

# USING ENVIRONMENTAL DISTRACTORS IN THE DIAGNOSIS OF ADHD

Cassuto H, Ben-Simon A, Berger I. (2013). *Frontiers in Human Neuroscience*, 7,805.

## SYNOPSIS

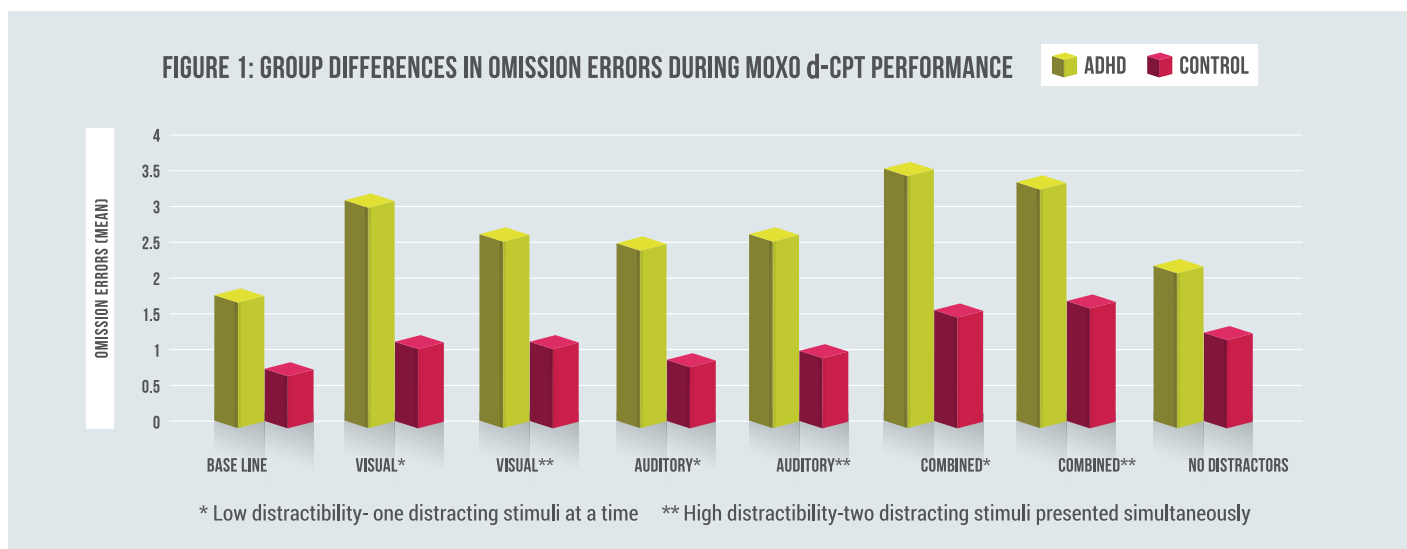
This study showed that children with ADHD demonstrated more omission errors than controls in all MOXO d-CPT conditions (baseline, no distractors, pure visual or auditory distractors and combined distractors). However, while all types of distracting stimuli increased the rate of omission errors in ADHD children, only combined visual and auditory distractors increased it in controls.

## STUDY SUMMARY

- Population: 663 children (7-12 years), of them 345 diagnosed with ADHD, 318 controls.
- Measures:
  - Parents and teachers form of Conner's ADHD/DSM IV scales.
  - Omission errors were observed during MOXO d-CPT performance.

## RESULTS

- ADHD children demonstrated significantly higher rate of errors than non-ADHD children in all MOXO d-CPT conditions (baseline, visual distractors, auditory distractor, a combination of visual and auditory distractors, and no distractors).
- In the ADHD group, omission errors were significantly higher in all distractors conditions compared to no-distractors. However, in the control group, only combined distractors resulted in an increase in omission errors (Figure 1).



## DISCUSSION

- Study results support the idea that ADHD children are more sensitive to irrelevant environmental distracting stimuli than controls.
- In contrast to other studies who showed improvement in cognitive performance of ADHD children in the presence of distractors, this study consistently found negative effects of distracting stimuli. These findings may be attributed to meaningful/ appealing distractors used in the MOXO d-CPT, as well as to the method of distractors presentation (various distractors types, various lengths of presentation, and different locations on the screen), which does not allow adjustment or de-sensitization to the distractors.
- In light of the criticism voiced against the low ecological validity of many CPTs, the current study provides evidence for the importance of environmental distractors in the test's ability to consistently discriminate ADHD children from controls.