**Supplementary Table 1.** Between test correlation matrix for social cognitive measures in individuals with premanifest HD.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RMET** | **CAM** | **Mini SEA Faux Pas** | **Mini SEA Emotion Recognition** | **MAV** | **MEB** | **IRI Perspective Taking** | **IRI Empathic Concern** | **Number of High Contact Roles** | **Number of People Within Social Network** | **Embedded Social Networks** |
| **RMET** | — |  |  |  |  |  |  |  |  |  |  |
|  | — |  |  |  |  |  |  |  |  |  |  |
| **CAM** | 0.58 | — |  |  |  |  |  |  |  |  |  |
|  | **<0.001** | — |  |  |  |  |  |  |  |  |  |
| **Mini SEA Faux Pas** | 0.43 | 0.59 | — |  |  |  |  |  |  |  |  |
|  | **0.020** | **<0.001** | — |  |  |  |  |  |  |  |  |
| **Mini SEA Emotion Recognition** | 0.54 | 0.32 | 0.18 | — |  |  |  |  |  |  |  |
|  | **<0.001** | 0.405 | 1.000 | — |  |  |  |  |  |  |  |
| **MAV** | 0.63 | 0.57 | 0.44 | 0.36 | — |  |  |  |  |  |  |
|  | **<0.001** | **<0.001** | **0.013** | 0.128 | — |  |  |  |  |  |  |
| **MEB** | 0.42 | 0.37 | 0.24 | 0.12 | 0.48 | — |  |  |  |  |  |
|  | **0.027** | 0.099 | 1.000 | 1.000 | **0.003** | — |  |  |  |  |  |
| **IRI Perspective Taking** | 0.24 | 0.34 | 0.21 | 0.18 | 0.23 | 0.29 | — |  |  |  |  |
|  | 1.000 | 0.291 | 1.000 | 1.000 | 1.000 | 0.743 | — |  |  |  |  |
| **IRI Empathic Concern** | 0.07 | 0.27 | 0.22 | 0.10 | 0.20 | 0.07 | 0.09 | — |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | — |  |  |  |
| **Number of High Contact Roles** | 0.26 | 0.27 | 0.42 | 0.00 | 0.28 | 0.25 | 0.20 | 0.16 | — |  |  |
|  | 1.000 | 1.000 | **0.041** | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | — |  |  |
| **Number of People Within Social Network** | 0.11 | 0.15 | 0.30 | 0.05 | 0.10 | 0.10 | 0.20 | 0.01 | 0.62 | — |  |
|  | 1.000 | 1.000 | 0.807 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | **<0.001** | — |  |
| **Embedded Social Networks** | 0.06 | 0.02 | 0.21 | 0.08 | 0.17 | 0.10 | 0.03 | -0.01 | 0.62 | 0.77 | — |
|  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | **<0.001** | **<0.001** | — |

Note: corrected *p* < 0.05 indicated in bold. RMET, Reading the Mind in the Eyes Task; CAM, Cambridge Facial Emotion Recognition Task; MAV, Montreal Affective Voices; MEB, Musical Emotional Burst Task; IRI, Interpersonal Reactivity Index.

**Supplementary Table 2**: Correlation matrix between social cognitive domains, cognitive, sleep and mood measures.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **ToM** | **Social Perception** | **Empathy** | **Social Behaviour** | **HVLT -TR** | **HVLT - DR** | **OTS** | **SDMT** | **TMT-A** | **TMT-B** | **HADS** | **BDI** | **DBS** | **TAS** | **ESS** | **PSQI** |
| **ToM** | — |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | — |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Social Perception** | 0.45 | — |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **0.022** | — |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Empathy** | 0.08 | 0.13 | — |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1.000 | 1.000 | — |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Social Behaviour** | -0.05 | -0.08 | -0.12 | — |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | — |  |  |  |  |  |  |  |  |  |  |  |  |
| **HVLT-TR** | 0.13 | 0.21 | 0.02 | 0.03 | — |  |  |  |  |  |  |  |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | — |  |  |  |  |  |  |  |  |  |  |  |
| **HVLT-DR** | 0.17 | 0.22 | 0.06 | 0.03 | 0.80 | — |  |  |  |  |  |  |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | **<0.001** | — |  |  |  |  |  |  |  |  |  |  |
| **OTS** | 0.25 | 0.32 | 0.07 | 0.01 | 0.21 | 0.28 | — |  |  |  |  |  |  |  |  |  |
|  | 1.000 | 0.976 | 1.000 | 1.000 | 1.000 | 1.000 | — |  |  |  |  |  |  |  |  |  |
| **SDMT** | 0.31 | 0.36 | -0.08 | -0.01 | 0.50 | 0.52 | 0.51 | — |  |  |  |  |  |  |  |  |
|  | 1.000 | 0.314 | 1.000 | 1.000 | **0.003** | **0.001** | **0.002** | — |  |  |  |  |  |  |  |  |
| **TMT-A** | -0.18 | -0.24 | -0.002 | 0.18 | -0.43 | -0.45 | -0.35 | -0.55 | — |  |  |  |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | **0.035** | **0.019** | 0.484 | **<0.001** | — |  |  |  |  |  |  |  |
| **TMT-B** | -0.18 | -0.29 | -0.07 | 0.17 | -0.50 | -0.43 | -0.49 | -0.70 | 0.70 | — |  |  |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | **0.002** | **0.049** | **0.006** | **<0.001** | **<0.001** | — |  |  |  |  |  |  |
| **HADS** | -0.06 | -0.08 | 0.15 | -0.09 | -0.05 | 0.07 | -0.01 | -0.05 | 0.10 | 0.07 | — |  |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | — |  |  |  |  |  |
| **BDI** | -0.12 | -0.09 | 0.16 | -0.35 | -0.40 | -0.30 | 0.05 | -0.27 | 0.22 | 0.16 | 0.58 | — |  |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 0.484 | 0.107 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | **<0.001** | — |  |  |  |  |
| **DBS** | -0.26 | -0.09 | 0.05 | 0.08 | -0.09 | 0.09 | -0.15 | -0.09 | 0.27 | 0.08 | -0.17 | -0.09 | — |  |  |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | — |  |  |  |
| **TAS** | -0.35 | -0.36 | -0.09 | -0.26 | -0.34 | -0.31 | -0.13 | -0.30 | 0.19 | 0.24 | 0.20 | 0.40 | -0.24 | — |  |  |
|  | 0.533 | 0.367 | 1.000 | 1.000 | 0.564 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.124 | 1.000 | — |  |  |
| **ESS** | 0.02 | 0.11 | 0.15 | 0.12 | 0.26 | 0.24 | 0.37 | 0.24 | -0.12 | -0.08 | 0.17 | 0.07 | -0.10 | -0.06 | — |  |
|  | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.302 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | — |  |
| **PSQI** | -0.04 | -0.10 | 0.34 | -0.27 | -0.06 | 0.01 | -0.01 | -0.12 | 0.18 | -0.001 | 0.26 | 0.52 | 0.10 | 0.15 | 0.09 | — |
|  | 1.000 | 1.000 | 0.554 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | **0.001** | 1.000 | 1.000 | 1.000 | — |

Note: Corrected *p* < 0.05 indicated in bold. ToM; Theory of Mind; HVLT-TR, Hopkins Verbal Learning Test – Total Recall; HVLT-DR, Hopkins Verbal Learning Test – Delayed Recall; OTS, One Touch Stockings of Cambridge; SDMT, Symbol Digit Modalities Test; TMT-A, Trailing Making Test – Part A; TMT-B, Trail Making - Test Part B; HADS, Hospital Anxiety and Depression Scale; BDI, Beck Depression Index; DBS, Disease Burden Score; TAS, Toronto Alexithymia Scale; ESS, Epworth Sleepiness Scale; PSQI, Pittsburgh Sleep Quality Index.