

# 21st annual ECSS Congress Vienna/Austria, July 6-9 2016

## THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY, INACTIVITY AND PHYSICAL FITNESS AMONG LITHUANIAN PRIMARY SCHOOL CHILDREN

Emeljanovas, A., Mieziene, B., Cesnaitiene, V., Peteryte, I., Daugininkas, D.

Lithuanian sports university

### Introduction

Recently it is emphasized that physical education should focus on physical fitness rather than physical activity (Corbin et al., 2014). Health related physical fitness acts as a preventive factor to various chronic diseases. The aim of this study is to examine the relationship of physical fitness and physical activity as well as inactivity in Lithuanian primary school students.

### Methods

Data from 242 primary school students from grade 1 to grade 4 were gathered, 52.7% were boys. The 9-item test battery was applied to measure physical fitness. The test battery was developed by Fjørtoft et al. (2011) and included tests: standing broad jump, jumping a distance of 7 m on 2 feet, jumping a distance of 7 m on one foot, throwing a tennis ball with one hand, pushing a medicine ball with 2 hands, climbing wall bars, performing a 10 x 5 m shuttle run, running 20 m as fast as possible, and performing a reduced Cooper test (6 minutes). Data about leisure time physical activity and sitting time were also gathered.

### Results

Regression analysis revealed that physical activity was related to total physical fitness ( $\beta = .228$ ,  $t = -2.590$ ,  $p = .011$ ) and added 5% to total physical fitness variance until the inactivity was added to the equation. Then it became insignificant ( $p > .05$ ). The results were obtained controlling for gender and age. Meanwhile, physical inactivity predicted lower total physical fitness ( $\beta = -.278$ ,  $t = -3.057$ ,  $p = .003$ ) and added 6% to the explanation of physical fitness variance. Physical activity had positive predictive value on reduced Cooper test ( $\beta = .200$ ,  $t = -1.955$ ,  $p = .05$ ). Physical inactivity predicted lower scores on throwing a tennis ball, running 20 m, performing a 10 x 5 m shuttle run ( $\beta = -.225$ ,  $t = -2.593$ ,  $p = .011$ ;  $\beta = -.205$ ,  $t = 2.003$ ,  $p = .048$ ;  $\beta = -.275$ ,  $t = -2.623$ ,  $p = .010$ , respectively).

### Discussion

Results of this study support the premise that poor physical fitness related to low physical activity, extra sitting hours in leisure time and vice versa. Physical activity predicts higher endurance, which is closely related to cardiovascular health. Although the strength of physical activity and inactivity relationships varies for different components of fitness among primary school students, it is important to teach about these relationships in fitness education programs, and to measure all health-related fitness components (Corbin et al., 2014).

### References

Corbin, C. B., Welk, G. J., Richardson, C., Vowell, C., Lambdin, D., & Wikgren, S. (2014). J of Physical Education, Recreation & Dance, 85(2), 24-31.  
Fjørtoft, I., Pedersen, A. V., Sigmundsson, H., & Vereijken, B. (2011). Phys therapy, 91(7), 1087-1095.

### Contact

arunas.emeljanovas@lsu.lt

Topic: Health and Fitness

Presentation form: E-poster

European Database of Sport Science (EDSS)

Supported by SporTools GmbH