

# Review of: "Prediction and Analysis of Structural Brain Health Indicators Using Deep Learning Models with Functional Brain Images as Input"

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Potential competing interests: No potential competing interests to declare.

This study has merit and novelty in the aspect that it aims to combine structural and functional neuroimaging data using deep learning methods. The study also tries to determine the relationship between brain health function and neuroimaging data. The manuscript is well written, however there are a few points of concern, namely:

1. How can the title be proposed as prediction and analysis of structural brain health indicators, when the study has no access to the full health information of the subjects, apart from only knowing the age and gender of the subjects?  
There is an overstatement and there are bound to be outliers based on the range of neurocognitive function of the subjects.
2. Nemoto et al, 2017 have proposed the structural GHQ, and found GM volume to be a reliable predictor of brain health based on the correlation with other physiological, psychological and sociodemographic indices. They also analysed functional data in the form of DTI data and proposed the FA-BHQ. In this study, the resting state data may only show transient variations in the FC of the brain, thus may not be a very reliable stand-alone parameter for BHQ.
3. The use of the term rs-fMRI should not be confused and made synonymous with FC.
4. Please clarify how the graph neural networks were utilized in performing the regression models.
5. Please explain what the significance of the results in table 2.