**Supplemental material**

*Matrix reasoning subtest of the Wechsler Intelligence Scale for Children (WISC) – fourth edition* (Wechsler, 2008). This task assesses nonverbal reasoning capacities by asking children to complete visual matrixes from which one piece is missing. The number of correct responses was recorded.

*Stroop Fruit task (Catale, Lejeune, Schmitz, & Meulemans, 2014).* This Stroop-paradigm-based task assesses children’s inhibition capacities. After completing two control conditions – naming the color of rectangles for the first and naming the true color of fruits (colored in black) for the second – children have to name the true color of fruits that are shown in unusual colors, therefore inhibiting the predominant tendency to name the actual colors (interference subtask). The number of errors (i.e., naming the unusual color) during the interference condition was recorded. This task has been shown to discriminate between typically developing children and children with ADHD and to be sensitive to executive functioning development (see Catale et al., 2014).

*“Dragons’ House” subtest of the computerized test of attentional performance for children (KiTAP; Zimmermann, Gondan, & Fimm, 2005)*. This subtest assesses children’s capacity for flexibility by requiring them to alternate between two kinds of stimuli. In this subtest, a blue and a green dragon appear simultaneously on the screen, with their position relative to a castle door changing randomly (left or right side). Children respond with one of two response buttons (left or right). They have to press, as quickly as possible, the button corresponding to the location of green dragon for one item, and then the button corresponding to the location of the blue dragon for the following item, and so on. The number of errors (commissions; i.e., when the child presses the wrong response button) was recorded.

*“Sad ghost and happy ghost” subtest of the KiTAP (Zimmermann et al., 2005)*. This subtest, based on the Go/No-Go paradigm, assesses children’s attentional capacities by requiring them to detect targets while ignoring distractors. Children have to press the response button as quickly as possible when the sad ghost, but not the happy ghost, appears briefly in a doorway. However, distractors (e.g., a witch) appear in the doorway just before the ghosts appear. Since the two ghosts differ from each other only in the mouth, if the child’s attention is attracted by a distractor, the child cannot determine whether the ghost was happy or sad, leading to an omission. The number of omissions was recorded.

*“Owls” subtest of the KiTAP (Zimmermann et al., 2005).*This task assesses children’s divided attention capacities by requiring them to complete a visual and an auditory task simultaneously. On the screen, an owl with open eyes stands on a windowsill, while two bats call and respond to each other. Children have to press the response button as quickly as possible when the owl on the windowsill closes its eyes or when one of the two bats does not respond. The total number of omissions (visual and auditory) was recorded.

The three above KiTAP subtests has been specifically designed for children from age 6 to 10. These tasks have shown good psychometric properties (see Zimmermann et al., 2005).

*“Skewered fruit” task adapted from the Test of attention performance (TAP; Zimmermann & Fimm, 2010)*. In this computerized n-back task, children have to monitor a big skewer on which fruits appear (one at a time) on the screen; they have to press the response button as quickly as possible if a fruit is the same as the penultimate one (2-back). The number of omitted responses was recorded. N-back tasks show high face validity regarding the construct of working memory, are suitable for children assessment and discriminate between children with ADHD and children without ADHD (Ciesielski, Lesnik, Savov, Grant, & Ahlfors, 2006; Kane, Conway, Miura, & Colflesh, 2007; Kobel et al., 2009).

*Go/No-Go task (Geurten, Catale, & Meulemans, 2016).*This task, based on the Go/No-Go paradigm, assesses children’s inhibition capacities. In this task, children see a gray cat and a red cat appearing rapidly on the screen, one at a time. They have to press as quickly as possible only when the red cat appears. The numbers of omissions and errors (commissions; i.e., when the child presses the response button for the gray cat) were recorded. This task has been shown to be sensitive to cognitive development and to have good convergent validity with other well-validated executive tasks (see Geurten et al., 2016).

Kane, M. J., Conway, A. R. A., Miura, T. K., & Colflesh, G. J. H. (2007). Working memory, attention control, and the n-back task: A question of construct validity. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 33*(3), 615-622. doi: [10.1037/0278-7393.33.3.615](http://psycnet.apa.org/doi/10.1037/0278-7393.33.3.615)

Kobel, M., Bechtel, N., Weber, P., Specht, K., Klarhöfer, M., Scheffer, K., … Penner, I.-K. (2009) Effects of methylphenidate on working memory functioning in children with attention deficit/hyperactivity disorder. *European Journal of Paediatric Neurology, 13*, 516-523. doi: [10.1016/j.ejpn.2008.10.008](https://doi.org/10.1016/j.ejpn.2008.10.008)

Ciesielski, K. T., Lesnik, P. G., Savov, R. L., Grant, E. P., & Ahlfors, S. P. (2006). Developmental neutral networks in children performing a categorical N-back task. *Neuroimage, 33*, 980-990. doi: [10.1016/j.neuroimage.2006.07.028](https://doi.org/10.1016/j.neuroimage.2006.07.028)