Supplementary Information 3  
Gold standard outcomes

Raw scores and z-scores of the gold standard neuropsychological test battery are provided in the table below, for CCAS patients and cerebellar controls (CC).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | CCAS patients | | Cerebellar controls (CC) | |
|  | Raw score | Z-score | Raw score | Z-score |
| Semantic Verbal Fluency test animals correct | 17.7 ± 4.1 | -1.05 ± 0.7 | 21.2 ± 4.8 | -0.52 ± 0.8 |
| ROCF copy score | 31.8 ± 3.8 | -0.42 ± 1.0 | 34.0 ± 2.0 | 0.20 ± 0.9 |
| RAVLT correct trial 1-3 | 18.4 ± 4.7 | -0.87 ± 0.9 | 20.9 ± 3.6 | -0.33 ± 0.7 |
| RAVLT delayed recall | 6.0 ± 2.4 | -0.95 ± 1.2 | 6.4 ± 2.0 | -0.18 ± 0.9 |
| BSAT errors | 17.8 ± 7.8 | -0.40 ± 1.4 | 13.9 ± 5.1 | 0.21 ± 1.0 |
| Stroop card I time (s) | 75.4 ± 23.4 | -3.00 ± 1.5 | 52.3 ± 11.5 | -1.04 ± 1.1 |
| Stroop card II time (s) | 89.0 ± 22.7 | -2.60 ± 1.5 | 62.5 ± 6.6 | -0.54 ± 0.7 |
| Stroop card III time (s) | 148.3 ± 48.8 | -1.70 ± 1.2 | 97.1 ± 14.1 | -0.07 ± 0.6 |
| Digit span forwards correct | 7.7 ± 2.0 | 0.26 ± 1.0 | 8.1 ± 1.5 | 0.45 ± 0.7 |
| Digit span backwards correct | 5.4 ± 1.7 | -0.48 ± 1.0 | 6.2 ± 1.4 | 0.01 ± 0.8 |
| ERT anger correct | 12.3 ± 3.5 | 0.05 ± 1.1 | 13.1 ± 2.3 | 0.30 ± 1.0 |
| ERT disgust correct | 8.4 ± 3.5 | -0.80 ± 0.9 | 9.4 ± 3.5 | -0.64 ± 0.8 |
| ERT sadness correct | 4.3 ± 3.0 | -0.54 ± 1.1 | 4.6 ± 5.6 | -0.43 ± 0.9 |
| ERT fear correct | 2.9 ± 2.4 | -0.78 ± 0.8 | 3.2 ± 2.7 | -0.68 ± 0.9 |
| ERT happiness correct | 14.2 ± 1.9 | 0.02 ± 1.2 | 14.8 ± 0.8 | 0.20 ± 0.8 |
| ERT surprise correct | 7.0 ± 2.4 | -0.55 ± 0.8 | 7.8 ± 2.9 | -0.30 ± 1.0 |

Variables are presented as means with standard deviations.   
Z-scores are based on age-, sex-, and education-corrected norms [1].  
ROCF = Rey–Osterrieth Complex Figure; RAVLT = Rey Auditory Verbal Learning Test; BSAT = Brixton Spatial Anticipation Test; ERT = Emotion Recognition Test.

**Reference**

1. de Vent, N.R., et al., *Advanced Neuropsychological Diagnostics Infrastructure (ANDI): A normative database created from control datasets.* Frontiers in Psychology, 2016. **7**: p. 1601.