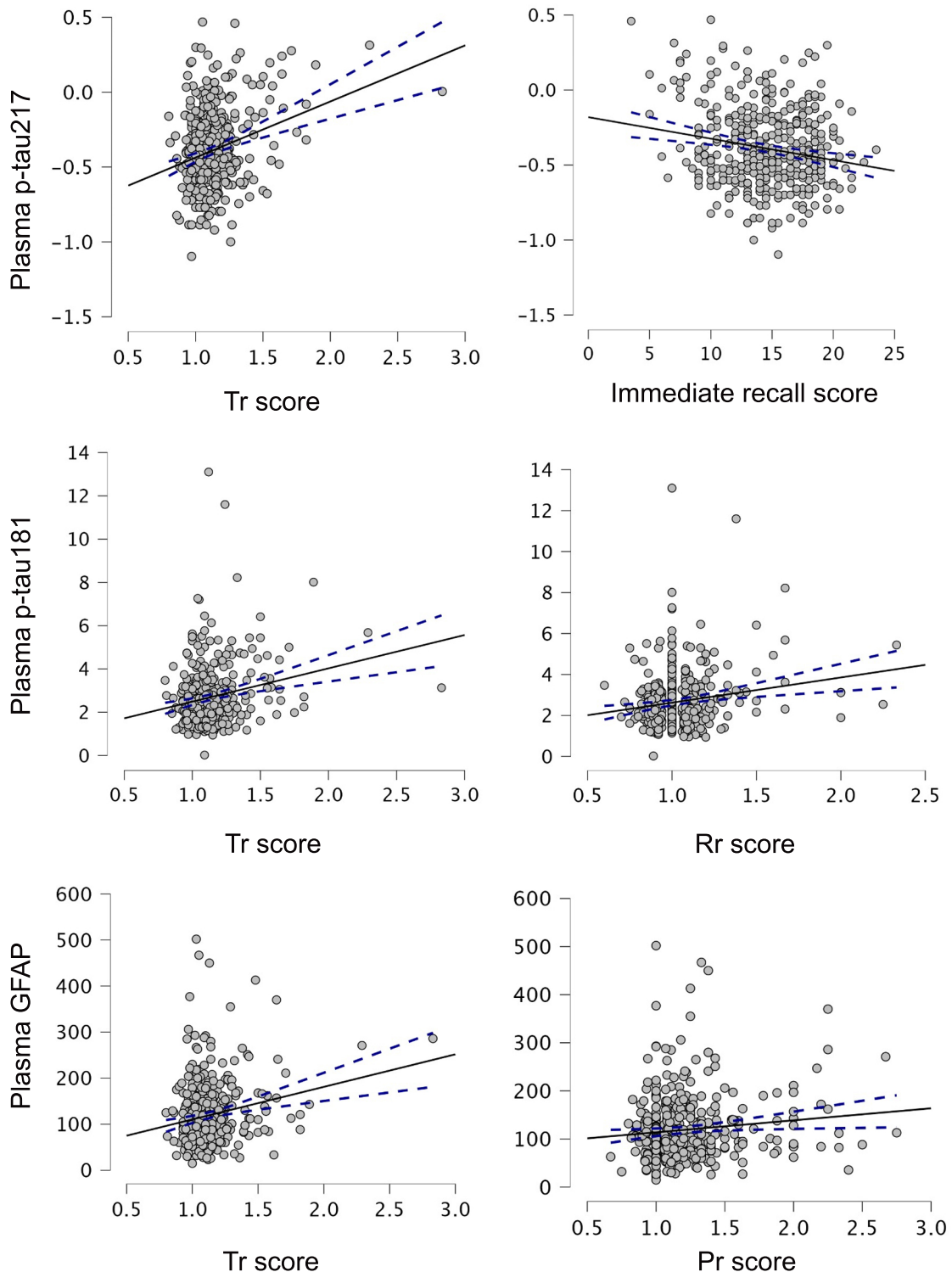


## Supplementary Materials

**Figure S1. Scatterplots of the strongest associations between Logical Memory Task scores and plasma p-tau217, p-tau181 and GFAP levels, N = 416.**



*Note.* Partial correlations controlling for age at blood draw, gender, years of education, apolipoprotein E (*APOE*) Risk score, elapsed time between cognitive assessment and blood extraction, and cognitive visit number. p-tau: phosphorylated tau; GFAP: glial fibrillary acidic protein; Tr: Total ratio, Rr: Recency ratio; Pr: Primacy ratio. Plasma biomarker levels in pg/mL.

**Table S1. *Post hoc* analysis of cognitively unimpaired participants only (individuals with Mild Cognitive Impairment were excluded): Bayesian linear regression with plasma phosphorylated tau (p-tau) 217 level as outcome, N = 402.**

**Model Comparison - (log10) p-tau217**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>R<sup>2</sup></b>
Null model	0.031	0.011	0.354	1.000	0.189
Immediate + Delayed + Tr	0.031	0.292	12.760	25.847	0.222
Tr	0.031	0.158	5.804	13.980	0.207
Immediate + Delayed + Tr + Pr	0.031	0.094	3.204	8.304	0.224
Immediate + Delayed + Rr + Tr	0.031	0.070	2.318	6.167	0.222
Tr + Pr	0.031	0.061	2.001	5.375	0.210
Immediate + Tr	0.031	0.053	1.746	4.726	0.209
Delayed + Tr	0.031	0.038	1.212	3.336	0.208
Rr + Tr	0.031	0.036	1.142	3.150	0.207
Immediate + Delayed + Rr + Tr + Pr	0.031	0.027	0.851	2.368	0.224

*Note.* All models include gender, education years, apolipoprotein E (APOE) Risk score, age at blood extraction, cognitive visit number, elapsed time. Tr: Total ratio, Rr: Recency ratio; Pr: Primacy ratio.

**Table S2. *Post hoc* analysis of cognitively unimpaired participants only (individuals with Mild Cognitive Impairment were excluded): Bayesian linear regression with plasma phosphorylated tau (p-tau) 181 level as outcome, N = 402.**

**Model Comparison - (log10) p-tau181**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>R<sup>2</sup></b>
Null model	0.031	0.028	0.882	1.000	0.068
Rr	0.031	0.169	6.298	6.106	0.083
Tr	0.031	0.110	3.828	3.974	0.081
Rr + Tr	0.031	0.090	3.051	3.240	0.087
Tr + Pr	0.031	0.063	2.078	2.271	0.085
Rr + Pr	0.031	0.056	1.835	2.021	0.084
Delayed + Rr	0.031	0.052	1.711	1.891	0.084
Immediate + Rr	0.031	0.050	1.616	1.792	0.084
Immediate + Tr	0.031	0.032	1.024	1.156	0.081
Delayed + Tr	0.031	0.031	0.995	1.124	0.081

*Note.* All models include gender, education years, apolipoprotein E (APOE) Risk score, age at blood extraction, cognitive visit number, elapsed time. Tr: Total ratio, Rr: Recency ratio; Pr: Primacy ratio.

**Table S3. *Post hoc* analysis of cognitively unimpaired participants only (individuals with Mild Cognitive Impairment were excluded): Bayesian logistic regression with plasma phosphorylated tau (p-tau) 217 status as outcome, all models, N = 402.**

**Model Comparison - p-tau217 status**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>
Null model	0.031	0.012	0.379	1.000
Tr	0.031	0.144	5.198	11.891
Immediate + Delayed + Tr	0.031	0.137	4.934	11.370
Immediate + Tr	0.031	0.069	2.281	5.675
Immediate + Delayed + Rr + Tr	0.031	0.061	2.006	5.034
Immediate + Delayed + Tr + Pr	0.031	0.059	1.945	4.889
Delayed + Tr	0.031	0.058	1.899	4.780
Tr + Pr	0.031	0.056	1.841	4.643
Rr + Tr	0.031	0.055	1.805	4.556
Immediate + Tr + Pr	0.031	0.029	0.914	2.373
Immediate + Delayed + Rr + Tr + Pr	0.031	0.028	0.901	2.338
Immediate + Rr + Tr	0.031	0.028	0.894	2.320
Delayed + Tr + Pr	0.031	0.024	0.768	2.001
Delayed + Rr + Tr	0.031	0.024	0.750	1.956
Rr + Tr + Pr	0.031	0.024	0.747	1.948
Delayed	0.031	0.022	0.694	1.813
Pr	0.031	0.018	0.578	1.515
Rr + Pr	0.031	0.016	0.496	1.303
Delayed + Pr	0.031	0.014	0.445	1.172
Immediate + Delayed	0.031	0.014	0.426	1.121
Immediate + Rr + Tr + Pr	0.031	0.013	0.402	1.061
Delayed + Rr	0.031	0.012	0.383	1.010
Rr	0.031	0.012	0.375	0.990
Immediate + Pr	0.031	0.011	0.346	0.915
Delayed + Rr + Tr + Pr	0.031	0.011	0.338	0.893
Immediate	0.031	0.009	0.287	0.759
Delayed + Rr + Pr	0.031	0.009	0.277	0.733
Immediate + Rr + Pr	0.031	0.009	0.273	0.722
Immediate + Rr	0.031	0.008	0.242	0.641
Immediate + Delayed + Pr	0.031	0.007	0.204	0.540
Immediate + Delayed + Rr	0.031	0.006	0.198	0.527
Immediate + Delayed + Rr + Pr	0.031	0.004	0.121	0.322

*Note.* All models include gender, education years, apolipoprotein E (*APOE*) Risk score, age at blood extraction, cognitive visit number, elapsed time. Tr: Total ratio, Rr: Recency ratio; Pr: Primacy ratio.

**Table S4. *Post hoc* analyses of cognitively unimpaired participants only (individuals with Mild Cognitive Impairment were excluded): separate Bayesian Analysis of Covariance (ANCOVAs) with Total ratio, Immediate and Delayed recall as outcome, N = 402.**

**Model Comparison – Total ratio**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>error %</b>
Null model	0.500	0.155	0.183	1.000	
p-tau217 status	0.500	0.845	5.471	5.471	3.273

*Note.* All models include gender, education years, apolipoprotein E (*APOE*) Risk score, age at blood extraction, cognitive visit number, elapsed time.

**Model Comparison – Immediate recall**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>error %</b>
Null model	0.500	0.814	4.378	1.000	
p-tau217 status	0.500	0.186	0.228	0.228	2.372

*Note.* All models include gender, education years, apolipoprotein E (*APOE*) Risk score, age at blood extraction, cognitive visit number, elapsed time.

**Model Comparison - Delayed recall**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>error %</b>
Null model	0.500	0.626	1.676	1.000	
p-tau217 status	0.500	0.374	0.597	0.597	2.129

*Note.* All models include gender, education years, apolipoprotein E (*APOE*) Risk score, age at blood extraction, cognitive visit number, elapsed time.

**Table S5. Cognitively unimpaired stable only (individuals who were cognitively unimpaired - declining or with Mild Cognitive Impairment were excluded): Bayesian logistic regression with plasma phosphorylated tau (p-tau) 217 status as outcome, all models, N = 360.**

**Model Comparison - p-tau217 status**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>
Null model	0.031	0.034	1.092	1.000
Immediate + Delayed + Tr	0.031	0.150	5.480	4.415
Tr	0.031	0.112	3.909	3.291
Immediate + Delayed + Tr + Pr	0.031	0.068	2.256	1.993
Immediate + Delayed + Rr + Tr	0.031	0.068	2.248	1.987
Delayed + Tr	0.031	0.046	1.486	1.344
Immediate + Tr	0.031	0.045	1.473	1.333
Tr + Pr	0.031	0.045	1.459	1.321
Rr + Tr	0.031	0.045	1.458	1.320
Pr	0.031	0.041	1.332	1.211
Immediate + Delayed + Rr + Tr + Pr	0.031	0.032	1.030	0.945
Rr + Pr	0.031	0.027	0.850	0.784
Rr	0.031	0.024	0.749	0.694
Delayed	0.031	0.020	0.638	0.593
Delayed + Tr + Pr	0.031	0.020	0.621	0.577
Delayed + Rr + Tr	0.031	0.020	0.620	0.576
Immediate + Tr + Pr	0.031	0.019	0.615	0.572
Immediate + Rr + Tr	0.031	0.019	0.615	0.572
Rr + Tr + Pr	0.031	0.019	0.609	0.567
Delayed + Pr	0.031	0.017	0.549	0.511
Immediate + Pr	0.031	0.017	0.532	0.496
Immediate + Delayed	0.031	0.014	0.449	0.420
Immediate	0.031	0.014	0.435	0.407
Delayed + Rr	0.031	0.012	0.383	0.359
Immediate + Rr + Pr	0.031	0.012	0.362	0.340
Delayed + Rr + Pr	0.031	0.012	0.362	0.339
Immediate + Rr	0.031	0.010	0.318	0.299
Delayed + Rr + Tr + Pr	0.031	0.009	0.279	0.262
Immediate + Rr + Tr + Pr	0.031	0.009	0.277	0.260
Immediate + Delayed + Pr	0.031	0.008	0.258	0.242
Immediate + Delayed + Rr	0.031	0.007	0.217	0.204
Immediate + Delayed + Rr + Pr	0.031	0.005	0.166	0.156

*Note.* All models include gender, education years, apolipoprotein E (*APOE*) Risk score, age at blood extraction, cognitive visit number, elapsed time. Tr: Total ratio, Rr: Recency ratio; Pr: Primacy ratio.

**Table S6. Cognitively unimpaired stable only (individuals who were cognitively unimpaired - declining or with Mild Cognitive Impairment were excluded): separate Bayesian Analysis of Covariance (ANCOVAs) with Total ratio, Immediate and Delayed recall as outcome, N = 360.**

**Model Comparison – Total ratio**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>error %</b>
Null model	0.500	0.376	0.602	1.000	
p-tau217 status	0.500	0.624	1.660	1.660	3.448

*Note.* All models include gender, education years, apolipoprotein E (APOE) Risk score, age at blood extraction, cognitive visit number, elapsed time.

**Model Comparison – Immediate recall**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>error %</b>
Null model	0.500	0.884	7.587	1.000	
p-tau217 status	0.500	0.116	0.132	0.132	2.323

*Note.* All models include gender, education years, apolipoprotein E (APOE) Risk score, age at blood extraction, cognitive visit number, elapsed time.

**Model Comparison – Delayed recall**

<b>Models</b>	<b>P(M)</b>	<b>P(M data)</b>	<b>BF<sub>M</sub></b>	<b>BF<sub>10</sub></b>	<b>error %</b>
Null model	0.500	0.884	7.587	1.000	
p-tau217 status	0.500	0.116	0.132	0.132	2.323

*Note.* All models include gender, education years, apolipoprotein E (APOE) Risk score, age at blood extraction, cognitive visit number, elapsed time.