Supplementary Material
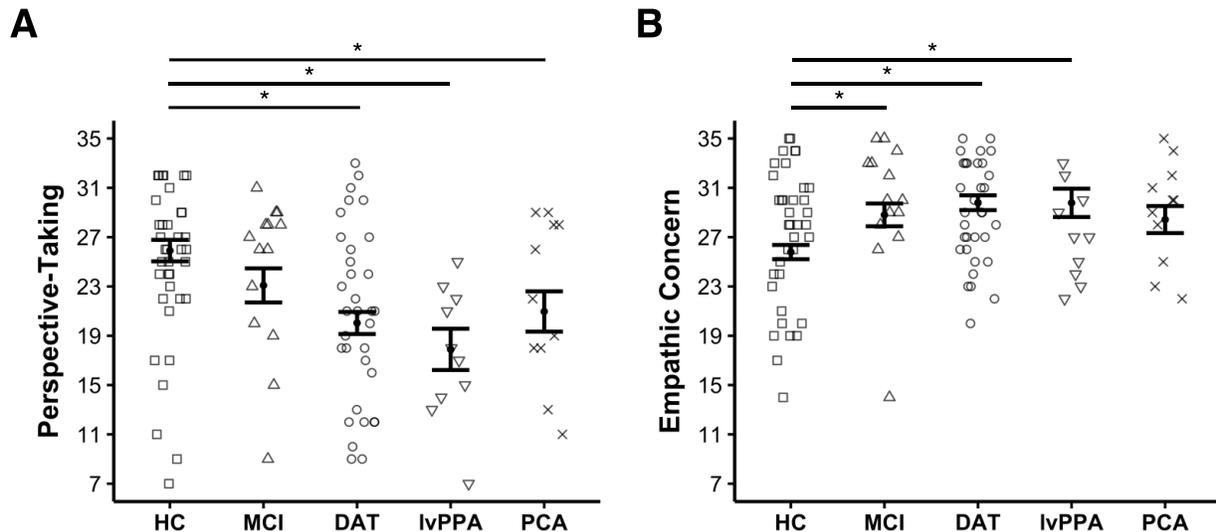
Medial Temporal Lobe Tau Aggregation Relates to Divergent Cognitive and Emotional Empathy Abilities in Alzheimer's Disease

Supplementary Figure 1. Perspective-taking and empathic concern in each of the AD clinical syndromes compared to the Aβ- healthy controls. Multivariate linear regression analyses were conducted to compare each of the clinical groups to the Aβ- healthy controls on A) perspective-taking and B) empathic concern with follow-up Type-II analyses of variance to assess significance. *Post hoc* Bonferroni-corrected pairwise analyses revealed that symptomatic Aβ+ participants with DAT (t(97) = -4.651, $p_{BONFERRONI}$ = 4.183 x 10^{-5}, Cohen's d = 1.157), lvPPA (t(97) = -4.176, $p_{BONFERRONI}$ = 2.590 x 10^{-4}, Cohen's d = 1.579), and PCA (t(97) = -2.658, $p_{BONFERRONI}$ = 0.037, Cohen's d = 0.974) had lower perspective-taking than the Aβ- healthy controls (but there was no significant difference for MCI, t(97) = -1.726, $p_{BONFERRONI}$ = 0.350, Cohen's d = 0.556). In contrast, Aβ+ participants with MCI (t(97) = 2.825, $p_{BONFERRONI}$ = 0.023, Cohen's d = 0.889), DAT (t(97) = 4.763, $p_{BONFERRONI}$ = 2.673 x 10^{-5}, Cohen's d = 1.180), and lvPPA (t(97) = 2.996, $p_{BONFERRONI}$ = 0.014, Cohen's d = 1.177) had higher empathic concern than the Aβ- healthy controls (but there was no significant difference for PCA, t(97) = 2.095, $p_{BONFERRONI}$ = 0.155, Cohen's d = 0.778). Covariates of non-interest in these models included age at IRI, gender, and the contrasting IRI subscale (i.e., empathic concern or perspective-taking scores). Error bars indicate the predicted fits from the regression models, while the scatterplots indicate raw empathy scores.

HC, healthy controls; MCI, mild cognitive impairment; DAT, dementia of the Alzheimer's type; lvPPA, logopenic variant primary progressive aphasia; PCA, posterior cortical atrophy