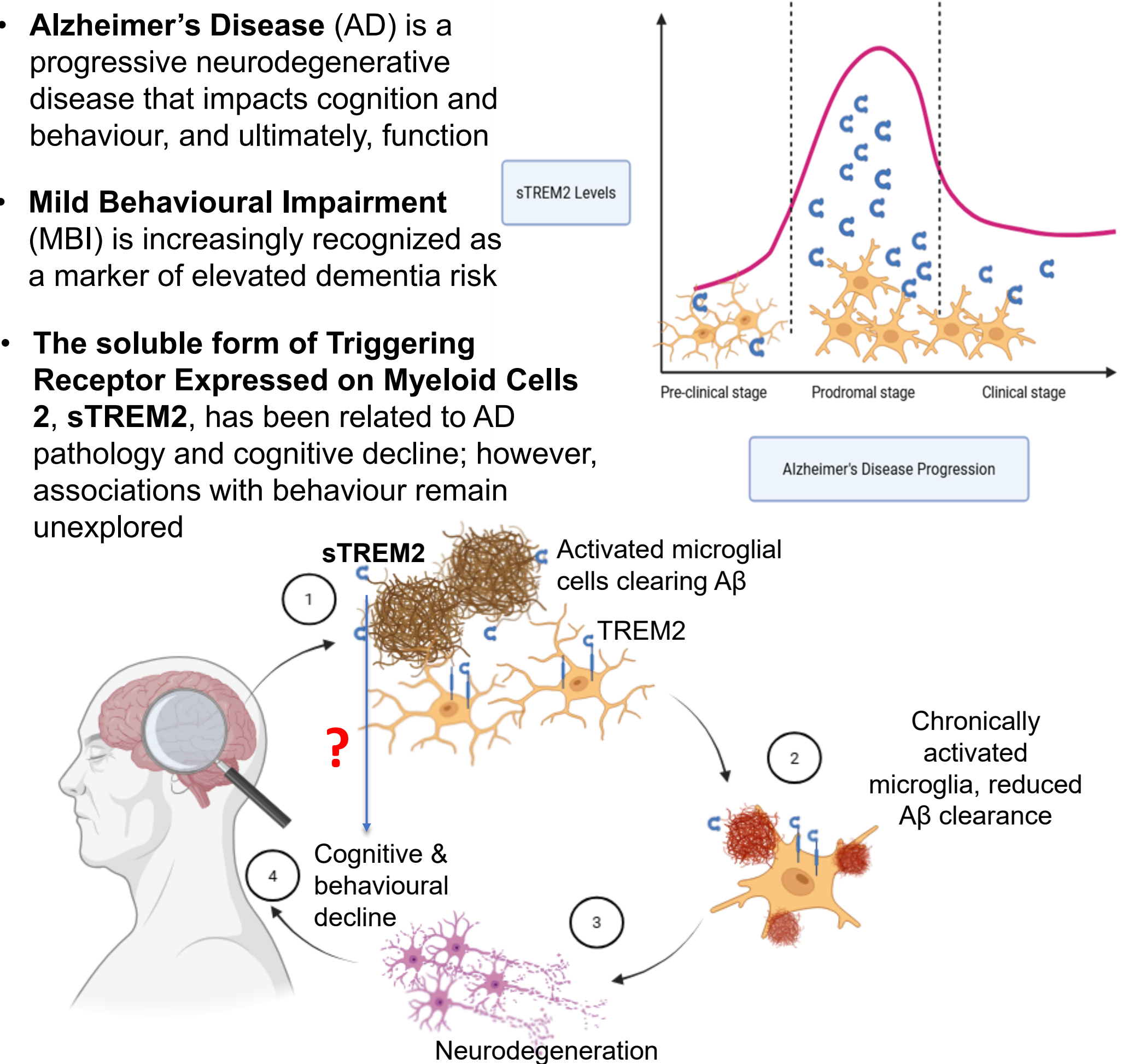


Associations of sTREM2 with Cognition and Behaviour in Dementia-free Older Adults Stratified by Amyloid Beta Status

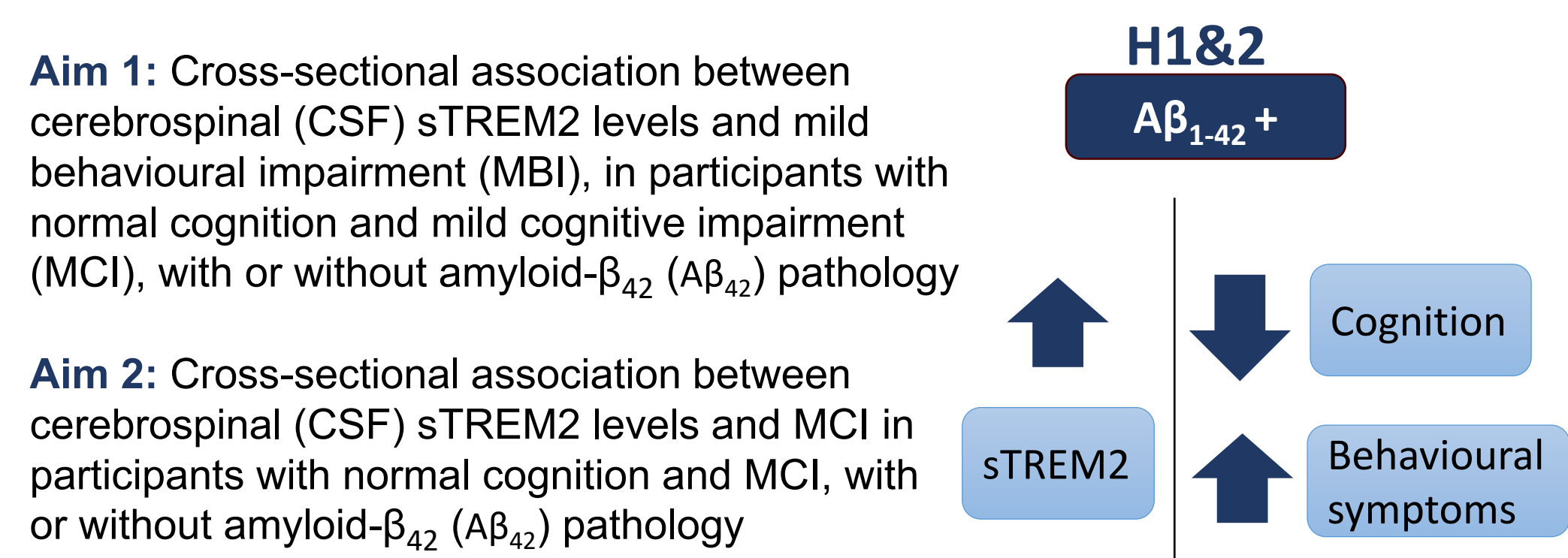
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Background



Research Questions & Hypotheses



Methods

Procedure

Prospective observational study using data from Alzheimer's Disease Neuroimaging Initiative (ADNI).

Participants

Group	N	M _{Age} (SD)	% Female	M _{Years of Education} (SD)	% APOE4 Carrier	% MBI+	% MCI
Aβ ₁₋₄₂ +	348	73.5(6.8)	40	16.2(2.9)	63.2	43	74
Aβ ₁₋₄₂ -	355	72.3(6.9)	48	16.2(2.6)	21.7	27	50

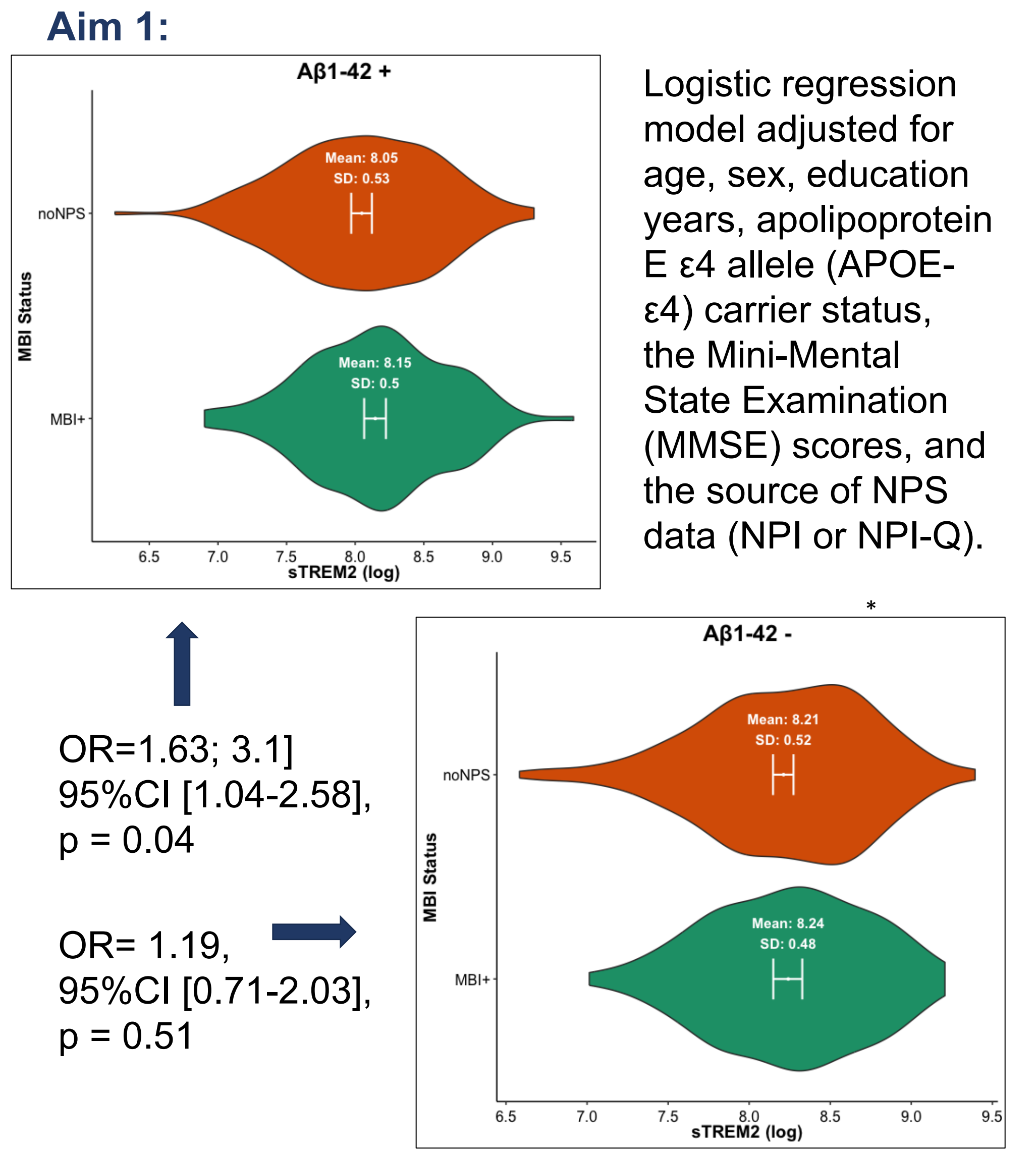
Table 1. Demographic information for the sample. APOE: Apolipoprotein E, MBI: Mild Behavioural Impairment, MCI: Mild Cognitive Impairment

Measures

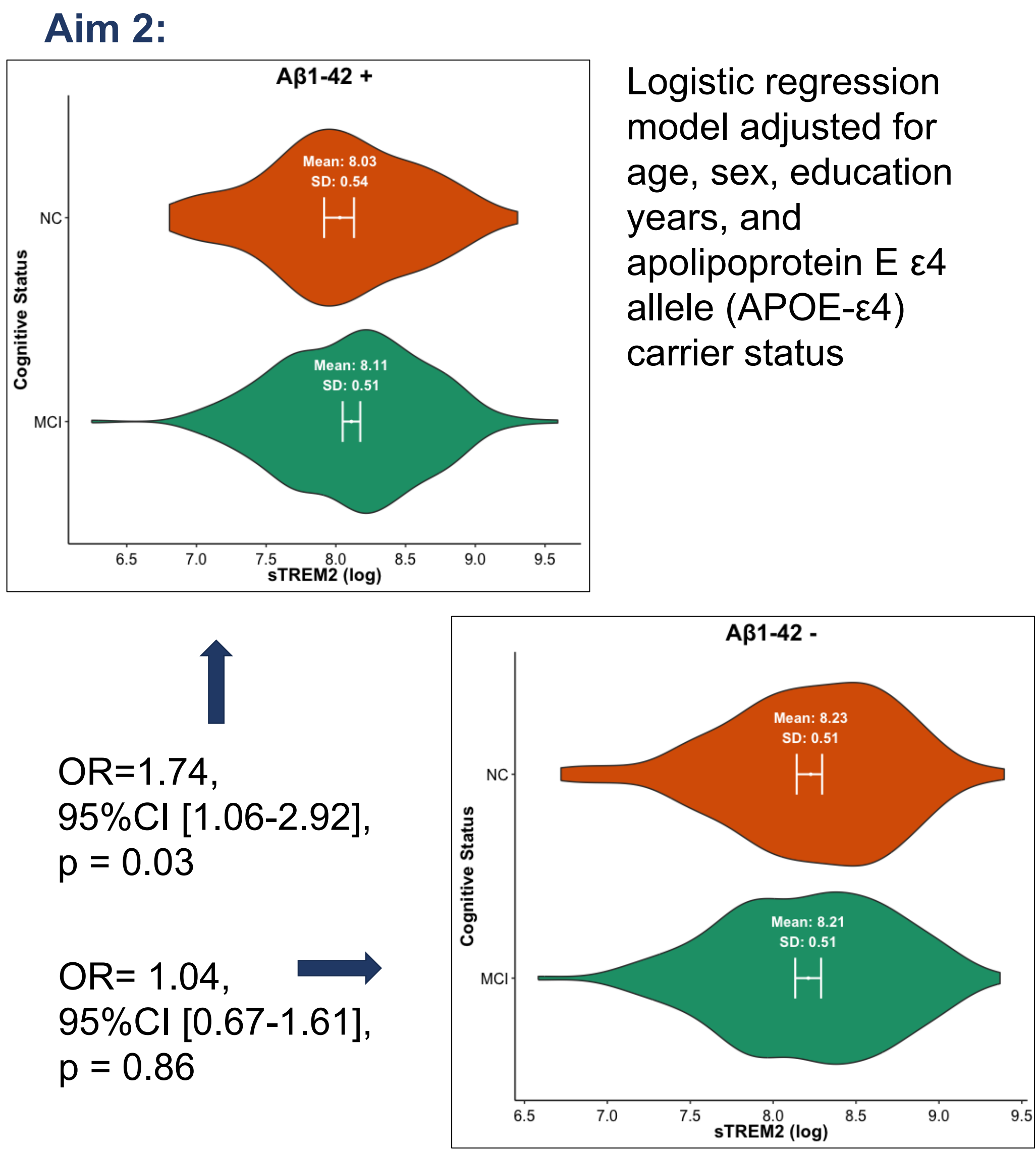
Neuropsychiatric Assessment	Cognitive Diagnosis	CSF Biomarkers
Neuropsychiatric Inventory (NPI) and Questionnaire (NPI-Q)	MMSE and Clinical Dementia Rating (CDR)	Aβ ₄₂ , sTREM2- CSF immunoassays

CSF sTREM2 may contribute to behavioural and cognitive outcomes indicative of Alzheimer's Disease in people with mild to no cognitive impairment.

Results



Greater sTREM2 levels are associated with MBI status in the Aβ₁₋₄₂⁺ group, but not in the Aβ₁₋₄₂⁻ group.



Greater sTREM2 levels are associated with MCI status in the Aβ₁₋₄₂⁺ group, but not in the Aβ₁₋₄₂⁻ group.

Discussion

- This study links sTREM2 to both, cognitive decline and behavioural changes, supporting the relevance of sTREM2 as a dual-domain biomarker.
- The study highlights the importance of integrating both behavioural and cognitive outcomes for comprehensive characterization of prodromal AD.
- Longitudinal studies following individuals from preclinical to dementia stages are essential to map sTREM2 trajectories, clarify its role and levels relative to amyloid and tau changes, and evaluate its potential to predict clinical progression.



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