**Supplementary material**

***CogState Brief Battery testing procedure***

On each trial of each task, a single playing card stimulus was presented in the centre of a laptop computer screen. The values, color, and suit of the playing cards were determined by the requirements of each task. At the presentation of each playing card stimulus, participants were required to respond either “Yes” or “No” by pressing the “K” (yes) or “D” (no) key on the computer keyboard as quickly and as accurately as possible. While these keys were identified specifically in training, during the task the keys that surrounded the “K” key (e.g.,U, I, O, J, L, M, “,” and “.” keys) were sensitive to “Yes” responses, and the keys that surrounded the “D” key (e.g., W, E, R, S, F, X, C, and V keys) were sensitive to “No” responses. At the beginning of each task, rules were presented on the computer screen and were also given verbally to the participant (in Swedish). This was followed by an interactive demonstration in which participants practiced the task. Once the practice trials were complete, the task began. The practice task ensures that learning effects are minimized. The four tasks were presented in the same order. For each task, the speed and accuracy of each response to each trial was automatically recorded and expressed as a mean reaction time (in milliseconds) and accuracy (proportion correct). CogState currently recommend that reaction time is reported as the primary outcome for each task, except visual memory, where accuracy is reported (personal communication with CogState, June 2017).

***Description of the four CogState Brief Battery tasks***

(1) The Detection (DET) task is a simple reaction time test shown to measure psychomotor function. In this task, the participant attends to a card in the center of a computer screen and responds to the question: “Has the card turned over?” Participants are instructed to press the “Yes” key as soon as the card turns face up. The face of the card is always the same generic joker card. The task ends after 35 correct trials have been recorded. Trials on which anticipatory responses occur are excluded, and

another trial is given so that all participants complete the 35 trials. The primary performance

measure for this task is reaction time in milliseconds (speed), which is normalized using a logarithmic base 10 (log10) transformation.

(2) The Identification (IDN) task is a choice reaction time test shown to measure visual attention. In this task, the participant attends to the card in the center of a computer screen and responds to the question: “Is the card red?” Participants are required to press the “Yes” key if it is and the “No” key if it is not. The face of the cards displayed was either red or black joker cards in equivalent numbers in random order. These cards were different to the generic joker card used in the DET task. The task ends after 30 correct trials. Trials on which anticipatory responses occur are excluded, and another trial given so that all participants completed the 30 trials. The primary performance measure for this task is reaction time in milliseconds (speed), which is normalized using a log10 transformation.

(3) The One Card Learning (OCL) task is a continuous visual recognition learning task that assesses visual learning within a pattern separation model. In this task, the participant must attend to a card in the center of a computer screen and respond to the question: “Have you seen this card before in this task?” If the answer is yes, participants are instructed to press the “Yes” key, and the “No” key if the answer is no. Normal playing cards are displayed (without joker cards). In this task, six cards are drawn at random from the deck and repeated throughout the task. These six cards are interspersed with distractors (nonrepeating cards). The task ends after 42 trials, without rescheduling for postanticipatory correct trials. The primary performance measure is the proportion of correct answers (accuracy), which is normalized using an arcsine square-root transformation.

(4) The One-Back (OBK) task is a task of working memory and attention. Similar in presentation to the OCL task, participants must attend to a card in the center of a computer screen and respond to the question: “Is this card the same as that on the immediately previous trial?” If the answer is yes, participants are instructed to press the “Yes” key, and the “No” key if the answer is no. The task ends after 30 correct trials. A correct but postanticipatory response leads to scheduling of an extra trial. The primary performance measure for this task is the proportion of correct answers (accuracy), which is normalized using an arcsine square-root transformation.