**Supplemental information:**

**Description of the neuropsychological tests used**

*Shifting tasks:*

*Plus-minus task*: This task consisted of three lists of two digit numbers. Participants were instructed to add 3 to all the numbers in the first list and to write down the result, to subtract 3 in the second list, and, finally, to alternate between adding and subtracting 3 in the third list. The shift cost was calculated as the difference between the time taken to complete the third list and the average of the time taken for the first and second lists: T3 – [(T2 + T1) / 2].

*Number-letter task*: This task was computerized. A number-letter pair was presented in one of four quadrants on the screen. Participants were instructed to indicate whether the number was odd or even when the pair was presented in one of the upper quadrants, and whether the letter was a consonant or a vowel when the pair was presented in either of the bottom two quadrants. The pairs were all presented in the upper quadrants for the first block of 32 items, in the bottom two quadrants for the second block and randomly in any of the quadrants in the last block of 32 items. The shift cost was calculated in the same way as in the plus-minus test: T3 – [(T2 + T1) / 2].

*Updating tasks:*

*N-back task*: A list of 30 letters was read out to the participants, who were instructed to say aloud (yes/no) whether the current letter was the same as one of the three previous letters. The next letter was read after the participant’s response. The score was the number of correct answers (hits and correct rejections).

*Self-Ordered Pointing Task*: This computerized task consisted of 16 drawings presented together 16 times but each time with a different organization. Participants were instructed to choose a different drawing in each presentation, the aim being to select each of the 16 drawings during the 16 presentations. The score was the number of different drawings selected.

*Inhibition tasks:*

*Stroop color word task* (SCWT): Two subtests of the SCWT were used. In the color naming baseline condition, participants were instructed to name the color of crosses (XXXX) within 45 seconds, and in the color-word condition, they had to name the color of the ink of words denoting a color within 45 seconds. Items were presented on a sheet of paper. To reduce the potential bias of patients’ cognitive slowing, we used the following interference score: (Baseline – color word)/Baseline.

*Hayling Sentence Completion Test* (HSCT): In part A, participants were instructed to complete orally 15 sentences read by the experimenter by providing the appropriate final word. In part B, they had to complete 15 new sentences with a word that had no semantic link with the sentence. The scores were the time taken to complete part B and the number of errors in Part B. Z-scores including these two scores were computed to create a single score for HSCT.

*Access tasks:*

*Verbal fluency:* Participants were instructed to name as many words as possible beginning with the letter P (phonemic fluency) or belonging to the “animals” category (semantic fluency). The score was the number of correct words within 60 seconds.

*Processing speed tasks:*

*Digit copying test*: Participants had to write down the digit matching a number according to a key. The score was the number of items correctly reported in 30 seconds. This time limit was chosen to reduce the impact of executive abilities and memory on performance (Knowles et al., 2015).

*Letter comparison test*: On a sheet of paper displaying pairs of X and O, participants had to decide whether each pair was identical or different and to tick the corresponding box. The score was the number of correct items in 30 seconds.

**References:**

Knowles, E. E. M., Weiser, M., David, A. S., Glahn, D. C., Davidson, M., & Reichenberg, A. (2015). The Puzzle of Processing Speed, Memory, and Executive Function Impairments in Schizophrenia: Fitting the Pieces Together. *Biological Psychiatry*, *78*(11), 786–793. https://doi.org/10.1016/j.biopsych.2015.01.018