

TITLE: THE EFFECT OF AN AFTER SCHOOL, GAMES BASED, PHYSICAL ACTIVITY PROGRAMME ON MUSCULOSKELETAL FUNCTION AND PHYSICAL LITERACY IN IRISH PRIMARY SCHOOL CHILDREN.

ABSTRACT: Physical activity as part of activities of daily living (ADL) has declined rapidly among humans in the western world since the advent of the industrial (~250-years) and later, the technological revolution (~20- years). The World health organisation (WHO) has reported that physical inactivity is the fourth leading cause of mortality. This is evident in the global rise in obesity and obesity related diseases. Children are among the most active members of the population however; the global trend shows a decline in children's strength levels and physical literacy and that they are failing to achieve the required 60mins of daily moderate to vigorous physical activity. This is evident from the emergence of childhood diabetes (~30 years ago). While it is evident that the total amount of movement humans undertake has declined, modern environments have also removed much of the environmental complexity that required a variety of movement strategies e.g. hunting, gathering, tree climbing and navigating variable terrain whilst barefoot. It can be argued that we are required to move less but also to move less variably. Sport participation is often cited as a tool to promote physical fitness amongst youth. However, one of the most common reasons for dropout from sport among adolescents is a low perception of competence, therefore, in order for sport to be enjoyed and continued, it requires physical literacy. The competitive nature of sport means it not always a suitable tool for all children to increase physical activity. Games-based play, without the pressures of matches or competitions, can offer an excellent alternative pathway to achieving physical activity in younger children. The development of physical literacy through such game-based activities also has the potential to play a crucial role in fostering a lifelong habit of exercise for enjoyment. It remains to be seen whether mimicking aspects of our evolutionary history (movement due to environmental variability) via games has a positive effect on the health and fitness of children. It is not yet known what effect games based physical activity with or without footwear has on the physical literacy of Irish children. The aim of this research project would be:

1. To determine portable measures of musculoskeletal function and physical literacy with adequate validity and test-retest reliability to measure children pre and post an after school, games based, physical activity programme.
2. In a representative sample, to characterise the musculoskeletal function and physical literacy of Irish school aged children for comparison to existing Irish data and European norms past and present.
3. In a sub-sample, to identify and or develop an after school, games based, physical activity programme in order to determine its effect on the musculoskeletal function and physical literacy of school aged children. A comparison will also be made to a control group receiving standard physical education.
4. In a sub-sample, to determine whether the presence or absence of footwear has an influence on the outcomes of the games based, physical activity programme

Contact Dr. Peter Francis: e. Peter.Francis@ITCarlow.ie