

Exercise Fact Sheet

Brief Description

Exercise (ECE) is a strategy that involves an increase in physical exertion as a means of reducing problem behaviors or increasing appropriate behavior while increasing physical fitness and motor skills. With ECE, learners engage in a fixed period of programmed physical activity on a regular basis. ECE sessions often begin with warm-up exercises and end with cool-down activities and may include aerobic activities (e.g., jogging, jumping, swimming), strength training, and/or stretching that can take place indoors, outdoors, or at a swimming pool for aquatic exercise programs. ECE is often used in conjunction with prompting, reinforcement, and visual supports.

Qualifying Evidence

ECE meets evidence-based criteria with 3 group design and 3 single case design studies.

Ages

According to the evidence-based studies, this intervention has been effective for preschoolers (3-5 years) to middle school-age learners (12-14 years) with ASD.

Outcomes

ECE can be used effectively to address behavior, school-readiness, academic, and motor skills.

Research Studies Providing Evidence

- Cannella-Malone, H. I., Tullis, C. A., & Kazee, A. R. (2011). Using antecedent exercise to decrease challenging behavior in boys with developmental disabilities and an emotional disorder. *Journal of Positive Behavior Interventions, 13*(4), 230-239. doi: 10.1177/109830071140612
- Celiberti, D. A., Bobo, H. E., Kelly, K. S., Harris, S. L., & Handleman, J. S. (1997). The differential and temporal effects of antecedent exercise on the self-stimulatory behavior of a child with autism. *Research in Developmental Disabilities, 18*(2), 139-150. doi: 10.1016/S0891-4222(96)00032-7
- Fragala-Pinkham, M. A., Haley, S. M., & O'Neil, M. E. (2011). Group swimming and aquatic exercise programme for children with autism spectrum disorders: A pilot study. *Developmental Neurorehabilitation, 14*(4), 230-241. doi: 10.3109/17518423.2011.575438
- Nicholson, H., Kehle, T. J., Bray, M. A., & Van Heest, J. (2011). The effects of antecedent physical activity on the academic engagement of children with autism spectrum disorder. *Psychology in the Schools, 48*, 198-213. doi: 10.1002/pits
- Oriel, K. N., George, C. L., Peckus, R., & Semon, A. (2011). The effects of aerobic exercise on academic engagement in young children with autism spectrum disorder. *Pediatric Physical Therapy, 23*(2), 187-193. doi: 10.1097/PEP.0b013e318218f149
- Pan, C. Y. (2011). The efficacy of an aquatic program on physical fitness and aquatic skills in children with and without autism spectrum disorders. *Research in Autism Spectrum Disorders, 5*(1), 657-665. doi: 10.1016/j.rasd.2010.08.001

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