

# A Cross-Sectional Study to Measure Physical Activity with Accelerometry in ADHD Children according to Presentations

Villalba-Heredia, Lorenaa, b, c;  
Rodríguez, Celestinod;  
Santana, Zairae;  
Nuñez, José Carlosd, f  
Méndez-Giménez, Antonio

## Abstract

(1) Background: Attention deficit hyperactivity disorder (ADHD) is a common mental disorder affecting 5–7% of school-aged children. Previous studies have looked at the effects of physical activity interventions on the symptoms of ADHD, although few have compared the motor behavior of children with ADHD versus those without. This exploratory study provides detailed information on the patterns and intensity of physical activity and sedentary behavior in children with ADHD as measured by Actigraph GT3X accelerometry, as well as the differences in physical activity in the different presentations of ADHD; (2) Methods: A cross-sectional design was used with a sample of 75 children, aged 6 to 12 years, with and without ADHD. The ADHD group had a previous diagnosis, determined by clinical assessment based on DSM-5 criteria; (3) Results: Physical activity levels were higher in children with ADHD compared to children without ADHD, but there was no difference in sedentary time between groups during weekdays or weekends. Physical activity decreased with age, with significant differences in the ADHD group, who exhibited more minutes of moderate Physical activity in 6–7 year-olds than 10–11 year-olds during weekdays and weekends; (4) Conclusions: Sedentary time increased by age in children without ADHD, and there was a decrease in moderate-intensity physical activity time in children with ADHD by age. © 2022 by the authors.

## Author keywords

accelerometry; ADHD; ADHD patterns; intensity; physical activity; primary education