The effect of physical activity interventions on youth with autism spectrum disorder: A meta-analysis

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Abstract

The purpose of this meta-analysis was to examine the effect of physical activity interventions on youth diagnosed with autism spectrum disorder. Standard meta-analytical procedures determining inclusion criteria, literature searches in electronic databases, coding procedures, and statistical methods were used to identify and synthesize articles retained for analysis. Hedge's g (1988) was utilized to interpret effect sizes and quantify research findings. Moderator and outcome variables were assessed using coding procedures. A total of 29 studies with 30 independent samples (N = 1009) were utilized in this analysis. Results from meta-analyses indicated an overall moderate effect (g = 0.62). Several outcomes indicated moderate-to-large effects (g ≥ 0.5); specifically, moderate to large positive effects were revealed for participants exposed to interventions targeting the development of manipulative skills, locomotor skills, skill-related fitness, social functioning, and muscular strength and endurance. Moderator analyses were conducted to explain variance between groups; environment was the only subgrouping variable (intervention characteristics) to produce a significant difference (Q_B = 5.67, P < 0.05) between moderators. While no significant differences were found between other moderators, several trends were apparent within groups in which experimental groups outperformed control groups. Autism Res 2018, 11: 818–833. © 2018 International Society for Autism Research, Wiley Periodicals, Inc.

Lay summary: Results of the meta-analysis–a method for synthesizing research–showed physical activity interventions to have a moderate or large effect on a variety of outcomes, including for the development of manipulative skills, locomotor skills, skill-related fitness, social functioning, and muscular strength and endurance. The authors conclude that physical activity's standing as an evidence-based strategy for youth with ASD is reinforced.

Keywords: ASD; Exercise; evidence-based strategy; sport; youth.