

Estimating the Efficiency of a Meta-Cognitive Intervention Program to Reduce the Risk Factors of Teenage Drivers with Attention Deficit Hyperactivity Disorder While Driving

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Abstract : Attention Deficit Hyperactivity Disorder (ADHD) is a chronic disorder that affects the sufferer's functioning throughout life and in various spheres of activity, including driving. Difficulties in cognitive functioning and executive functions are often part and parcel of the ADHD diagnosis, and thus form a risk factor in driving. Studies examining the effectiveness of intervention programs for improving and rehabilitating driving in typical teenagers have been conducted in relatively small numbers; while studies on similar programs for teenagers with ADHD have been especially scarce. The aim of the present study has been to examine the effectiveness of a metacognitive occupational therapy intervention program for reducing risk factors in driving among teenagers with ADHD. The present study included 37 teenagers aged 17 to 19. They included 23 teenagers with ADHD divided into experimental (11) and control (12) groups; as well as 14 non-ADHD teenagers forming a second control group. All teenagers taking part in the study were examined in the Tel Aviv University driving lab, and underwent cognitive diagnoses and a driving simulator test. Every subject in the intervention group took part in 3 assessment meetings, and two metacognitive treatment meetings. The control groups took part in two assessment meetings with a follow-up meeting 3 months later. In all the study's groups, the treatment's effectiveness was tested by comparing monitoring results on the driving simulator at the first and second evaluations. In addition, the driving of 5 subjects from the intervention group was monitored continuously from a month prior to the start of the intervention, a month during the phase of the intervention and another month until the end of the intervention. In the ADHD control group, the driving of 4 subjects was monitored from the end of the first evaluation for a period of 3 months. The study's findings were affected by the fact that the ADHD control group was different from the two other groups, and exhibited ADHD characteristics manifested by impaired executive functions and lower metacognitive abilities relative to their peers. The study found partial, moderate, non-significant correlations between driving skills and cognitive functions, executive functions, and perceptions and attitudes towards driving. According to the driving simulator test results and the limited sampling results of actual driving, it was found that a metacognitive occupational therapy intervention may be effective in reducing risk factors in driving among teenagers with ADHD relative to their peers with and without ADHD. In summary, the results of the present study indicate a positive direction that speaks to the viability of using a metacognitive occupational therapy intervention program for reducing risk factors in driving. A further study is required that will include a bigger number of subjects, add actual driving monitoring hours, and assign subjects randomly to the various groups.

Keywords : ADHD, driving, driving monitoring, metacognitive intervention, occupational therapy, simulator, teenagers

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