Acute Exercise Improves Mood and Motivation in Young Men with ADHD Symptoms.

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Abstract

PURPOSE:
Little is known about whether acute exercise affects signs or symptoms of attention deficit hyperactivity disorder (ADHD) in adults. This experiment sought to determine the effects of a single bout of moderate intensity leg cycling exercise on measures of attention, hyperactivity, mood and motivation to complete mental work in adult men reporting elevated ADHD symptoms.

METHODS:
A repeated measures crossover experiment was conducted with 32 adult men (18-33 years) with symptoms consistent with adult ADHD assessed by the Adult Self-Report Scale V1.1. Measures of attention (CPT, Bakan), motivation to perform the mental work (VAS), lower leg physical activity (accelerometry) and mood (POMS, ARCI amphetamine scale) were measured before and twice after a 20-min seated rest control or exercise condition involving cycling at 65% VO2 peak. Condition (Exercise versus Rest) X Time (Baseline, Post-1 and Post-2) ANOVAs tested hypothesized exercise-induced improvements in all outcomes.

RESULTS:
Statistically significant Condition x Time interactions were observed for vigor (p < .001), amphetamine (P < .001), motivation (P = .027), and POMS depression (P = .027), fatigue (P = .030), and confusion (P = .046) scales. No significant interaction effects were observed for leg hyperactivity, simple reaction time or vigilance task performance (accuracy, errors or reaction time).

CONCLUSION:
In young men reporting elevated symptoms of ADHD, a 20-minute bout of moderate intensity cycle exercise transiently enhances motivation for cognitive tasks, increases feelings of energy and reduces feelings of confusion, fatigue and depression but has no effect on the behavioral measures of attention or hyperactivity employed.