A Feasibility Study on the Effectiveness of a Full-Body Videogame Intervention for Decreasing Attention Deficit Hyperactivity Disorder Symptoms.

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Games Health J. 2016 Jun 15. [Epub ahead of print]

Abstract

OBJECTIVE: The current study assessed the feasibility and effectiveness of a full-body-driven intervention videogame targeted at decreasing attention deficit hyperactivity disorder (ADHD) symptoms, specifically inattentiveness, hyperactivity, impulsivity, and motor deficiency.

MATERIALS AND METHODS: The game was tested in a Dutch sample (N = 73) of school-aged children with elevated ADHD symptoms. Children assigned to the intervention condition played "Adventurous Dreaming Highflying Dragon," and those in the control condition played a comparable full-body-driven game without ADHD-focused training components. Games were played during six 15-minute sessions. Outcomes were teacher-rated ADHD symptoms and scores on neuropsychological tasks assessing motor skills, impulsivity, and sustained attention.

RESULTS: There was some indication of greater improvement in the intervention group in comparison to the control group in terms of teacher-rated ADHD symptoms. Both groups showed equal indication of improvement in fine motor skills, but no change was found in gross motor skills. Additionally, both groups showed a deterioration in number of hits (assessing sustained attention) on the go/no-go task. Last, the intervention group showed a greater increase in false alarms (assessing impulsivity) than the control group.

CONCLUSION: Dragon seems promising as a game-based intervention for children with ADHD. Children who played Dragon improved in several areas with only a short amount of gameplay (1.5 hours in total), and their satisfaction with the game was high. For future research, it is recommended to further inspect Dragon's influence on impulsivity and gross motor skills. Furthermore, it is recommended to disentangle, examine, and evaluate specific properties of videogames that might lead to positive behavioral change.