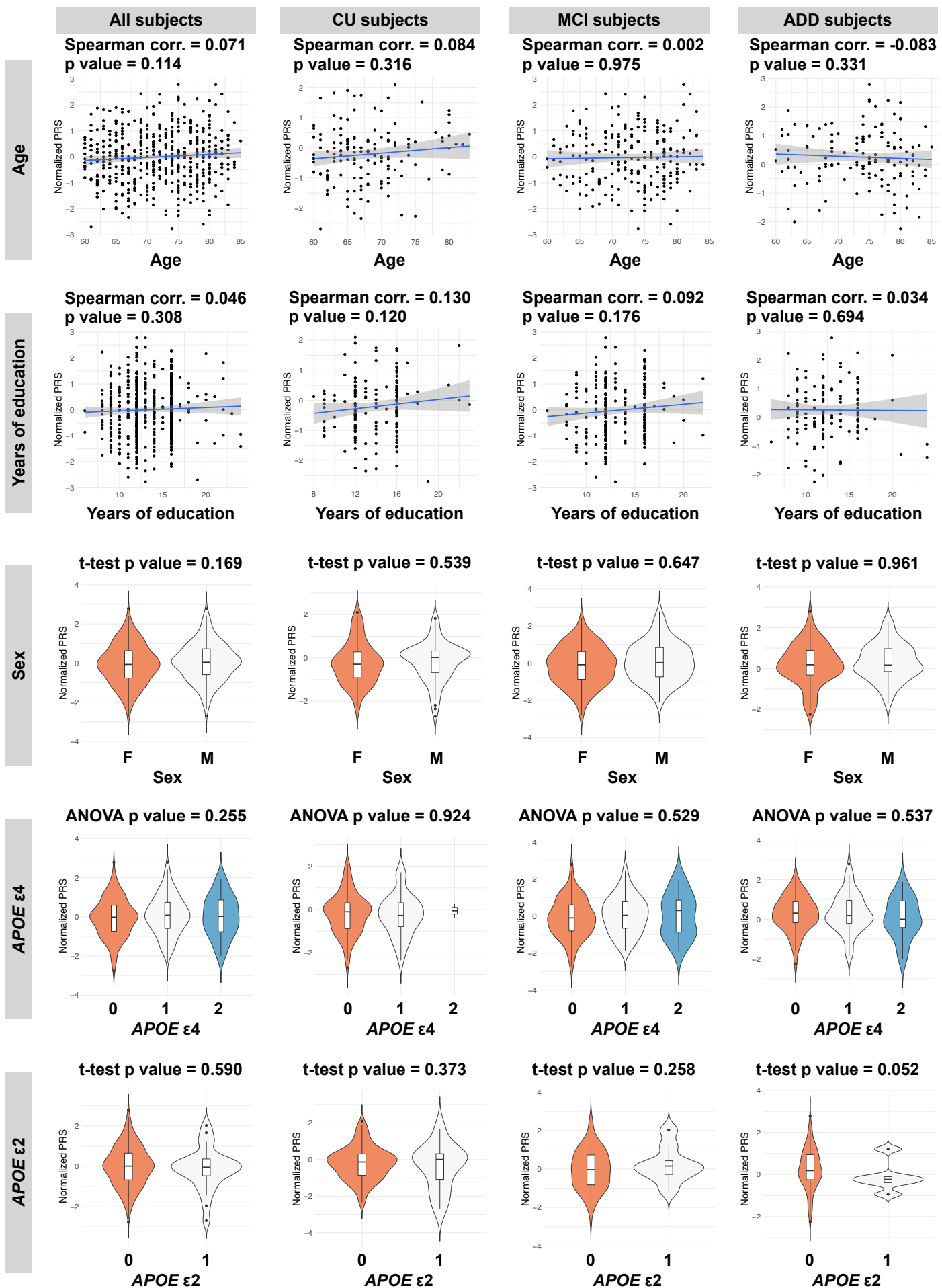
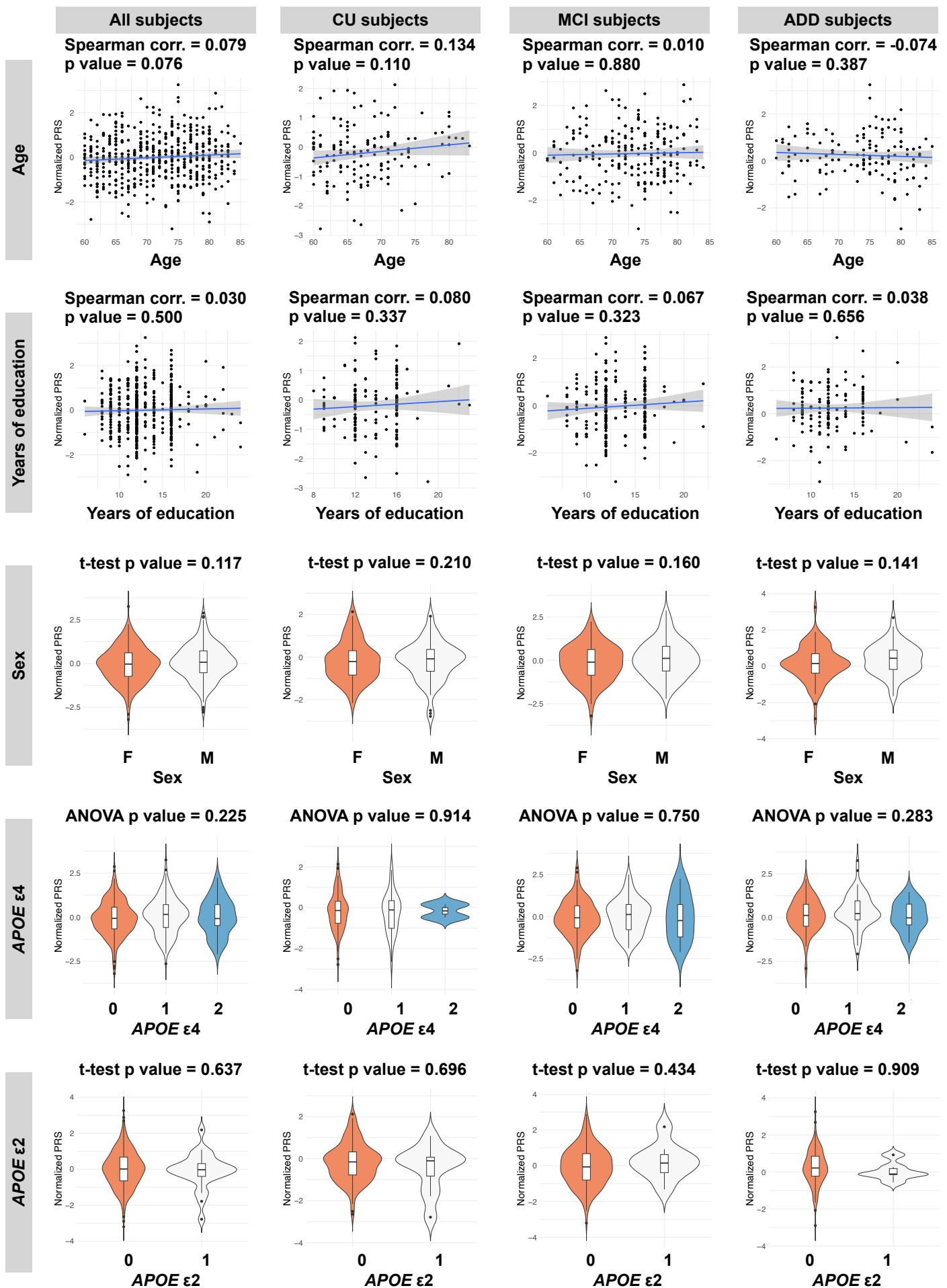


**Figure S1. An excluded region around the *APOE* gene.**

We removed an *APOE* region of  $\pm 500$  kb around the top-hit SNP rs1160985 (chr19:45403412) in our data. Each plot indicates GWAS p values from Jansen *et al* [32].



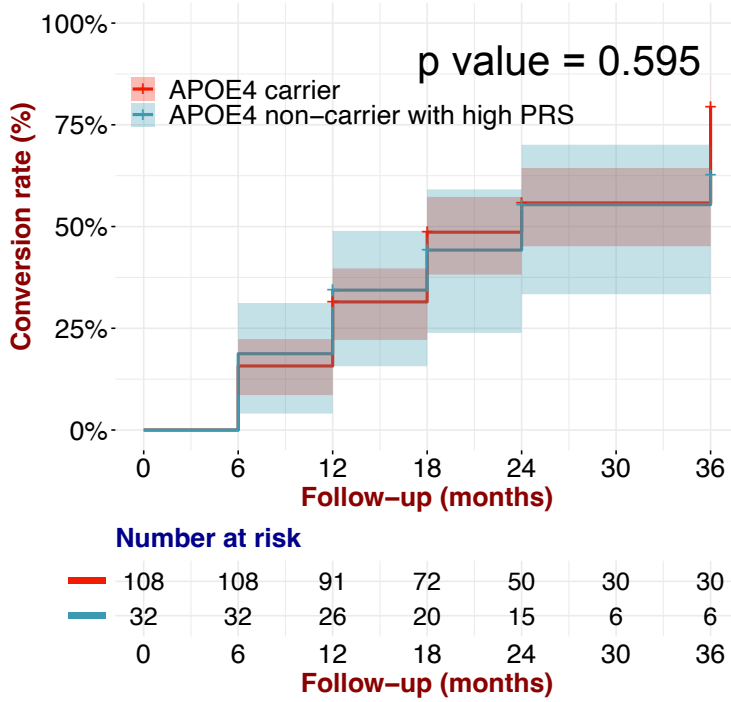
**Figure S2. Associations between the PRS.noAPOE and covariates.** Age at examination and years of education were examined by Spearman correlations. Sex and dose of APOE ε4 and ε2 alleles were analysed by t tests or ANOVAs.



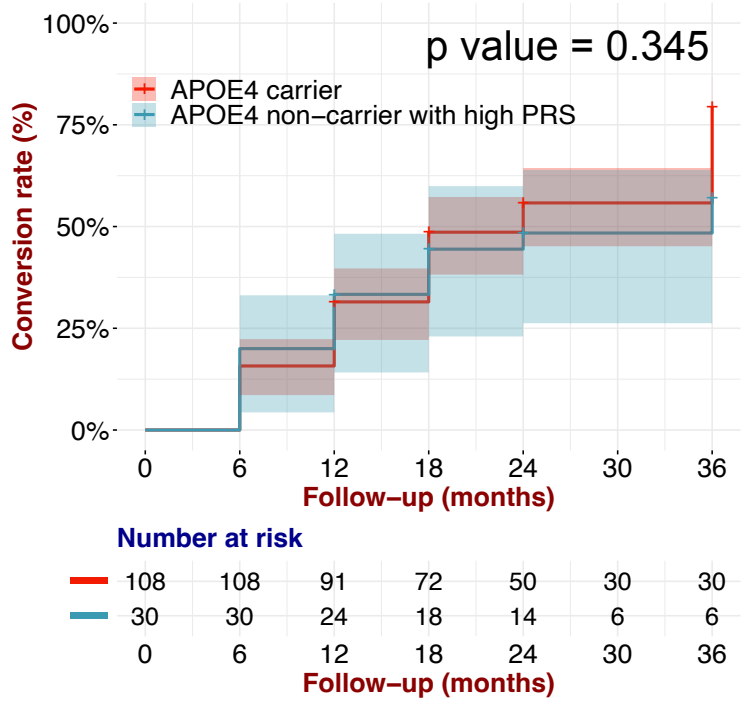
**Figure S3. Associations between the PRS.adjLD and covariates.**

Age at examination and years of education were examined by Spearman correlations. Sex and dose of *APOE* ε4 and ε2 alleles were analysed by t tests or ANOVAs.

### PRS.noAPOE



### PRS.adjLD

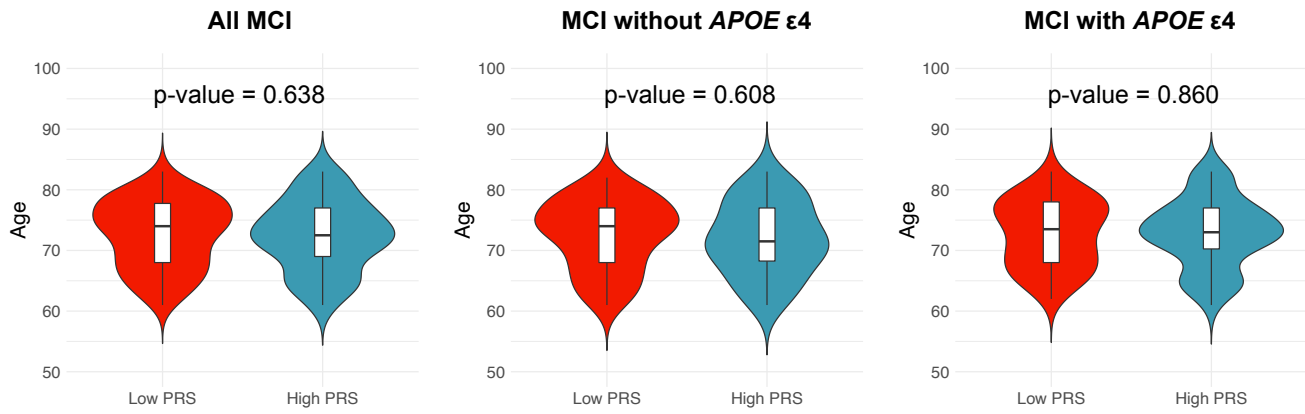


**Figure S4. Comparison of AD conversion between the *APOE*  $\epsilon$ 4 carriers and the *APOE*  $\epsilon$ 4 noncarriers with high PRS.**

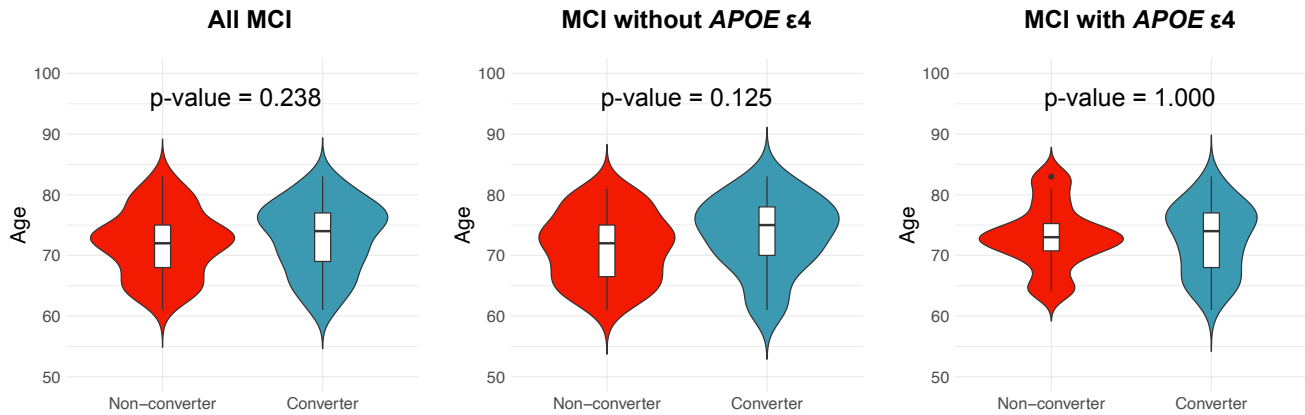
Kaplan–Meier survival curves for conversion rates of MCI to AD in the *APOE*  $\epsilon$ 4 carriers and the *APOE*  $\epsilon$ 4 noncarriers with high PRS values. p-values were calculated by log-rank test.

PRS.noAPOE

### Low PRS vs High PRS

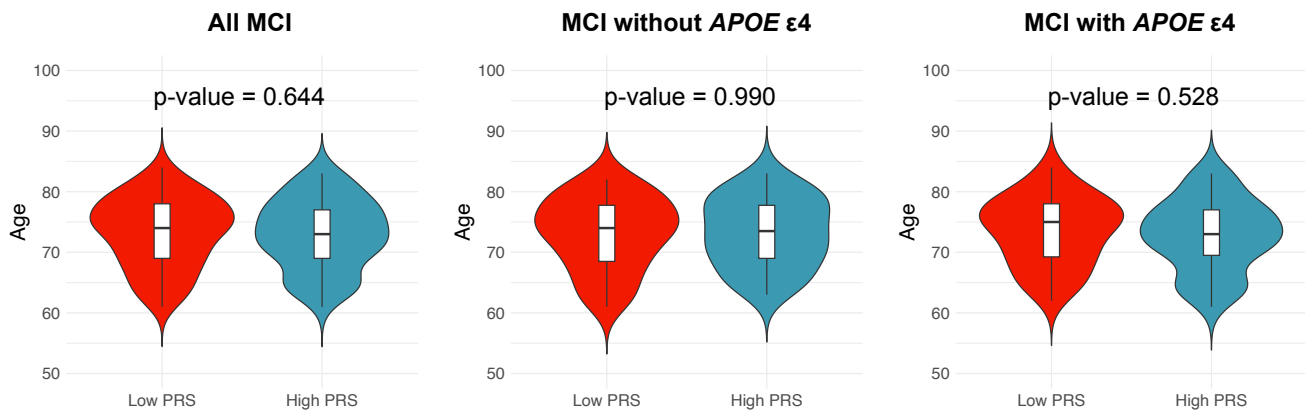


### Nonconverter vs Converter

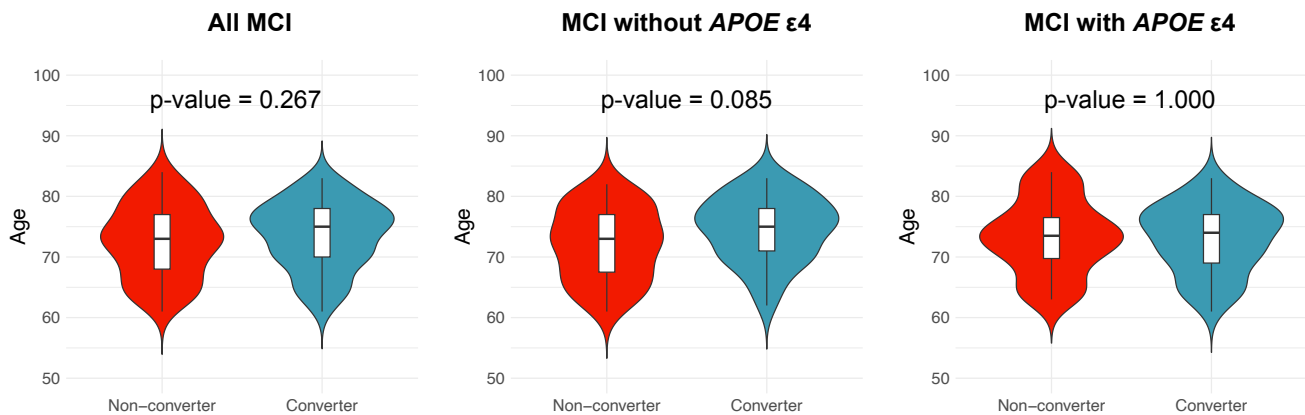


PRS.adjLD

### Low PRS vs High PRS



### Nonconverter vs Converter



**Figure S5. Age differences between the low and high PRS groups or between the nonconverters and converters within the low and high PRS groups. Baseline age between each group was compared by Wilcoxon rank-sum test.**