**Table S4.** Demographic, cognitive, and functionality data of the EEG subsample

| | CN (*n* = 46) | bvFTD (*n* = 18) | AD (*n* = 31) | Stats | post-hoc comparisons |
|---|---|---|---|---|---|
| *Demographics* | | | | | |
| Sex (M:F) | 17:29 | 13:5 | 14:17 | $\chi2 = 6.49$; $p = 0.03$ | CN- bvFTD: $p = 0.02$ CN-AD: $p = 0.62$ bvFTD-AD: $p = 0.12$ |
| Age | 71.06 (7.31) | 68.22 (10.14) | 75.74 (7.59) | $F = 5.71$; $p = 0.004$ | CN- bvFTD: $p = 0.2$ CN-AD: $p = 0.01$ bvFTD-AD: $p = 0.002$ |
| Years of education | 14.69 (4.07) | 15.38 (4.93) | 9.87 (5.02) | $F = 12.76$; $p < 0.001$ | CN- bvFTD: $p = 0.58$ CN-AD: $p < 0.001$ bvFTD-AD: $p = 0.0001$ |
| *Cognitive and functional assessment* | | | | | |
| MoCA total score | 25.41 (3.14) | 22.16 (4.56) | 16.89 (4.14) | $F = 38.98$; $p < 0.001$ | CN- bvFTD: $p = 0.004$ CN-AD: $p < 0.001$ bvFTD-AD: $p < 0.001$ |
| IFS total score | 23.10 (2.03) | 19.77 (4.92) | 14.48 (4.28) | $F = 38.25$; $p < 0.001$ | CN- bvFTD: $p = 0.004$ CN-AD: $p < 0.001$ bvFTD-AD: $p < 0.001$ |
| FAQ total score | --- | 6 (6.04) | 9.91 (6.26)* | $F = 3.85$; $p = 0.05$ | --- |

Data are presented as mean (*SD*), except for sex. Categorical variables were analyzed with Pearson's chi-squared (χ2) test. Continuous variables were analyzed through ANOVAs and post-hoc pairwise comparisons. The alpha level was set at *p* < 0.05. AD: Alzheimer's disease, bvFTD: behavioral variant of frontotemporal dementia, CN: healthy controls, FAQ: Pfeffer's Functional Assessment Questionnaire, IFS: INECO Frontal Screening, MoCA: Montreal Cognitive Assessment. *Mean score above the cut-off of 8/9 (sensitivity = 87, specificity = 82) for functional impairment according to the Spanish version of the questionnaire (Cruz-Orduña et al., 2011).