School-Time Physical Activity for Children With Disabilities

Schools are a critical venue for promoting physical activity (PA) for children with disabilities. However, little is known regarding the influence of school settings on PA. This study sought to examine time spent in PA and sedentary time across three school settings: physical education, recess, and lunchtime. A total of 259 children with an identified disability from 13 specialized schools in Hong Kong wore an Actigraph GT3X accelerometer during school hours for three nonconsecutive days. The results show that children with disabilities spent 70% of the school day in sedentary time (289 min). Participation in PA was minimal, with only 106 min of light PA (25.8% of total) and 17 min of moderate-to-vigorous physical activity (MVPA; 4.2%). After adjusting for potential confounders in linear mixed model analyses, recess contributed more MVPA than physical education or lunchtime. Furthermore, results indicated lower PA levels among children with severe intellectual disabilities, while children with visual impairments had higher levels of activity. Overall, this study found children with disabilities to be highly inactive while at school and reflects a need for school-based PA interventions.


Cognitive Benefits From Acute Exercise for ADHD Children

A recent systematic review by Grassman and colleagues (2017) examined how acute physical exercise (i.e., singular bout, less than 30 min in duration) impacts cognitive functioning in children with attention deficit hyperactivity disorder (ADHD). Out of the 310 articles identified, only three studies were identified that met inclusion criterion, which limits the conclusions that may be drawn. However, evidence identified that acute exercise may positively impact certain aspects of cognition when the bouts were approximately 30 min in length and of moderate-to-vigorous intensity. Specifically, vigilance, reaction time, impulsivity, inhibitory control, selective attention, problem solving, and set shifting were shown to have been improved after exercise. This review provides preliminary evidence on the potential positive benefits that acute physical exercise has on cognitive aspects in children with ADHD. Additionally, this review identified that more work is needed in this area to uncover how different modalities, duration, and type of exercise may benefit children with ADHD cognitively and what mechanisms may play a role in this relationship.

Adolescents With and Without ASD: Physical Activity Characterization

Stanish and colleagues (2017) recently investigated the level, frequency, and type of physical activity, via accelerometers and questionnaires, of adolescents with and without autism spectrum disorder (ASD). Adolescents with ASD participated in approximately 29 min/day of moderate-to-vigorous physical activity (PA), which was significantly less than typically developing (TD) peers (50 min/day); both groups on average did not meet PA recommendations. Total PA was less for the ASD group, even though both groups participated in similar frequencies of PA across a month (ASD: 39.9/month; TD: 40.3/month). Additionally, adolescents with ASD and TD participated in the same type of activities more frequently with walking/hiking and active video gaming being most popular for both groups. Results on frequency and type of PA show that adolescents with ASD and TD are more similar than different, with intensity and duration being the main differences between groups. More in-depth information on how to improve PA intensity and duration could be derived from the type and frequency of PA commonly used, which can be the basis of future interventions or programs to increase PA in this group.


Autism Spectrum Disorder: Motor Instruments’ Similarities and Differences

The increasing prevalence of autism spectrum disorder (ASD) has made the use of motor assessment in understanding the motor skill performance of children with ASD a high priority for both researchers and practitioners alike. However, because many instruments are available for testing, there is no one gold standard instrument designed to investigate the motor skill performance of children with ASD. As such, the purpose of this study was to compare and contrast four instruments designed for motor skills assessments—MABC-2, TGMD-2, PDMS-2, and BOT-2—using a case study approach. The results of the study suggest variations in the level of delay reported as a function of the assessment used. This is consistent with previous literature suggesting that children with ASD experience delayed motor performance in some or all subtests across the four motor assessments. The findings of this study may be of interest to APAQ readers as it offers further insight into the strengths and limitations of particular motor assessment instruments and suggests that a combination of assessments may yield the most detailed picture of motor performance in this population.