Supplementary Figure 1. Attention network test (ANT). A schematic of the four types of cue (a) and three types of flanker (b) that are used in ANT with the time courses of events (c).



Supplementary Table 1. Demographics and cognitive profiles between healthy and NCD subgroups

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Healthy(n=137) | NCD-AD(n=36) | NCD-Vascular(n=31) | *F**(χ2)* | *P value* |
| Age | 71.45±3.99 | 73.35±4.91 | 73.46±5.27 | 3.098 | 0.056 |
| Gender (F/M) | 61/76 | 16/20 | 12/19 | 1.800 | 0.168 |
| Education (years) | 9.30±4.26 | 7.56±3.92 | 8.21±3.27 | 3.141 | 0.055 |
| Systolic BP | 139.00±19.46 | 146.08±21.78 | 143.48±17.10 | 2.182 | 0.115 |
| Diastolic BP | 78.19±10.75 | 78.36±8.60 | 81.74±13.47 | 1.379 | 0.254 |
| CSDD | 0.49±1.81 | 0.18±0.72 | 0.26±0.85 | 0.590 | 0.555 |
| PSQI | 5.75±3.15 | 6.24±3.69 | 5.88±3.05 | 1.284 | 0.279 |
| ADL | 6.09±3.37 | 5.19±3.12 | 6.35±3.27 | 3.139 | 0.061 |
| CDR-SOB | 0.34±0.47 | 0.81±0.54 | 0.81±0.70 | 17.915 | <0.001 |
| CMMSE | 28.63±1.17 | 27.22±1.96 | 26.74±1.73 | 30.869 | <0.001 |
| HK MoCA | 27.23±1.85 | 24.11±3.21 | 24.00±2.77 | 44.020 | <0.001 |
| ADAS | 4.91±2.08 | 9.42±2.49 | 8.98±2.63 | 82.615 | <0.001 |
| Delayed recall | 7.64±1.45 | 3.97±0.91 | 5.97±1.08 | 115.717 | <0.001 |
| Digit span backward (DSB) | 3.75±1.32 | 3.00±1.22 | 3.03±0.84 | 7.863 | 0.001 |
| Trail making test B | 67.07±41.26 | 91.21±62.26 | 83.17±38.13 | 4.784 | 0.009 |
| Trail making test A | 12.90±6.37 | 16.87±10.18 | 15.62±6.09 | 5.327 | 0.006 |
| Digit span forward (DSF) | 7.62±1.13 | 7.17±0.94 | 7.00±1.44 | 5.118 | 0.007 |

Note. Data are raw scores and presented as mean ± SD. CSDD = The Cornell Scale for Depression in Dementia; PSQI = Pittsburgh Sleep Quality Index;

 BP: Blood pressure; CDR-SOB = Clinical dementia rating-sum of box; ADL = Activity of daily living scale.

Supplementary Table 2. Scores of attention network functions between healthy and NCD subgroups

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Healthy(n=137) | NCD-AD(n=36) | NCD-Vascular(n=31) | *F* | *P value* |
| Alerting | 3.95±31.88 | 9.93±44.44 | 7.95±29.58 | 0.525 | 0.592 |
| Orienting | -19.76±28.66 | -24.32±39.31 | -21.56±27.69 | 0.326 | 0.722 |
| Executive control | 59.86±45.86 | 96.96±53.90 | 88.87±44.84 | **11.472** | **<0.001** |
| Alerting ratio | 0.0061±0.0469 | 0.0132±0.0583 | 0.0123±0.0425 | 0.432 | 0.650 |
| Orienting ratio | -0.0287±0.0417 | -0.0304±0.0461 | -0.0300±0.0371 | 0.029 | 0.971 |
| Executive control ratio | 0.0889±0.0682 | 0.1318±0.0716 | 0.1288±0.0609 | **8.430** | **<0.001** |

Note. Data are raw scores and presented as mean ± SD.

Supplementary Table 3. Correlation between ANT indices and cognitive functions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Alerting |  | Orienting |  | Executive control |
| *r* | *p* | *r* | *p* | *r* | *p* |
| CDR-SOB | -0.207 | 0.256 |  |  0.199 | 0.276 |  | -0.277 | 0.125 |
| CMMSE |  0.234 | 0.197 |  | -0.261 | 0.149 |  |  0.244 | 0.178 |
| HK MoCA | -0.042 | 0.820 |  |  0.052 | 0.776 |  |  0.260 | 0.150 |
| ADAS-Cog |  0.035 | 0.848 |  |  0.199 | 0.274 |  | -0.071 | 0.701 |
| Delayed recall |  0.215 | 0.236 |  | -0.275 | 0.128 |  |  0.279 | 0.122 |
| DSB |  0.230 | 0.205 |  | -0.152 | 0.405 |  |  0.050 | 0.786 |
| CVFT | -0.024 | 0.896 |  |  0.071 | 0.698 |  |  0.047 | 0.800 |
| TMT-B |  0.124 | 0.499 |  |  0.085 | 0.664 |  | -0.062 | 0.736 |
| TMT-A |  0.179 | 0.327 |  | -0.140 | 0.445 |  | -0.122 | 0.507 |
| DSF |  0.176 | 0.336 |  | -0.143 | 0.445 |  |  0.052 | 0.778 |