

Subjective cognitive decline and plasma p-tau231 across ethnoracial groups: Findings from the CAMERA study



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Background

- Subjective cognitive decline (SCD) may represent an early manifestation of Alzheimer’s disease (AD).¹
- Previous findings from the CANadian Multi-Ethnic Research on Aging (CAMERA) study showed greater SCD among South Asian and Chinese adults compared with White adults, even after accounting for demographic factors, depression and anxiety. ²
- Whether these ethnoracial differences in SCD are associated with AD-related blood biomarkers remains unknown.

Objective: To examine the association between subjective cognitive decline and plasma p-tau231 and whether this association differs across South Asian, Chinese, and White adults.

Methods

Participants: 226 cognitively unimpaired adults from the CAMERA study (68 South Asian, 77 Chinese, 81 White).

SCD: Cognitive Function Index (CFI), a self-report measure.

Plasma biomarker: p-tau231 measured using the NULISaseq™ CNS Panel.

Analyses: Linear regression examined ethnoracial differences in CFI scores and associations between CFI and p-tau231. Models adjusted for age, sex, education, and either depression and anxiety or APOE ε4 status, as appropriate. A CFI × ethnoracial group interaction tested whether associations differed across groups.

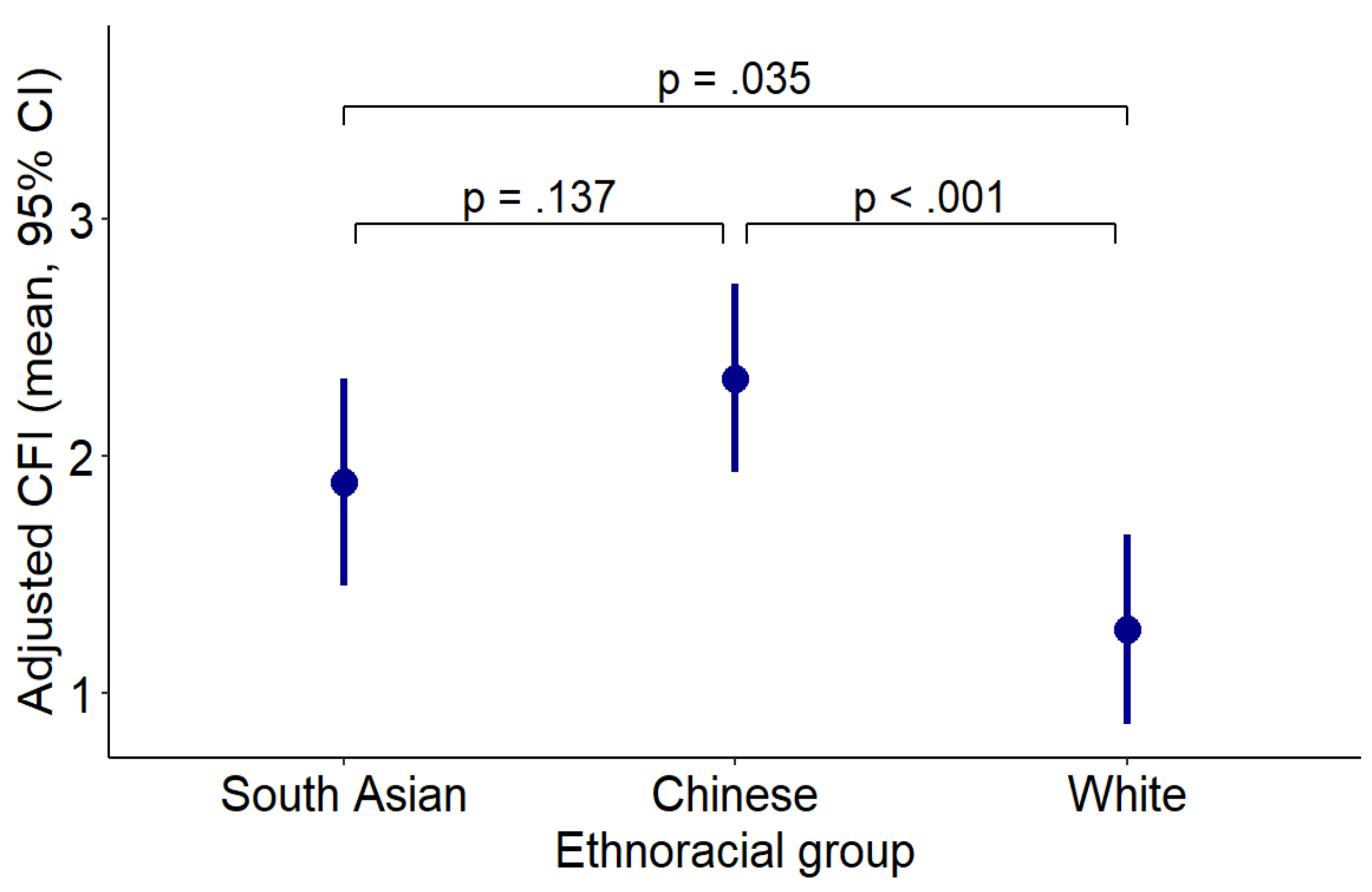
Participant Characteristics

	South Asian (n = 68)	Chinese (n = 77)	White (n = 81)
Age, mean (SD)	68.7 (7.33)	67.2 (5.84)	66.1 (6.95)
Female, n (%)	48 (70.6)	49 (63.6)	58 (71.6)
Education, mean (SD)	16.9 (2.35)	16.1 (2.15)	16.4 (2.34)
APOE ε4 carriers, n (%) [*]	14 (20.6)	12 (15.6) ^a	27 (33.3)
CFI, mean (SD) ^{**}	1.94 (2.11)	2.35 (2.12) ^a	1.31 (1.39)
p-tau231, mean (SD)	13.43 (0.33)	13.41 (0.37)	13.37 (0.30)

^{*}p < .05, ^{**}p < .01; one-way ANOVA (continuous) or χ² test (categorical). ^a Differs from White (post hoc pairwise comparisons) p-tau231 is log2 NPQ

Results

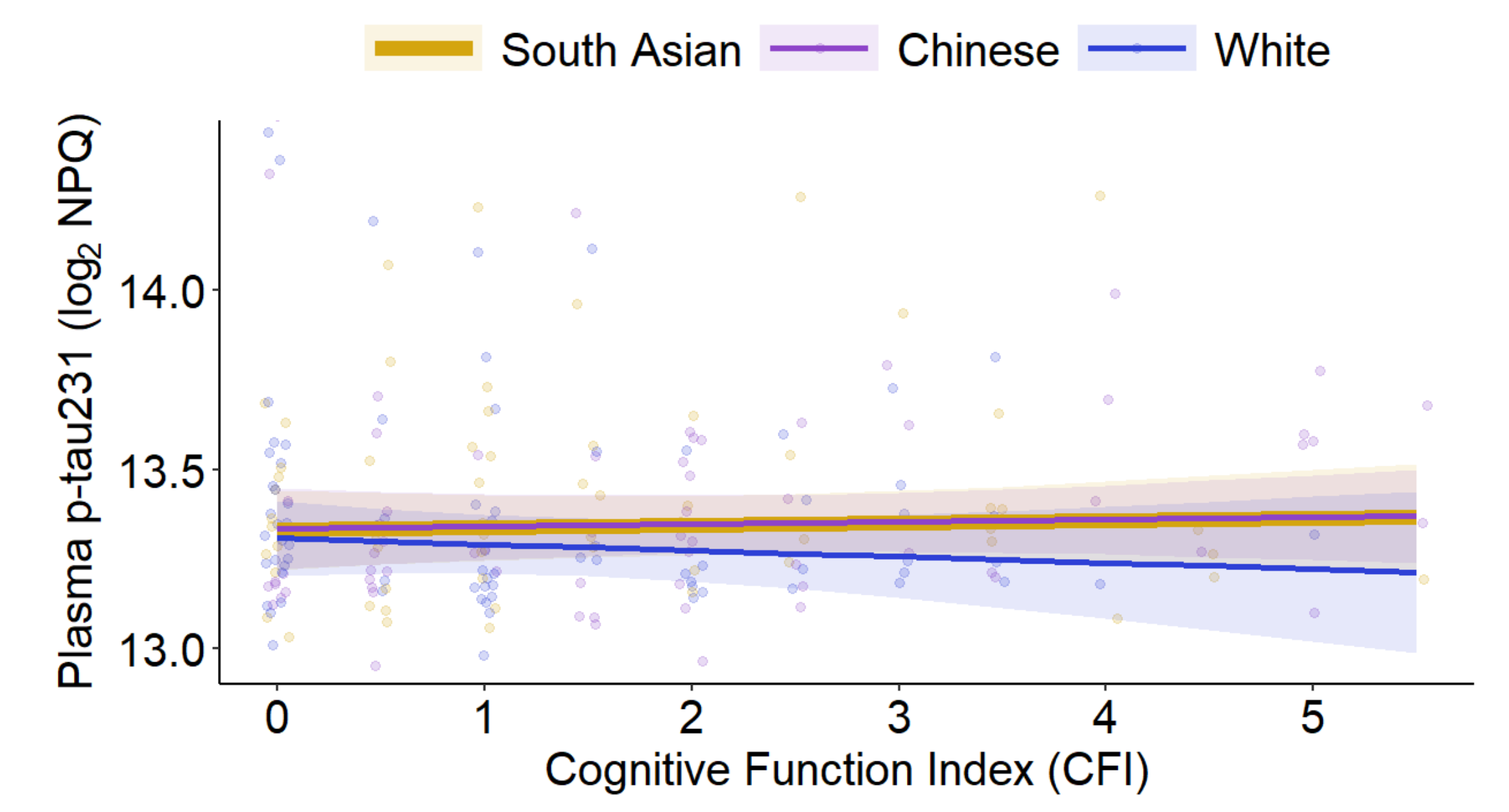
South Asian and Chinese participants reported more cognitive concerns than White participants



Adjusted for age, sex, education, as well as depressive and anxiety symptoms

SCD was not associated with p-tau 231

- SCD was not associated with p-tau231 (p = 0.88)
- The association between SCD and p-tau231 did not differ across ethnoracial groups (p > .44)



Similar findings were observed for plasma p-tau181, p-tau217, and p-tau212.

Discussion

- South Asian and Chinese participants reported greater subjective cognitive concerns than White participants, even after adjusting for demographic factors, depression, and anxiety.
- Despite these differences, SCD was not associated with plasma p-tau231, and this association did not differ significantly across ethnoracial groups.
- Future research should examine psychosocial and sociocultural factors that may contribute to ethnoracial differences in SCD, alongside longitudinal measures of AD pathology.

References

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CAMERA Study Website: <https://www.camerastudy.ca/>