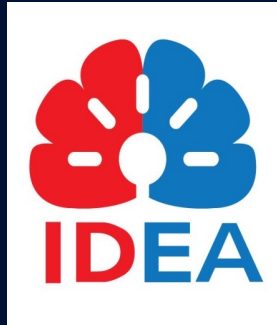


Ethnicity Differences in Regional Tau PET Positivity and Cognitive Trajectories among Amyloid-Positive Koreans and Non-Hispanic Whites



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Among Aβ-positive participants, regional tau PET positivity was similarly prevalent in Koreans and non-Hispanic Whites, but A+T+ was associated with faster cognitive decline in symptomatic Koreans

INTRODUCTION

- Tau pathology is closely linked to cognitive decline and disease progression in Alzheimer’s disease.
- Most tau PET evidence has been derived from non-Hispanic White populations, leaving East Asian populations underexplored.
- Prior work suggests that East Asians may differ from NHWs in Aβ prevalence and cognitive trajectories after Aβ positivity.

Objective: Compare regional tau PET positivity and tau-related longitudinal cognitive trajectories between Aβ-positive Koreans and Aβ-positive non-Hispanic Whites.

METHODS



Participants

- Cross-sectional: 337 Aβ+ participants - 158 Koreans (K-ROAD), 179 NHWs (NA-ADNI)
- Longitudinal: 249 participants with ≥2 MMSE assessments: 158 Koreans ,91 NHWs



Tau PET regions

- TMTL: entorhinal cortex, amygdala
- TMeta: entorhinal, amygdala, fusiform, inferior temporal, and middle temporal
- TNeo: inferior and middle temporal regions



Tau positivity

- Cohort-specific T+ cutoffs from Aβ– CU reference groups
- Sensitivity analysis with combined cutoff



Statistics

- Regional T+ prevalence: multivariable logistic regression
- Cognitive trajectories: linear mixed-effects models
- Key test: time × A/T category × ethnicity interaction
- Adjusted for baseline MMSE, age, sex, education, and APOE ε4 status

RESULTS



A Regional tau PET positivity

After covariate adjustment, regional T+ prevalence did not significantly differ between Aβ+ Koreans and NHWs in either CU or CI participants across TMTL, TMeta, and TNeo regions.

Similar tau positivity across ethnicities once Aβ is established



B Tau-related cognitive trajectories

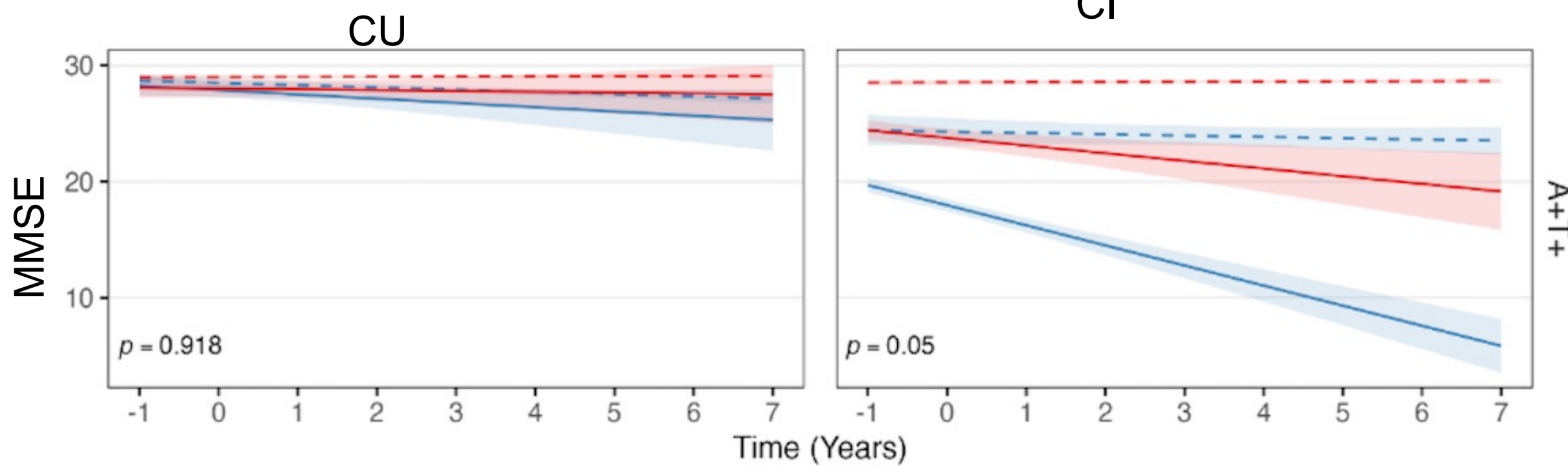
In CI participants, A+T+ was associated with faster MMSE decline in both ethnic groups, but the decline was more pronounced in Koreans

- **TMeta:** β = −0.938, P = 0.024
- **TNeo:** β = −0.942, P = 0.023
- **TMTL:** β = −0.840, P = 0.050

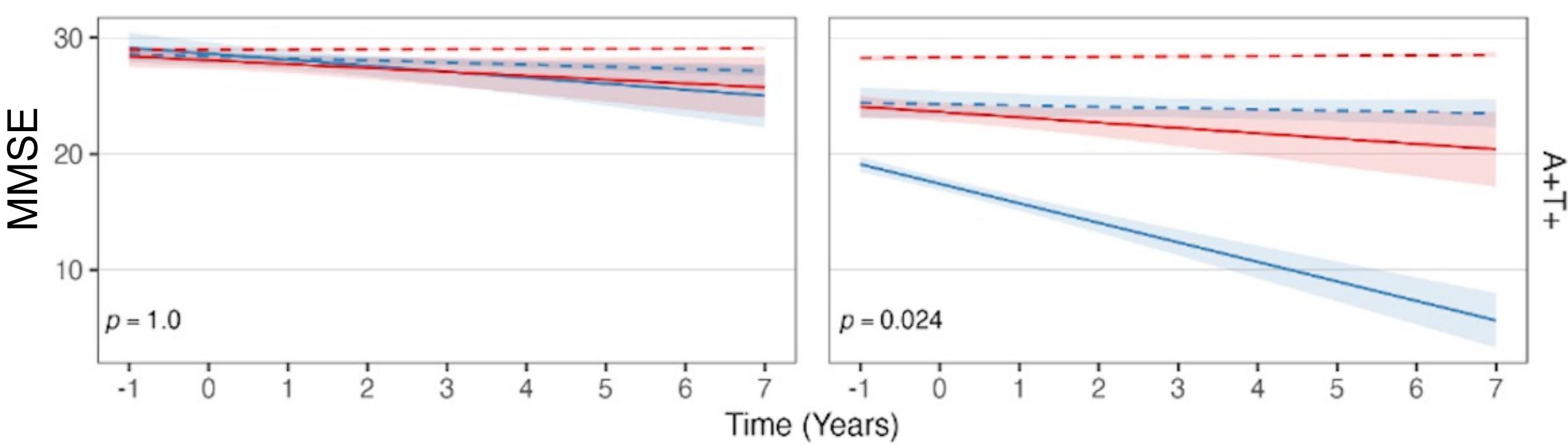
Greatest divergence in CI A+T+ participants

Longitudinal MMSE trajectories by regional tau status and ethnicity

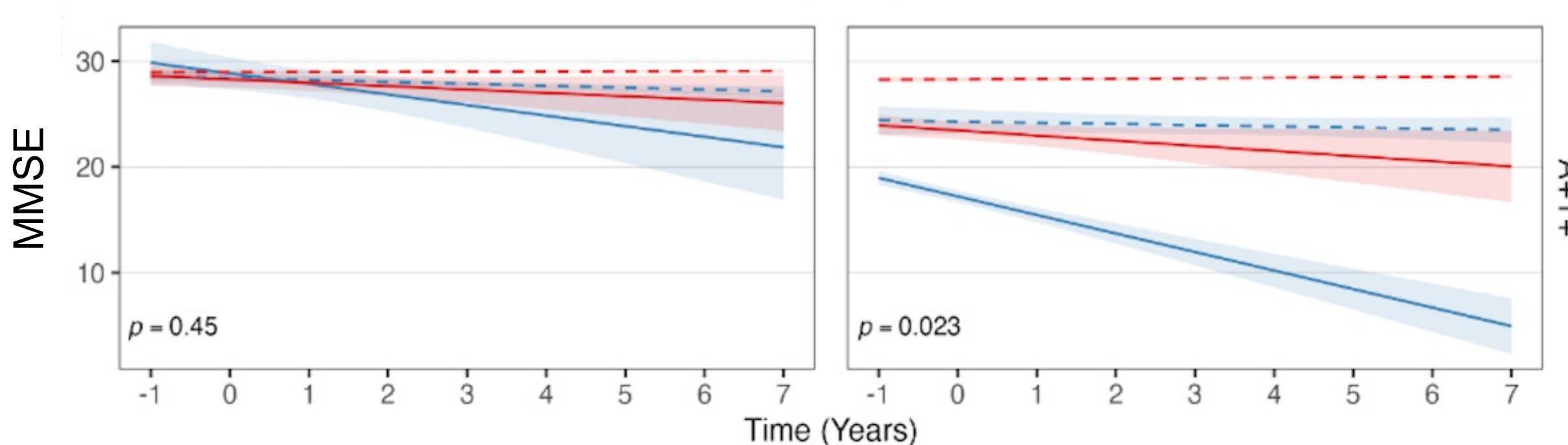
A. Medial Temporal Lobe



B. Temporal Meta



C. Neo



CONCLUSION

- Regional tau PET positivity was similarly prevalent in Aβ+ Koreans and NHWs
- The clinical impact of tau pathology was more pronounced in symptomatic Koreans, with faster A+T+ cognitive decline
- Tau PET-based staging and prognostic models should be validated in multiethnic cohorts



Ethnic divergence in AD may emerge less at tau positivity itself and more in the clinical expression of tau pathology