

Machine Learning for Prediction of Cognitive Health in Adults Using Sociodemographic, Neighbourhood Environmental, and Lifestyle Factors

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Introduction

- ❖ Sociodemographics, physical and social features of the neighbourhood environment, and lifestyle behaviours can shape the trajectory of cognitive health in older adults.
- ❖ However, there is a gap in our understanding of the models and factors that are suitable for predicting specific domains of cognitive function in middle-aged and older adults.
- ❖ This study aimed to address this gap by comparing the performance of different machine learning models using sociodemographic, neighbourhood environmental, and lifestyle factors to predict processing speed and memory.

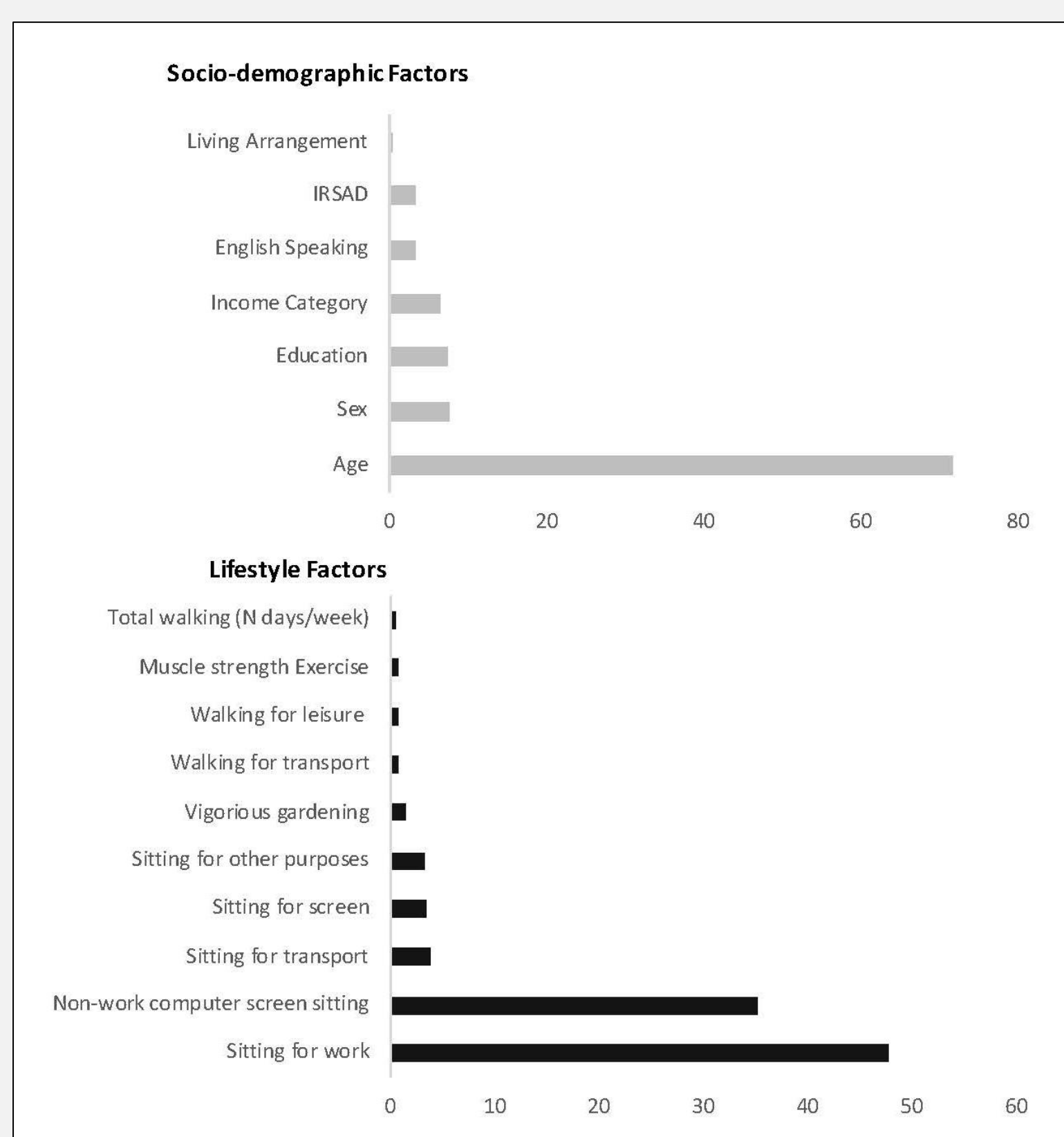
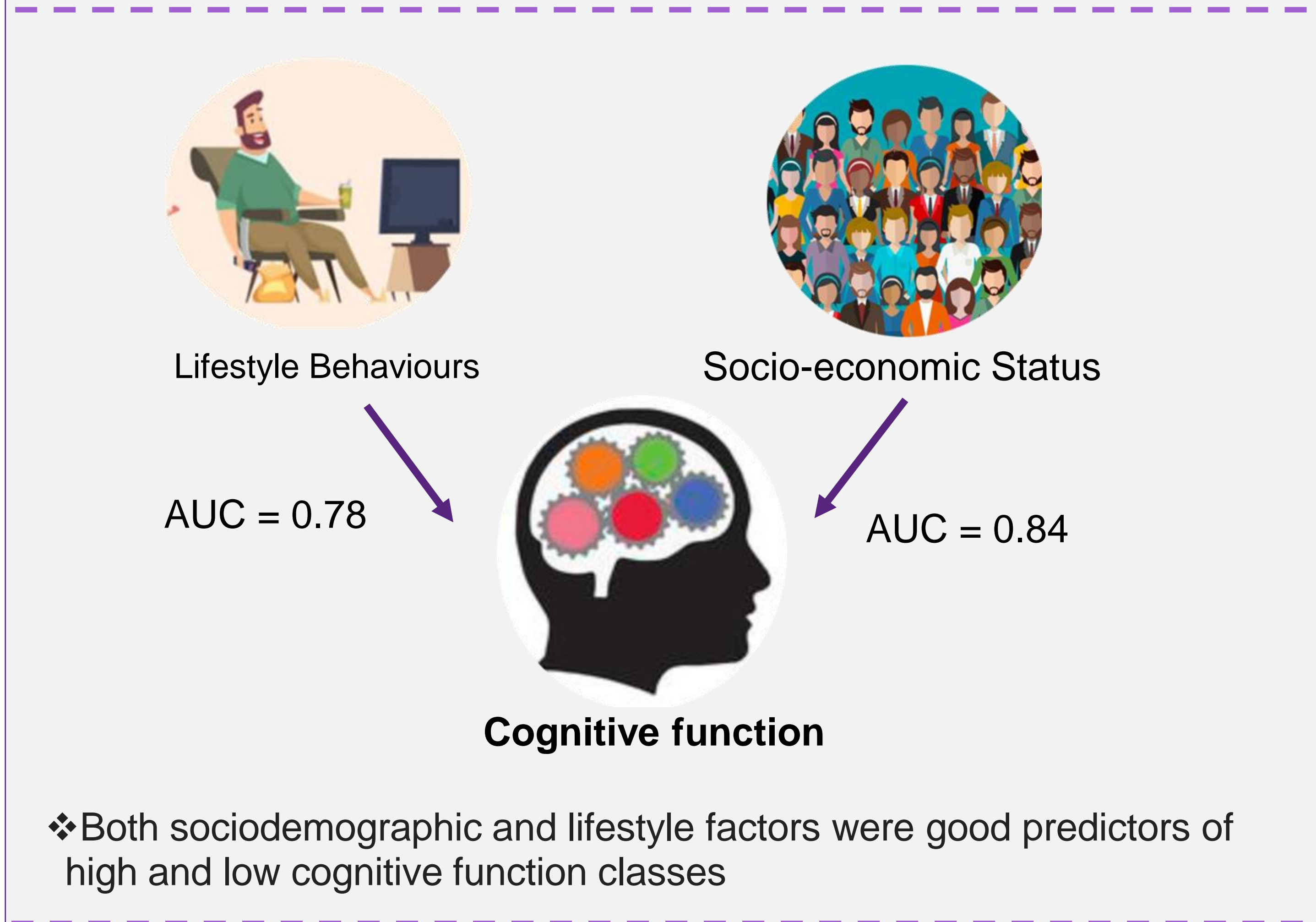
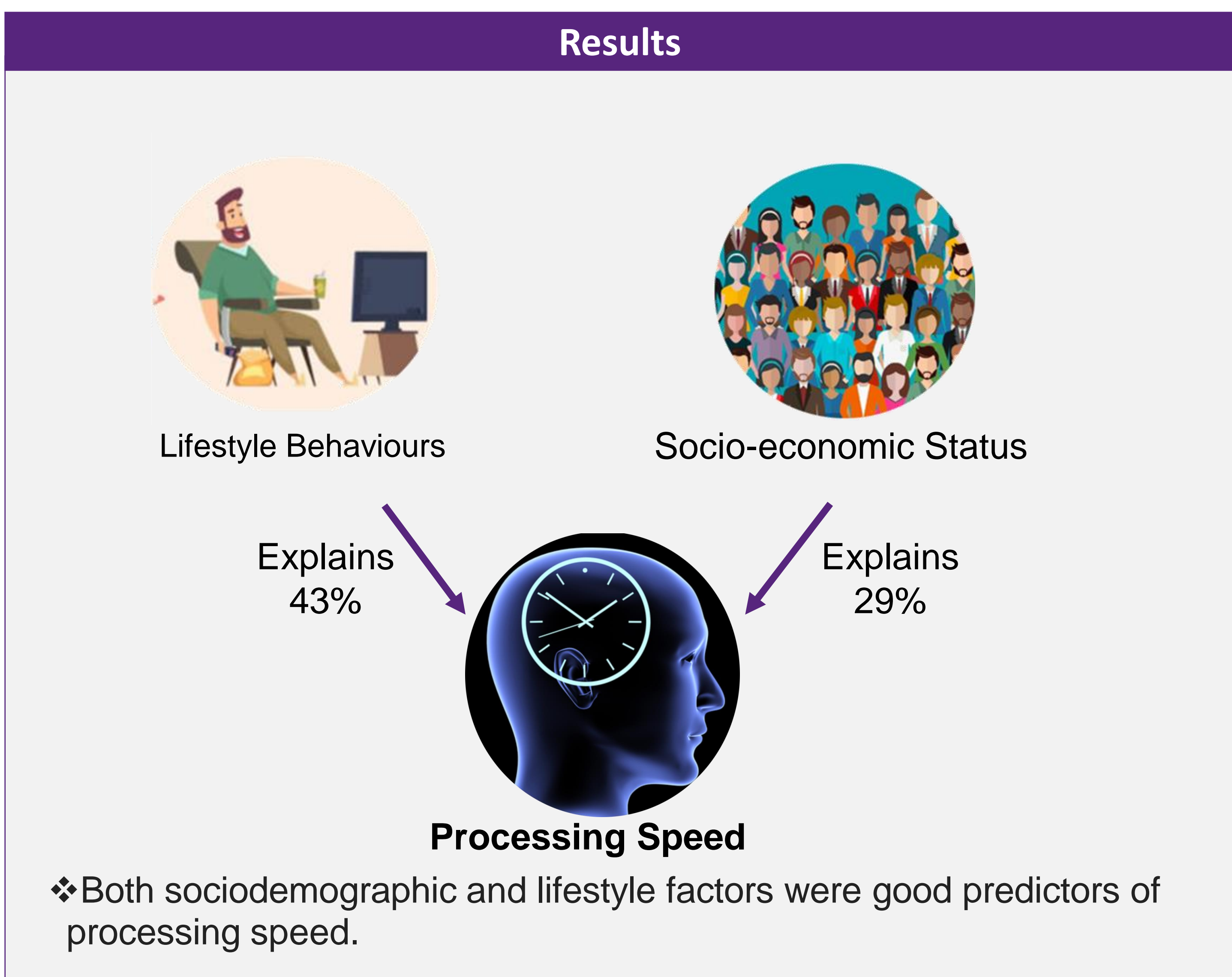
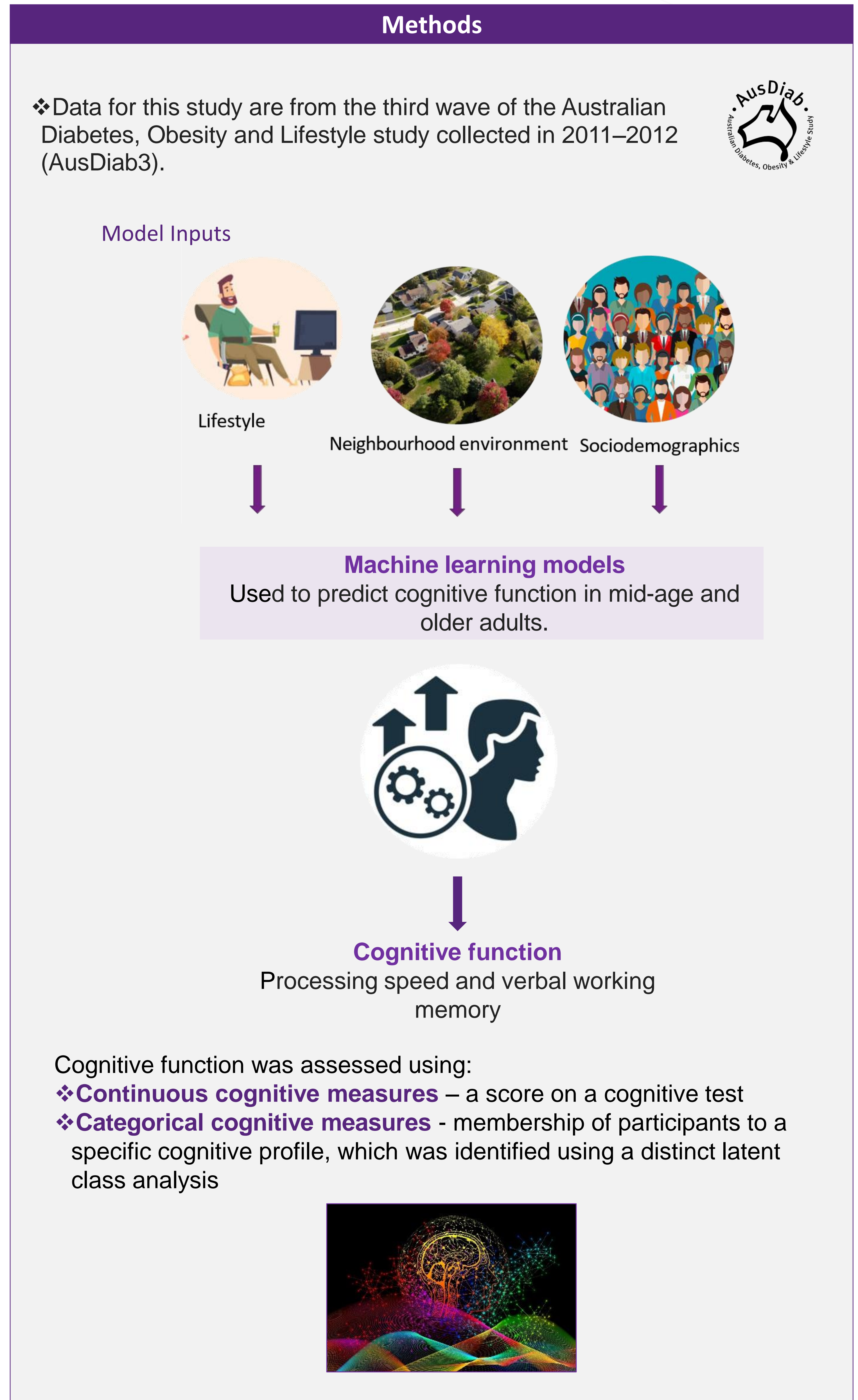


Figure: Relative influence of variables on the prediction of high and low cognitive function classes.



Conclusions

- ❖ Sociodemographic factors were the strongest predictors, with age being the most important characteristic.
- ❖ Lifestyle factors, including sedentary behaviour and physical activity, also significantly predicted cognitive function classes and processing speed.
- ❖ Neighbourhood environmental characteristics appeared to be less important in machine learning

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