**SUPPLEMENTARY INFORMATION**

*NUTRIMENTHE Neuropsychological Battery (NNB)*

Instruments

The NNB is composed of the following tests:

1. *Memory:*

***Recall of Object Test (ROT)44.*** This test was developed specifically for the NNB. The test consists of 20 drawings selected from the Snodgrass & Vanderwart (1980) drawings portfolio. First, the 20 drawings are presented to the child on an A4 size sheet for 20 seconds. The child is instructed to give the name of the drawings that they could remember in any order immediately after the sheet was withdrawn. After 20 minutes, the child is again asked to recall the drawings. Finally, immediately after the delayed trial, an A3 size sheet containing 50 drawings (20 target and 30 distractors) are shown and the child is asked to mark on it the drawings from the first trial. Dependent variables are hits in the immediate, delayed and distracted conditions.

***The Rey Auditory Verbal Learning Test (RAVLT)***45. RAVLT consist of a 15-word list of proper nouns. The 15 words are read aloud at a rate of 1 word per second. The child is instructed to remember as many of the words as possible and to recall them in any order. Words on the list are presented in the same order for five study-test trials. After the child completes 20-min of non-memory-related activities, they are again asked to recall the words from the list. Finally, immediately after the delayed trial, a distracted repletion of the list is read out containing the 15 words from the first list and 15 new distractor words. Dependent variables are the number of words correctly recalled after each of the first, the fifth, the delayed and the distracted repetition of the words.

1. *Attention:*

***Continuous Performance Test (CPT)***46. This task is a measure of sustained attention. The test consists in pressing any key on the keyboard when the letter “X” is preceded by the letter “A” (“go” condition). Seven hundred total letters appeared on the computer screen, one at a time, each for 500 milliseconds. The 700 trials are presented in 7 blocks of 100 trials. Inter Stimulus Interval (ISI) were 750 milliseconds. In each block, 10% of the trials have the “go” condition. Transition from one block to the next is unannounced and occurs without delay. The total CPT task takes approximately 12 minutes to complete. Hits (press any key in “go” condition), errors of omission (not to press any key in “go” condition), and errors of commission (press any key in “no go” condition) are the dependent measures.

***Pair Cancellation Test (W-M)***47-49. Pair Cancellation requires a child to cancel repeated patterns of drawings mixed with other drawings in the same line. Total correct is the dependent measure.

1. *Motor coordination:*

***Grooved Pegboard Test (GPT)***50. This test is a measure of motor performance and visual–motor coordination. The Grooved Pegboard test is an apparatus consisted of 25 keyhole-shaped holes (five by five matrixes) with various orientations. The child is tasked to place as many pegs as possible into the keyhole-shaped holes, one peg at a time, within 1 min. The dependent measure is the number of pegs correctly placed in the holes within the time with the dominant and non-dominant hand, separately.

1. *Perception:*

***Hooper Visual Organization Test (HVOT)***51. This test evaluates the capacity of a child to visually integrate information and consists of 30 drawings of common objects presented in cut-up form and requires identification of the object. Total correctly identified was the dependent measure.

1. *Language:*

***Categorical Fluency Test (F-A-S-Animals)***52. This is a measure of language production. Children are instructed to say as many names of animals as they know during 1 minute. No grammatical variations or repetitions are counted. The number of animals correctly named is the dependent variable.

***NEPSY II Comprehension of Instructions (Token test II)***53. This is a measure of language comprehension. This test consists of verbal instructions with increasing difficulty in which children have to point to the correct objects. The dependent variable is the number of correct responses.

1. *Processing speed:*

***Symbol Digit Modalities Test (SDMT)***54. The SDMT written version is a measure of psychomotor speed and attention that requires decoding of a series of numbers listed on paper according to a corresponding template of visual symbols. With the use of a reference key, a child is given 90 sec to accurately match numbers with corresponding geometric figures. The dependent measure is the number of symbols correctly matched minus any errors.

1. *Executive function:*

***Stroop Color and Word Test***55. This test measures response inhibition. There are three components to this task. First, the child is asked to name a series of color words (Word task). Second, the child is asked to name the color of a bar (Color task) of X’s (e.g., XXX in red, blue, or green ink). The final task is the Color–Word task in which the child is shown the names of colors printed in conflicting ink colors (e.g., the word “blue” appears in red ink) and is asked to name the color of the ink rather than the word. The dependent variable was the interference score, expressed as the difference between the hits from Color-Word and reading+naming tasks obtained according to the manual formula.

***Reversal Digits subtest***49. This is a measure of working memory. This task requires immediate, serial recall in reverse order of a list of spoken digits and, typically, the length of the digit string is increased until the child consistently fails. The dependent variable is the number of correct responses.

***Matrix Analogies Test (K-ABC-II)***56. This is a measure of abstract reasoning. This is a multiple-choice test that presents stimuli in a matrix format. The child selects a picture or abstract design that best completes a visual pattern following a visual analogy. The dependent variable is the number of correct responses.

***Children's Colors Trail Test (CCTT)***57. This test consists of two parts—Parts 1 (CCTT1) and 2 (CCTT2). Part 1 (CCTT1) is comprised of a page with 15 randomly arranged numbered and coloured circles, with the even numbers printed in yellow circles and the odd numbers printed pink circles. The child uses a pencil to rapidly connect circles numbered 1–15 in sequence. Part 2 (CCTT2) is comprised of a series of coloured circles, also numbered 1–15. Each number (from 2 – 15) is presented twice—once in a pink circle and once in a yellow circle. The child rapidly connects the numbered circles in sequence, alternating between pink and yellow circles. Dependent variables are the number of seconds to complete each trial.

***Hungry Donkey task (HDT)***58. This is a computerized decision-making task for children. The stimulus displays 100 trials consisting of four doors: A, B, C, and D, with a donkey sitting in front of each of the doors. The child is asked to assist the hungry donkey by collecting as many apples as possible by clicking with the mouse on one of the four doors. Upon clicking on one of the doors, the display is replaced by an outcome display showing a number of apples either gained or lost. A horizontal bar on the screen shows the total number of apples gained or lost, as indicated by a number and colour change. The child starts with zero apples, and the total number is updated every time a door is chosen. Doors A and B provide a net loss of apples so are disadvantageous. In contrast, doors C and D provide a net gain in apples so are advantageous in the long run. Note that the detailed properties of each door are not presented to the child, but instead have to be inferred, based on the gains and losses. The dependent variable is the total of apples obtained according with the formula (C+D)-(A+B).

*Procedure*

The NNB was administrated to the child in a quiet room by trained professionals. All professionals involved in the battery administration received a common training provided by an expert neuropsychologist.

NNB was administrated in one session and took one hour approximately. The order of administration was fixed trying to avoid fatigue and combining verbal and non-verbal tests: Reversal digits, recall of objects, CCTT, CPT, recall of objects test (delayed and recognition trials), Stroop test, verbal fluency, RAVLT (immediate trials), matrix analogies (K-ABC-II), NEPSY II - Comprehension of Instructions, RAVLT (delayed and recognition trials), HVOT, Grooved Pegboard, HDT, Pair Cancellation Test (W-M) and SDMT.