**Supplementary table 1.** Mean (and SD) values for the quality of fixation and pursuit.

|  |  |  |
| --- | --- | --- |
|  | Quality of Fixation | Quality of Pursuit |
| First-half (FH) | 14.44 (17.44) | 1.13 (0.018) |
| Second-half (SH) | 13.34 (10.17) | 1.12 (0.014) |

The quality of fixation and of tracking a visible target were quantified as described in section 2.6.1.

**Supplementary table 2.** Mean (and SD) values for the time spent (%) generating SPEM with EOL for the first (2-3: FH) and last (5-6: SH) sessions.

|  |  |  |
| --- | --- | --- |
|  | EOL (average) | EOL (best record) |
| First-half (FH) | 63.99 (17.22) | 79.04 (17.52) |
| Second-half (SH) | 64.01 (14.46) | 81.61 (12.66) |
|  |  |  |

The duration and proportion of SPEM, relative to fixation, saccades and blinks generated with EOL during a run (30 to 60 seconds) were computed using the criteria defined in section 2.6.1: Smooth pursuit is any eye-trace comprising at least a cluster of 30 successive samples (500 ms of recording) spaced by less than 50 pixels to avoid including saccadic eye-movements, whose standard deviation was larger than 10, to avoid including fixational eye-movements. The cumulated SPEM duration is expressed in % of the run duration.

**Supplementary table 3.** Mean (and SD) values (%) for Motivation and Tiredness.

|  |  |  |
| --- | --- | --- |
|  | Tiredness | Motivation |
| First-half (FH)Session 1-3 | 25.13 (26.68) | 86.05 (18.85) |
| Second-half (SH)Sessions 4-6 | 27.26 (24.81) | 88.73 (12.61) |

**Supplementary table 4.** Neuropsychological evaluations

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Subject | age | Sex  | Education (years) | Anxiety (HAD) | Depression (HAD) | BehaviorFBI | Apathy(Starkstein scale) | Global cognitive efficiency(MDRS) | Identi-fication of emotion (from SEA) | Theory of Mind(from SEA) |
| A | **62** | M | 15 | n | **P** | *N.A.* | **P** | **P** | **P** | **P** |
| B | **66** | M | 12 | n | n | **P** | **P** | n | n | n |
|  |  |  |  |  |  |  |  |  |  |  |
| C | **51** | F | 9 | n | n | *N.A.* | n | n | n | n |
| J | **20** | M | 14 | n | n | n | **P** | n | n | n |
| L | **53** | F | 12 | n | n | n | **P** | n | n | n |
|  |  |  |  |  |  |  |  |  |  |  |
| D | **61** | F | 12 | n | n | n | n | n | n | n |
| E | **49** | M | 17 | n | n | n | n | n | n | n |
| F | **50** | M | 17 | n | n | *N.A.* | n | n | n | **P** |
| G | **66** | M | 17 | n | n | n | n | n | n | **P** |
| H | **71** | M | 20 | n | n | n | n | n | n | n |
| I | **74** | M | 17 | n | n | n | n | n | n | n |
| K | **59** | M | 10 | n | n | n | n | n | n | n |
| **N.A. = not available ; n=normal score; P= pathological score** |  |  |  |  |  |  |  |  |  |