

ABSTRACT

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Predictive role of exercise motivational determinants for objectively measured physical activity from grade six to upper secondary or vocational school – a three year follow-up study

The aim of the study is to undertake a longitudinal analysis of changes in the physical activity (PA) patterns and associated motivational determinants of a sample of 542 adolescents (246 girls and 296 boys) from Sotkamo across the time period of 2010–2012. According to the recommendations of health experts, all primary school aged children should be physically active for at least two hours, and secondary school students at least one and a half hours daily. Recent studies show that 16–35% of Finnish 12-18 year-old boys and 17–41% of girls fail to achieve this recommendation. Previous international reports have also shown that the number of physically active children and adolescents has decreased during the last decade. Therefore, all efforts to promote children's and adolescents' physical activity are of great value. This presumption is supported by current research findings which have shown that childhood patterns of physical activity are maintained into adulthood. Physical activity is always a result of cognitive processes, in which social-cognitive factors, such as perceived competence, intrinsic and extrinsic motivation are associated with individual characteristics of participation in PA regarding attitudes towards physical activity. Based on these theoretical models, social cognitive factors appear as key determinants in the adoption process of PA.

The review of PA research within children and adolescents reveal that there are no longitudinal studies investigating the development of PA and the relationship with its motivational determinants covering the critical age period of 12 to 18 years. The data, therefore, includes two important transition cycles in students' life; from elementary to secondary school and from secondary school to upper secondary or vocational school. The project yields important information about the development of objectively measured PA from childhood to late adolescence and the social-cognitive motivational processes behind physical activity engagement, and comprise the data for Arto Gråstén's doctoral dissertation.

An improved understanding of social-cognitive motivational mechanisms as antecedents of regular PA will support future directions of the Finnish national physical education curriculum, physical activity interventions (e.g., Liikkuva koulu [Promoting PA in schools] -project), physical education (PE) teacher training programs, and supplementary education.

The instruments involved in this study have been used regularly and shown to be valid and reliable in both international studies and previous Finnish PA and PE research. The selected scales represent the operationalization of the central social-emotional motivational theories related to PA and PE. The study variables are objectively measured, and self-reported PA, perceived physical competence, perceived autonomy, and social relatedness, intrinsic-extrinsic motivation towards PA, expectancy beliefs, subjective task values, and PE enjoyment. Background variables include age, gender, school, participation in organized sports, and opportunities to exercise. PA will be analyzed using objective measurement, specifically Polar Electro Activity Monitors.

The data collection started in spring semester 2010 continuing until autumn 2012. Data will be collected in the schools with identical structured questionnaires at different time points. Analysis of the longitudinal data will be accomplished with following methods: significance of group differences (repeated measures ANOVA), prediction of group membership (cluster analysis and logistic regression), and modelling of both observed and latent variable structures (structural equation modelling, path analysis and latent growth curve modelling).

Results will be reported in international congresses, journal articles and Finnish educational publications. In this study the ethical considerations are followed according to the International Committee of Medical Journal Editors and the National Advisory Board on Research Ethics. The Ethical Committee of the University of Jyväskylä has given a favourable statement for the study in 28.5.2010. Permissions for the study are also literary asked from students and their parents.

This study will be completed using the facilities and devices of the University of Jyväskylä. Arto Gråstén's PhD dissertation will be published in the Studies in Sport, Physical Education and Health – series, based on five peer review articles.