



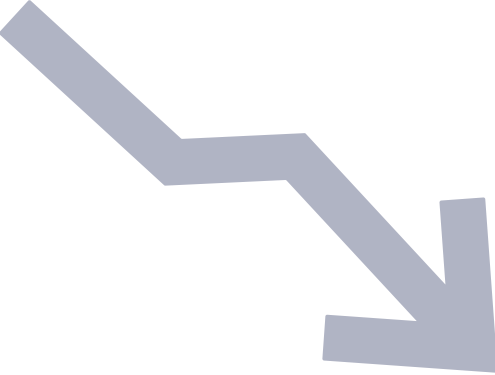
Physical Activity Declines Well Before Adolescence

Policy Brief



University of
Strathclyde
Glasgow



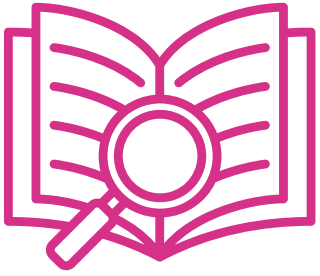


When do we see decline in levels of MVPA in children?

Physical activity is important for health. Specifically, Moderate- to-Vigorous Physical Activity (MVPA) is linked to a range of health outcomes and is incorporated in international guidelines.

Despite its importance, **MVPA is typically much lower than recommended in children and adolescents globally**, from age 3-4 years¹ and across childhood and adolescence².





What the literature says

A systematic review of UK and international accelerometer-based studies found that sedentary behaviour (sitting time) increased year on year as children get older - by about 20-30 minutes per day per year in the UK globally⁵ - displacing physical activity initially and displacing sleep later in childhood and adolescence.⁶

A systematic review of of UK and international accelerometer-based studies which measured MVPA longitudinally (following the same children over time) found that the decline in MVPA started well before adolescence, at similar rates in both boys and girls.³

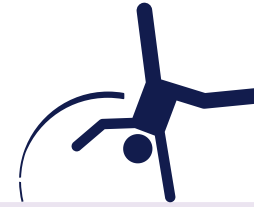


A large body of UK and international cross-sectional (different children measured at different ages) accelerometer- based studies showed that the decline in MVPA started around age 5 and was similar in both boys and girls; light intensity physical activity and MVPA was displaced by increasing sedentary time as children got older.⁴





Why this matters



- While more adolescent MVPA would be a good thing, **the evidence is clear that it is never too early to promote MVPA.**³
- Increasing screen time year on year across childhood and adolescence is displacing MVPA and sleep, establishing a habit of low MVPA well before adolescence. **Early and mid-childhood screen time has had negligible health or education policy attention in Scotland.**⁷
- **Public health monitoring of physical activity and screen time exists but is very limited in Scotland.** National surveillance struggle to capture MVPA accurately via survey⁸ and do not include national accelerometer surveys, common in other countries.
- Resources known to promote MVPA in Scotland have been limited. **A broader approach to physical activity promotion across childhood and adolescence is required if the crisis of low MVPA is to be addressed.**
- Low levels of MVPA in children and adolescent's remains a public health crisis globally², with short-term and long-term consequences for their physical, mental and cognitive health including educational attainment as well as for planetary health⁹⁻¹¹.
- **More early and mid-childhood promotion of MVPA is needed.** A life course perspective is essential, **shifting focus beyond adolescence to support healthy movement from the earliest years.**



Key Recommendations



Physical activity policy and practice in Scotland should pivot, focussing more on early life and targeting screen time to promote physical activity.



Promote physical activity with evidence- based guidelines for physical activity, screen time and sleep available from birth.



Physical activity promotion should not solely focus on sport but cover a range of behaviours and activities that contribute to MVPA in children and adolescents.



About Scotland Moves

Scotland Moves is a national initiative that turns research into action to improve physical activity and health for children and young people from birth to 18. Inspired by and in partnership with ParticipACTION, Scotland Moves aims to use communication and messaging to improve child physical activity and health and reduce inequalities. The initiative builds on the work of Active Healthy Kids Scotland, which reports on the state of physical activity and health among Scotland's children and young people. Find out more at www.scotlandmoves.org.uk and www.activehealthykidsscotland.co.uk.

This policy brief is evidence-based and follows UK National Institute for Health Research guidance.

Contributors



Professor John Reilly



Dr Farid Bardid

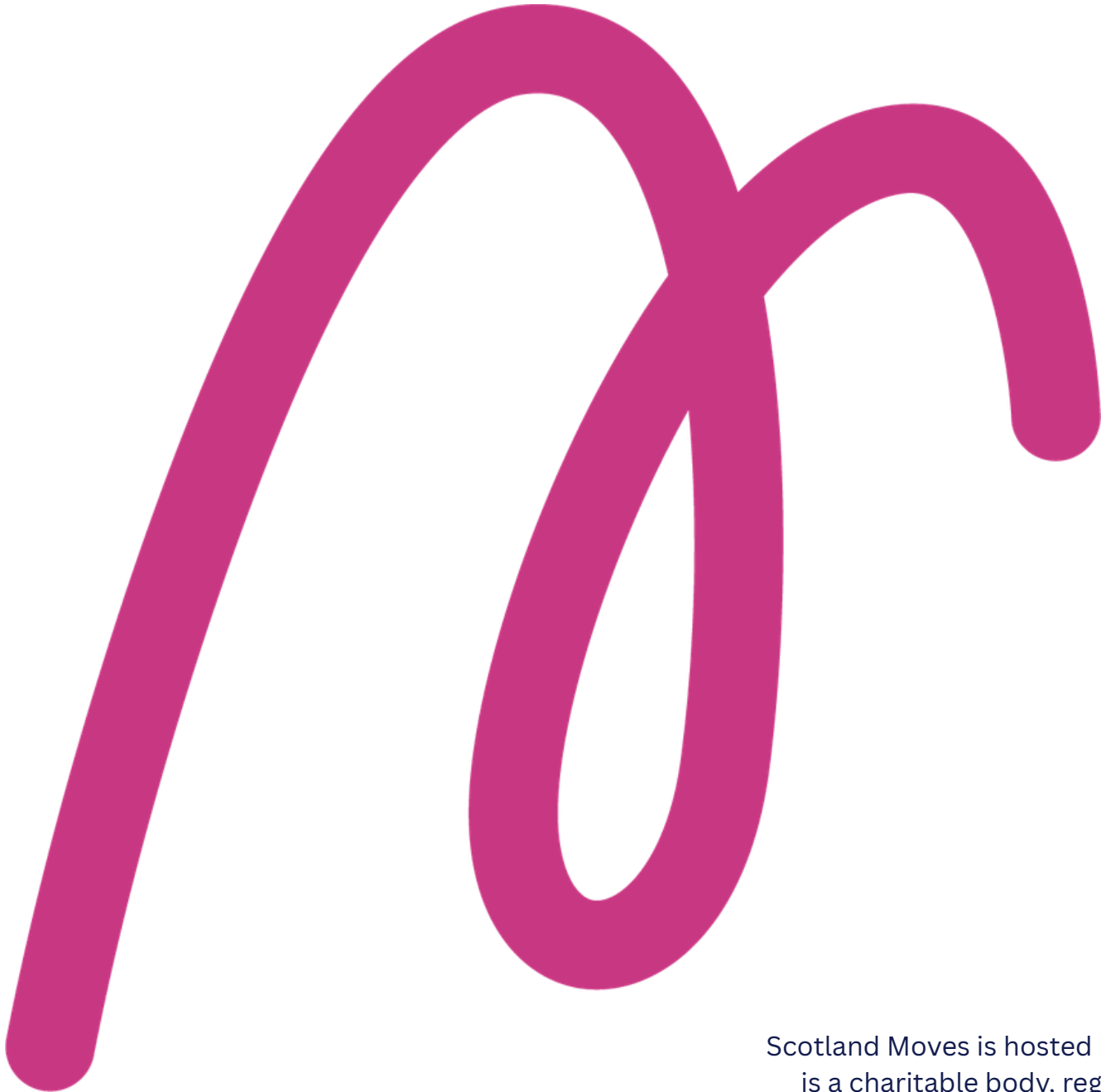


Dr Paul McCrorie



References

1. Chong KH, Suesse T, Cross PL, et al. Pooled Analysis of Physical Activity, Sedentary Behavior, and Sleep Among Children From 33 Countries. JAMA Pediatr. Published online September 30, 2024. doi:10.1001/jamapediatrics.2024.3330
2. Aubert S, Barnes JD, Demchenko I, et al. Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses From 57 Countries. J Phys Act Health. 2022;19(11):700-728. doi:10.1123/jpah.2022-0456
3. Farooq A, Martin A, Janssen X, et al. Longitudinal changes in moderate-to-vigorous-intensity physical activity in children and adolescents: A systematic review and meta-analysis. Obesity Reviews. 2020;21(1):1-15. doi:10.1111/obr.12953
4. Cooper AR, Goodman A, Page AS, et al. Objectively measured physical activity and sedentary time in youth: the International children's accelerometry database (ICAD). International Journal of Behavioral Nutrition and Physical Activity. 2015;12(1):113. doi:10.1186/s12966-015-0274-5
5. Tanaka C, Reilly JJ, Huang WY. Longitudinal changes in objectively measured sedentary behaviour and their relationship with adiposity in children and adolescents: Systematic review and evidence appraisal. Obesity Reviews. 2014;15(10):791-803. doi:10.1111/obr.12195
6. Reilly JJ. When does it all go wrong? Longitudinal studies of changes in moderate-to-vigorous- intensity physical activity across childhood and adolescence. J Exerc Sci Fit. 2016;14(1):1-6. doi:https://doi.org/10.1016/j.jesf.2016.05.002
7. De Craemer M, Veldman SLC, Azevedo LB, et al. Practical steps needed to achieve impact of the WHO 2019 movement behaviour guidelines for children under the age of 5: the SUNRISE Study Europe Group evaluation. The Lancet Regional Health - Europe. Published online February 2024:100869. doi:10.1016/j.lanepe.2024.100869
8. Rostami Haji Abadi, M., Kwaghbo, N., Onyeso, O.K. et al. Psychometric Properties of Physical Activity Questionnaires for Children and Adolescents: An Updated Systematic Review. Sports Med 55, 2225–2301 (2025). https://doi.org/10.1007/s40279-025-02270-x
9. World Health Organization. WHO Guidelines on Physical Activity and Sedentary Behaviour. World Health Organization; 2020.
10. Salvo D, Garcia L, Reis RS, et al. Physical activity promotion and the united nations sustainable development goals: Building synergies to maximize impact. J Phys Act Health. 2021;18(10):1163-1180. doi:10.1123/jpah.2021-0413
11. Bardid F, Tomaz SA, Johnstone A, Robertson J, Craig LCA, Reilly JJ. Results from Scotland's 2021 report card on physical activity and health for children and youth: Grades, secular trends, and socioeconomic inequalities. J Exerc Sci Fit. 2022;20(4):317-322. doi:10.1016/j.jesf.2022.07.002



www.scotlandmoves.org.uk 

Scotland Moves 

Scotland Moves is hosted by The University of Strathclyde, which
is a charitable body, registered in Scotland, number SC015263.