

The Meta-Memory Ratio: A new cohort-independent way to measure cognitive awareness in asymptomatic individuals at risk for Alzheimer's disease

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SUBJECT AREAS

Cognitive Neuroscience

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Awareness, Alzheimer's disease, Preclinical

Abstract

Background Lack of Awareness for Cognitive Decline (ACD) has been described at the preclinical and prodromal stages of Alzheimer's disease (AD). In this study, we introduced a meta-memory ratio (MMR), and explored how it is associated with neuroimaging AD biomarkers in asymptomatic individuals at risk for AD.

Method 448 cognitively healthy participants from two cohorts of subjective memory complainers (INSIGHT-PreAD and ADNI) were included. Regression models were used to assess the impact of AD biomarkers on the MMR.

Result In both cohorts, there was a significant quadratic effect of cerebral amyloidosis on the MMR value. In particular, participants had a high ACD up to the amyloid positivity threshold, above which a decrease of ACD was eventually observed as the amyloid load increased.

Conclusion This nonlinear evolution of ACD in very early AD must be taken into account in clinical care and for trial enrollment as well.

Full-text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed.

However, the manuscript can be downloaded and accessed as a PDF.

Figures

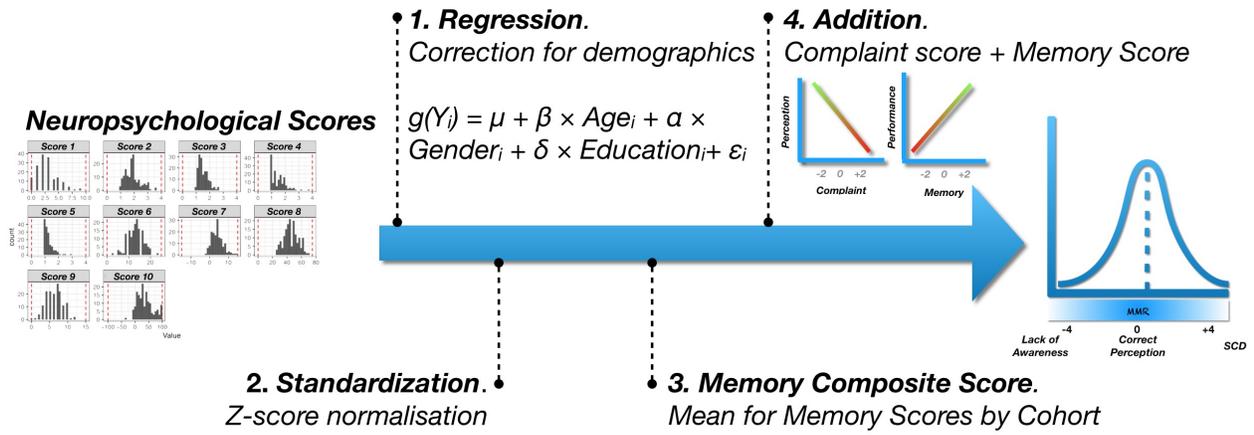


Figure 1

MMR's Construction. Comparison of the relative effect of biomarkers by cohort. Notes: MMR = Meta-Memory Ratio, 493 FDG Mean Metabolism = computed using FDG-AD ROIs. 494

Figure 3. Effect of biomarkers on MMR score. 1

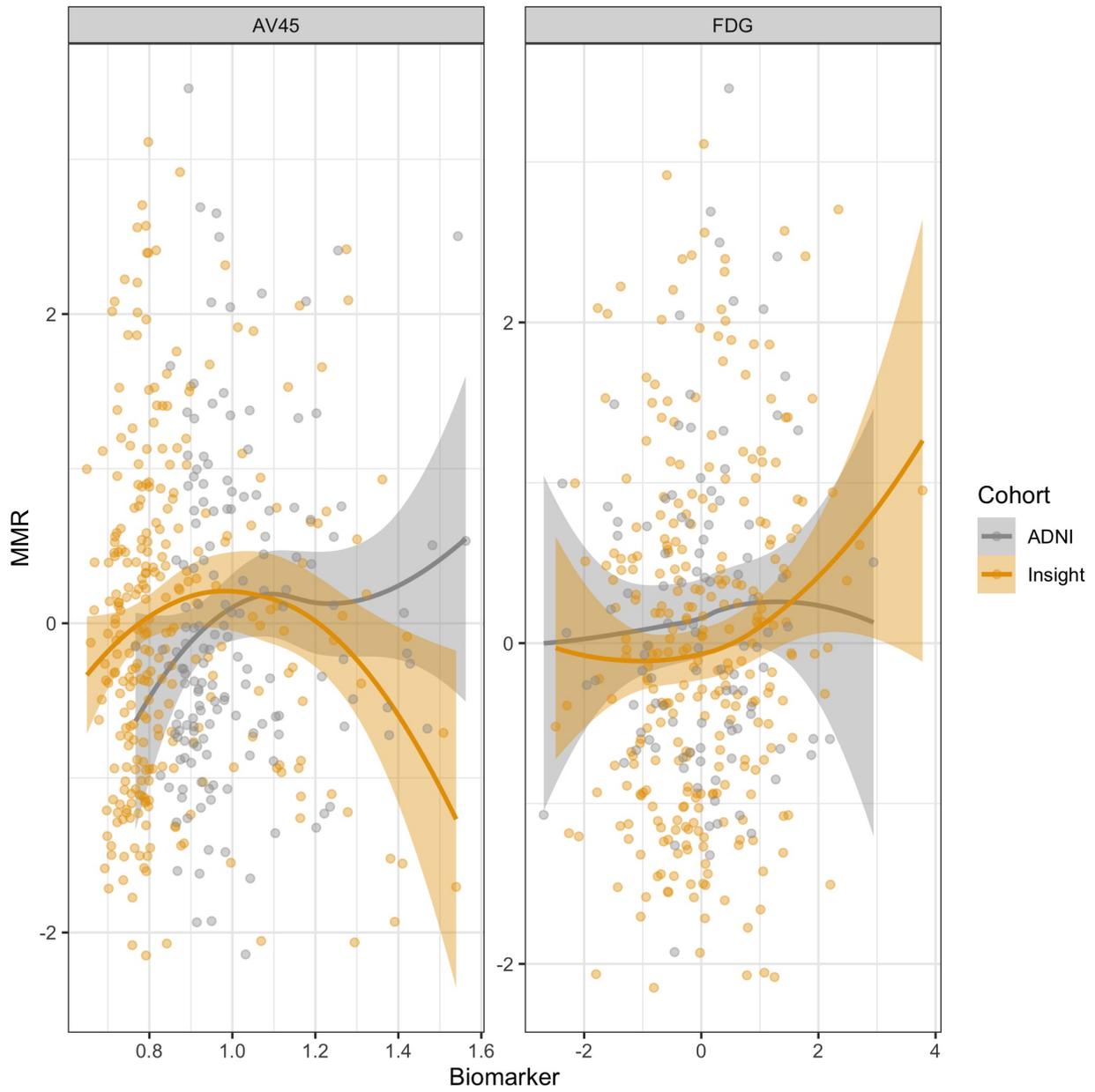


Figure 2

Comparison of the relative effect of biomarkers by cohort. Notes: MMR = Meta-Memory

Ratio, FDG Mean Metabolism = computed using FDG-AD ROIs.

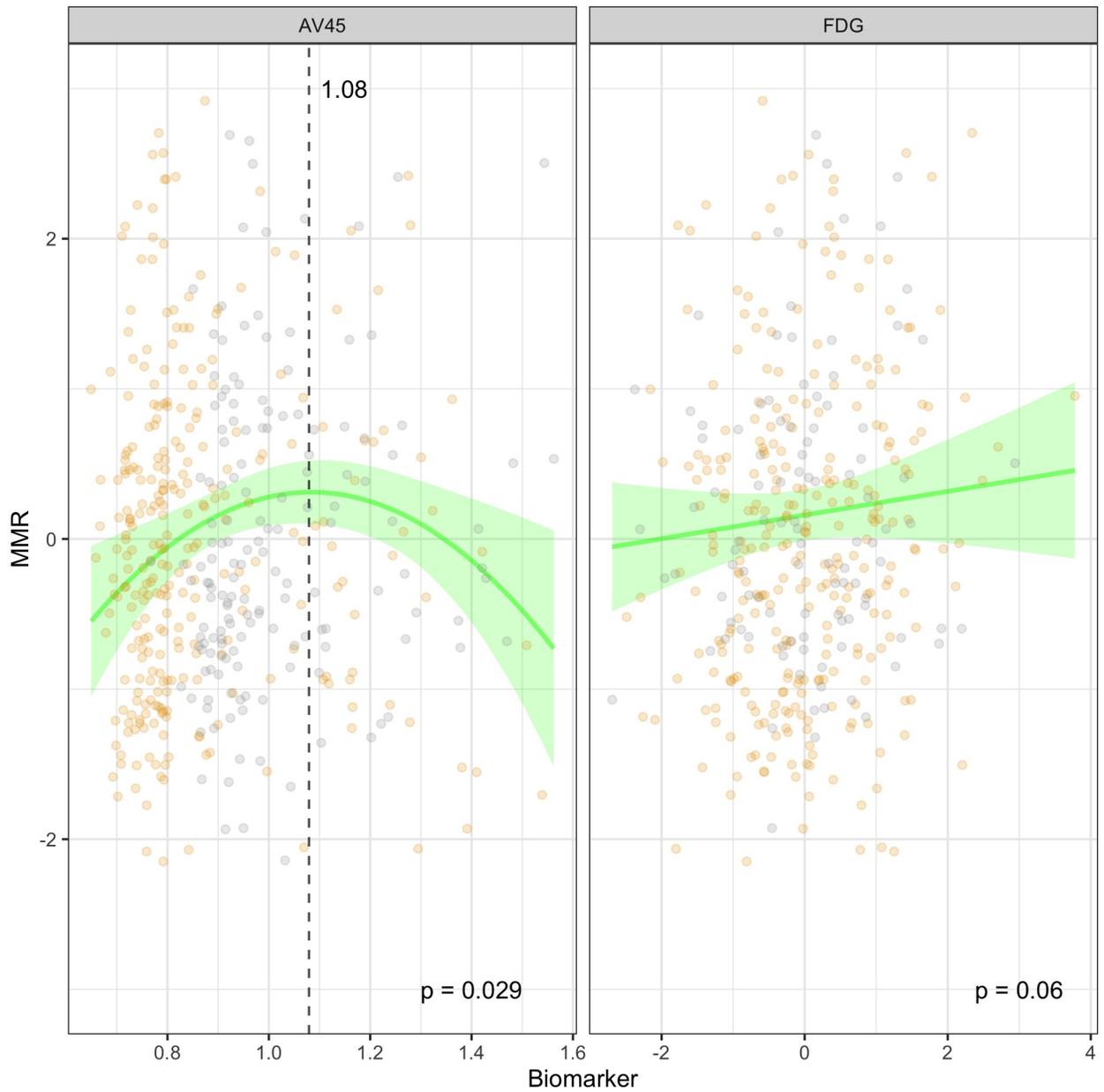


Figure 3

Effect of biomarkers on MMR score.

Supplementary Files

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