

Focus Pocus Program Information

Structure

Focus Pocus was designed to help children improve psychological processes that are the foundations of behavioural control and learning, i.e. memory, impulse-control and attention. The program consists of 25 computer-delivered training sessions, which take 20-25 minutes to complete, and consist of:

- Four working-memory exercises
- Four impulse-control exercises
- Six state-control exercises
- Boss game (see below)

Each exercise begins with brief instructions, but an initial guided run-through of each exercise in Challenge Mode is recommended to familiarise the child with the requirements of each exercise and provide general advice on the state-control exercises involving Focus, Relax, and Zen. Please consult the *Focus Pocus Game Guide*.

The Boss game provides a reward for children at the end of the training session. This is just for fun, with no training-related performance or EEG measures taken. The child engages in a challenging battle to defeat a “boss” wizard, using Spells and Items unlocked during training. Better training performance results in more powerful Spells/Items, thus motivating the child to do well at training. Please consult the *Focus Pocus Game Guide*.

Delivery

Optimal program delivery involves one training session every 2nd day, or a minimum of 3 training sessions in a 7 day period.

- For children with clinically significant AD/HD, delivery would be intensive and integrated with other treatment approaches, as determined suitable by the supervising health professional.
- For children with sub-clinical AD/HD, delivery would be intensive but used in a stand-alone manner, to provide a boost in performance of behavioural control processes.

The requirement for training beyond 25 sessions should be determined by the supervising health professional, in consultation with parents and the *FocusIn* report.

Measures

(a) During training

During the training exercises all EEG data is recorded, including the NeuroSky summary scores of Attention and Meditation and raw EEG power in Delta, Theta, Alpha, Beta bands. Task performance measures are also recorded. All data are transferred via the required internet connection and stored securely on the NeuroCog server for use in reporting (see below).

(b) Behavioural assessments

There are two types of behavioural assessment administered within the secure web-based reporting application *FocusIn*:

(1) Two questionnaires are completed before training. The first questionnaire is about diagnostic status, medication, co-morbid disorders, etc. The second questionnaire assesses symptom frequency of AD/HD symptoms as defined by DSM-IV. This questionnaire is also completed after the 25th training session has been completed.

(2) Parents are asked to make a rating (ranging from “not very good” to “very good” on a 5-point scale) of their child’s observable behaviour after each block of 5 training sessions.

(c) Benchmarking tests

A series of four Benchmarking tests are used to assess state-control and EEG change across training sessions. These occur prior to training sessions 1, 9, 17 and 25. The Benchmarking tests require the child to complete 1 minute of each of Focus, Relax and Zen state-control, without any on-screen feedback of measures. During the benchmarking tests all EEG data is recorded, including the NeuroSky summary scores of Attention and Meditation, and raw EEG power in Delta, Theta, Alpha, Beta bands.

Reporting

There are two types of reports presented in *FocusIn*:

(1) The Daily Report contains information about the child’s performance during their most recent training session, with comparison to the average performance in the training sessions completed prior to the most recent days training.

(2) The End-of-training Report contains information about changes in performance, state-control and behaviour ratings across the 25 training sessions.

For more information, please see the *FocusIn Guide*.

Safety

An individual's attention and relaxation level varies from second to second. The state-control exercises in *Focus Pocus* allow the user to become aware of their current state and to gain a certain level of control over time based on this feedback. The exercises are short duration, and randomly vary between Focus (attention), Relax (relaxation) and Zen (the combination of the attention and relaxation).

There are no known side effects from other similar applications using EEG-based attention or relaxation training – these applications often target a single goal (e.g. "increase attention") over an extended period of time (say, 10 minutes). The short duration attention exercises in *Focus Pocus* are similar to other activities that children engage in daily (e.g. playing video games, doing homework) in the way that they increase attention, and do not place children at any risk. The variety of exercise types ensures that children do a mix of attention and relaxation when playing *Focus Pocus*.

The memory and impulse control exercises passively monitor Focus in the background and as such are 100% safe.

Questions

Please direct any questions to **Dr. Joseph Graffi** (joseph@neurocogsolutions.com).

Disclaimer

Focus Pocus is not a therapeutic treatment for AD/HD or any other disorder. It offers users an opportunity to exercise important psychological processes such as attention, memory and impulse-control, with a view to improve them. These processes underlie behavioural control, and improving them may result in improved behaviour.