modified the method developed by Wang et al. 2021, but didn't make it clear at the outset why it was necessary.
2. In the "2.1 Participants", what was the screening method for all subjects? What were the exclusion and inclusion criteria? The information on demographic and clinical characteristics is a bit vague. Also, it is suggested that the authors could have presented the basic information about the participants in a table format, which would have been easier to read.
3. In the result part, did the authors demonstrate the accuracy of the model only by the magnitude of the correlation coefficient, are there other methods to further validate the conclusions?
4. Figure 2 is just too blurry, suggest improving the quality of the image.
5. The authors are advised to refine the logic of the article writing. for example, in the "2.4.2 LASSO regression", the phrase "Li et al.,2020also reported that changes in the FCS in the left precuneus are associated with age - related cognitive decline." seems to appear a bit abruptly here.