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Children and Exercise XXVII

The Proceedings of the XXVIIth
International Symposium of the
European Group of Pediatric
Work Physiology, September,
2011

Edited by
**Craig A. Williams and
Neil Armstrong**



Children and Exercise XXVII

Children and Exercise XXVII presents the latest scientific research into paediatric sport and exercise science and medicine including contributions from a wide range of leading international experts and early career researchers. The book begins with chapters devoted to the 5 invited keynote lectures followed by 43 of the peer-reviewed presentations which are arranged into 6 thematic sections addressing:

- exercise physiology
- physical activity and health
- exercise and medicine
- testing and performance
- young athlete and sports participation
- methodology in longitudinal research.

The 48 chapters offer a review of current topics and ongoing research in paediatric sport and exercise science and medicine. The book is therefore a key text for all researchers, lecturers, paediatricians, health professionals and students with an interest in the exercising child in health and disease.

Craig Williams is Associate Professor of Paediatric Exercise Physiology and Co-Director of the Children's Health and Exercise Research Centre at the University of Exeter.

Neil Armstrong is Professor of Paediatric Physiology and Director of the Children's Health and Exercise Research Centre at the University of Exeter. He is also Vice-President and Senior Deputy Vice-Chancellor of the University of Exeter.

Full list

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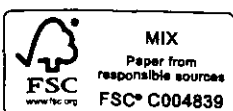
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CHAPTER NUMBER 35

THE EFFECTIVENESS OF A SHORT-TERM LOW-INTENSITY WALKING INTERVENTION ON LIPID PROFILE IN OBESE ADOLESCENTS

A.M. McManus¹, R.R. Mellecker¹, C. Yu¹,
and P.T. Cheung²

¹Institute of Human Performance, ²Department of Paediatric and Adolescent Medicine, University of Hong Kong

35.1 INTRODUCTION

There is considerable support for shifting the focus away from moderate-to-vigorous exercise toward increasing low-to-moderate intensity physical activity. Experimental work has shown that low-intensity incidental activity rather than moderate- or vigorous-intensity activity distinguishes the lean from the obese (Levine *et al.*, 2008a,b). Convincing evidence in animals verifies this proposition, showing benefit in lipid metabolic pathways from increasing low-intensity activity, as opposed to vigorous-intensity exercise (Hamilton *et al.*, 2007). Serum cholesterol and triglyceride have been found to decrease after only 1 week of increased moderate intensity physical activity, combined with the consumption of a low fat and high fibre diet (Schmidt *et al.*, 2011). With the current interest in the use of low-to-moderate intensity activity-enhanced video games as an alternative form of physical activity, it is necessary to establish if similar metabolic benefit is conferred by this lower intensity activity. The purpose of this study was to determine whether a short-term low-intensity interactive video-game treadmill walking programme, without dietary manipulation, was effective in altering the lipid profile of obese adolescents.

35.2 METHODS

35.2.1 Participants

Thirty consecutive obese adolescents (11-16 years) attending a hospital obesity clinic were identified as fulfilling the entry criteria of primary obesity, with BMI