



Presentation Title: Building Foundations for Sport: AI in Physical Activity Interventions for Children and Adolescents

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Abstract: Despite clear benefits of physical activity for children and teens, most do not meet global guidelines. Traditional methods often use one-size-fits-all strategies that overlook individual motivation and physiological responses. Artificial Intelligence (AI) provides a promising solution by enabling tailored, data-driven interventions. This review explored current evidence on AI in physical activity programs for school-aged children. A systematic search of databases like Google Scholar, PubMed, Web of Science, and Scopus identified six relevant studies from 2020 to 2026. Participants aged 6–17 were involved in studies that employed AI techniques such as machine learning, motion recognition, and computer vision in school-based settings. Interventions lasted from 3 to 14 weeks. Results indicate AI interventions can enhance activity levels and fitness outcomes, especially when personalized and interactive. Nevertheless, the evidence is limited and varied, with differences in study design, intervention features, and outcome measures. Moreover, existing systems may not fully account for social and contextual behavioural factors. AI shows great potential as a supplement to traditional methods, but more rigorous research is needed to confirm its effectiveness and practical use.

Keywords: physical activity, children, adolescents, intervention, motivation

Biography: Dr. Arto Gråstén holds a PhD in Sport Sciences and a Master of Education.

He serves as an Associate Professor and Chair of the Physical Education Department at the College of Education, United Arab Emirates University. Additionally, he is an Adjunct Researcher in Sport Pedagogy at the Faculty of Sport and Health Sciences, University of Jyväskylä, Finland. His professional background includes working as an elementary school teacher and a secondary school health and physical education teacher in Finland. After earning his PhD from Jyväskylä, he lectured in health and physical education at the University of Tasmania, Australia. He also has coaching experience with U12 and U14 children's ice hockey. His research interests are promoting youth participation in physical activity, developing physical education programs, improving motor skills, and fostering self-motivated learning. He has published over 150 works on physical activity, motor competence, health-related fitness, and motivational determinants among children and adolescents.