



PHYSICAL ACTIVITY PATTERNS IN CHILDREN AND ADOLESCENTS: A REVIEW OF THE LITERATURE

Darlington, Janelle & Morton, Lillian

¹Waikato Institute of Technology (WINTERC), Hamilton, New Zealand

Background

Physical activity has been proven to decrease the risks of Type II diabetes, cardiovascular disease, osteoporosis, and hypertension, enhance health and reduce body fat. An individual's physical and mental well-being, flexibility, strength and cardiovascular endurance all improve with exercise. Evidence suggests that health-promoting physical activity behaviours are established during adolescence and childhood physical activity patterns are associated with adult activity patterns.

Purpose

The purpose of this literature review was to examine the physical activity trends in children and adolescents.



Table 1. Studies Using Accelerometers to Determine Physical Activity Patterns

Author, year	Country; Setting	Instrument	Participants	Main Outcomes
Duncan, Duncan, & Schofield (2008)	NZ; School	Pedometer	1,513 girls aged 5–16 years.	Mean weekday step counts (12,597 ± 3,630) were higher and less variable than mean weekend steps (9,528 ± 4,407). A consistent decline in daily step counts was observed with age.
McGall, McGuigan, & Nottle (2011)	NZ; School	Accelerometers	60 children, mean age 8.3 (0.7) years	Activity levels were considerably lower than recommended guidelines. Children were more active during school playtime compared to after school and weekends.
Riddoch et al. (2004)	Denmark, Portugal, Estonia and Norway	Accelerometer	2185 children aged 9 years and 15 years	Boys more active than girls, and a marked reduction in activity over the adolescent years.
Strauss, Rodzilsky, Burack, & Colin, (2001).		Motion detector, Revised children's Manifest Anxiety Scale and Piers-Harris Children's' Self Concept Scales	92 children aged 10-16 years	Significant decline in physical activity levels between ages 10 and 16 years, particularly in girls.

Findings

Current literature reveals many mixed opinions of where the steepest decline in physical activity for age occurs. The ages of greatest decline was 13–16 in the Dutch study, 12–15 or 15–18 in the Finnish study, 15–18 in the U.S. study. Some argue however that the greatest decline is ages 11-12 and 15-16. Therefore the largest decrease is during the teenage years and then again when approaching adulthood. Much of the literature suggests boys are more active than girls across all age groups and that females have the lowest participation rates and physical activity levels, particularly in girls aged 11 to 13 as they move to the 14 to 16-year age group. Overall the same trends are emerging, as people grow older participation rates in physical activity rates decline. There are many conflicting studies around whether children are more active during school or in the home environment. The transition from childhood to adolescences brings about a huge decline in activity levels due to many factors ranging from going through puberty to social pressures.