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# **Exergame Training of Executive Function in Preschool Children: Generalizability and Long-term Effects**

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## **Abstract**

Studies with older children and adults have found that physically engaging video games (i.e., Exergames) that promote both cognitive control and physical activity improve executive function (EF) skills; yet, children below school age remain understudied with regard to the impact of Exergames on EF. Additionally, research on the extent of the impact of Exergames resulting in prolonged changes, and whether training generalizes to EF-related behaviors in a real-world context remains scarce. This study examined the short- and long-term changes in EF of 4- to 5-year-olds after participation in two 20-minute Exergame sessions. Results indicate that Exergame training improved performance on EF tasks and resulted in higher teacher ratings of EF in the classroom compared to a sex-/classroom-/age-matched control group. The improvements in EF persisted over a one-month period. This study provides novel insights into the short-term and long-term effects of Exergame training on executive function in preschool-aged children.