

University of Groningen

Physical activity, screen-based activities and their potential determinants

Kopčáková, Jaroslava

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:
2018

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Kopčáková, J. (2018). *Physical activity, screen-based activities and their potential determinants: Active living during adolescence*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

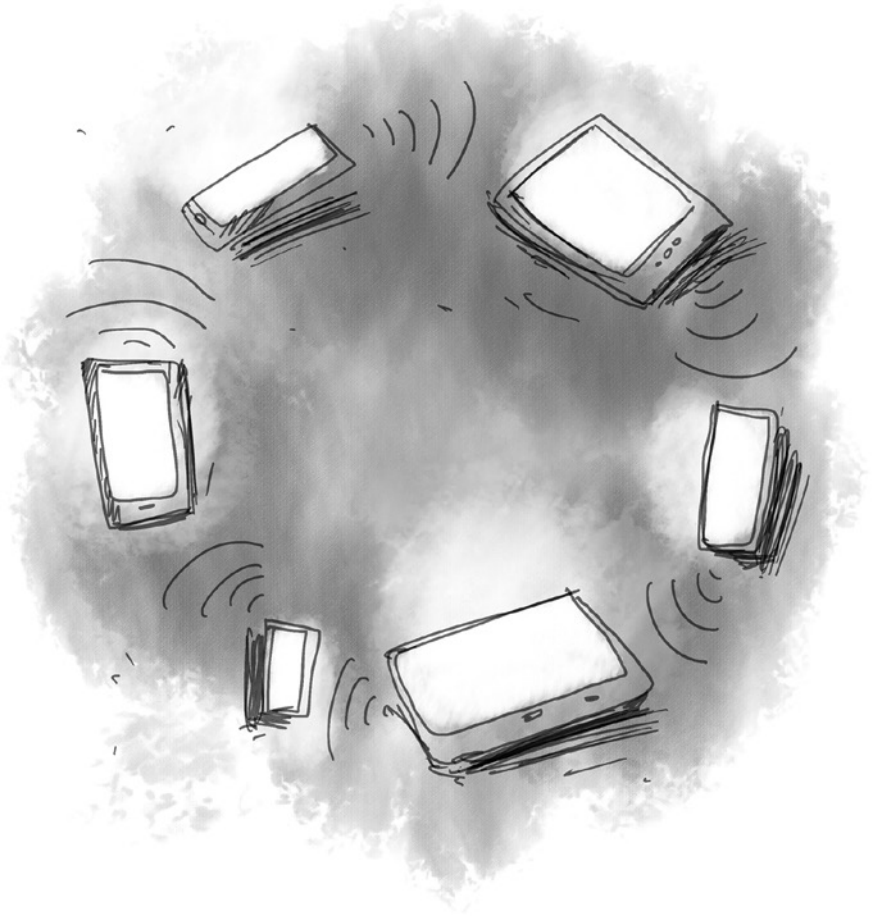
Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

2 |

Data sources



Data sources

This chapter provides a description of the study samples (2.1), measures (2.2) and statistical analyses (2.3) used in this thesis.

2.1 Study samples and procedures

This thesis is based on five different samples from two surveys (conducted in 2010 and 2014) and a pilot study (conducted in 2013) of the Health Behaviour in School-aged Children (HBSC) study. Sample 1, from 2010 (used in Chapter 3), and sample 2, from 2014 (used in Chapter 6) are from two surveys of the HBSC study conducted in Slovakia. The designs of the studies were approved by the Ethics Committee of the Medical Faculty of Pavol Jozef Safarik University in Kosice. Parents were informed about the study via the school administration and could opt out if they disagreed with their child's participation in it. Participation in the study was fully voluntary and anonymous, with no explicit incentives provided for participation. Questionnaires were administered by trained research assistants in the absence of a teacher during regular class time.

To obtain a representative sample, we used a two-step sampling. In the first step, larger and smaller elementary schools located in rural as well as urban areas from all regions of Slovakia were asked to participate. These were randomly selected from a list of all eligible schools in Slovakia obtained from the Slovak Institute of Information and Prognosis for Education (N=134 in 2010, N=151 in 2014). Grammar and elementary schools, including church schools and schools with the Hungarian language, were included in the study samples. The school response rates were 98.1% in 2010 and 86.1% in 2014, respectively. In the second step, we obtained data from a representative sample of adolescents from the fifth to ninth grades of elementary schools in Slovakia in the target group of 11- to 15-year-olds (N=8,491 in 2010 and N=10,179 in 2014). Non-responses were caused mainly by school absence due to illness or other reasons and the refusal of parents or adolescent to be involved in the study.

The third study sample was used from the HBSC study conducted in 2010 in Slovakia, described above, and that in the Czech Republic in the same year. For the Czech Republic, from a list of schools based on information from the Institute for Information on Education, a contributory organization of the Ministry of Education, Youth and Sport, 91 schools from all 14 regions of the Czech Republic were randomly

chosen to create a representative sample. We contacted 91 schools, and 86 schools took part in our survey (school response rate: 94.5%). According to the protocol of the HBSC study, classes from the 5th to 9th grades were selected randomly, one from each grade per school. Grammar and elementary schools were included in the Czech study sample. We obtained data from 5284 adolescents from the 5th, 7th and 9th grades of elementary schools in the Czech Republic (response rate: 87.0%). According to Czech legislation the study did not have to be approved by an Ethics Committee, because the study consisted of an anonymous questionnaire. However, we adhered to current ethics standards per the Declaration of Helsinki. Parents were informed about the study via the school administration and could opt out if they disagreed with their child's participation in the study. Participation in the study was fully voluntary and anonymous, with no explicit incentives provided for participation. Questionnaires were administered by trained research assistants in the absence of a teacher during regular class time.

The fourth study sample was based on the international HBSC study and is consistent with its methodology. This test-retest study was conducted in the Czech Republic and Slovakia in 2013. It was preceded by a pilot study which included the administration of questionnaires and the use of focus groups in both countries. Based on the data obtained in the pilot study, the final set of questions was compiled. We contacted 12 larger and smaller primary schools located in rural as well as in urban areas in the Olomouc region, Czech Republic (seven schools), and the Kosice region, Slovakia (five schools). The prevalence rates regarding the explored variables in the recruited samples were rather similar to those in other studies covering all regions, so we anticipate that our findings in both the Czech and Slovak Republics can be generalized to a wider population.

The schools were randomly chosen to create a representative sample. We succeeded in achieving a 100% response rate on the school level, since all of the contacted schools agreed to participate. Questionnaires were administered in the 5th and 9th grades by trained research assistants in the absence of a teacher during regular class time. In the first part of the data collection (Test) we obtained data from 419 adolescents in the Czech Republic (response rate: 83.20%) and 259 adolescents in Slovakia (response rate: 74.1%). Non-response was primarily due to illness and parental disapproval of the participation of their children. The second part of the data collection (Retest) was conducted 4 weeks after the first part. We obtained data from 353 adolescents in the Czech Republic (66 dropped out, 15.7%) and 227 adolescents in Slovakia (32 dropped out, 12.3%) who also participated in the first part of the data collection (Test). The final sample consisted of 353 Czech (51.9% boys) and 227 Slovak (52.9% boys) primary school pupils, grades five and nine. The

study was approved by the Ethics Committee of the Faculty of Physical Culture, Palacky University in Olomouc, and by the Ethics Committee of the Medical Faculty at P J Safarik University in Kosice. The schools in the Czech Republic had a general permission granted at the beginning of the school year by all parents. Parents in Slovakia were informed about the study via the school administration and could opt out if they disagreed with it. Participation in the study was fully voluntary and anonymous, with no explicit incentives provided for participation in either country.

Our fifth and last study sample was based on the international HBSC study and presents data from 13- to 16-year-old school children from the latest survey wave in 2014. Four countries (Czech Republic, Germany, Poland and Slovakia) were included. Each of the country-specific samples was based on a nationally representative randomized cluster (i.e. school level) sampling procedure. The study samples included grammar and elementary schools in Czech Republic; grammar schools, intermediate modern secondary schools and modern secondary schools in Germany; public elementary schools in Poland and grammar and elementary schools, including church schools and schools with Hungarian language, in Slovakia. In total 13,800 students were recruited. Surveys were administered by class teachers and trained research assistants during regular class time; participation was voluntary, and confidentiality of the participants was ensured. Response rates varied per country (89.2% in the Czech Republic, 72.5% in Germany, 86.1% in Poland and 78.8% in Slovakia). Non-response was mainly due to illness (Czech Republic, Poland and Slovakia), parental disapproval of the participation of their children (Germany, Poland and Slovakia) and children's disapproval of participation in the study (Czech Republic). The studies were approved in the Czech Republic by the Ethics Committee of the Faculty of Physical Culture, Palacky University Olomouc; in Germany by the Ethics Committee of the University Hospital Hamburg; in Poland by the Bioethics Committee at the Institute of Mother and Child; and in Slovakia by the Ethics Committee of the Medical Faculty at the P. J. Safarik University in Kosice. Table 2.1 below indicates which sample was used in which chapter.

Table 2.1 Basic characteristics of the research samples

Sample	Chapter(s)	Countries	Year of data collection	National representativeness	Origin of the data (area)
1	3	Slovakia	2010	yes	schools across Slovakia
2	6,7	Slovakia	2014	yes	schools across Slovakia
3	3,4	Slovakia, Czech Republic	2010	yes	schools across Slovakia and the Czech Republic
4	5	Slovakia, Czech Republic	2013	no	schools in Kosice (Slovakia) and Olomouc (Czech Republic) region
5	7	Slovakia, Czech Republic, Poland, Germany	2014	yes	Schools across Slovakia, the Czech Republic, Poland and Germany

2.2 Measures

This section provides an overview of the variables used in this thesis. Table 2.2 provides brief information on the origin of the measures and a short description of them.

Table 2.2 Overview of the central variables used in this thesis

Measure	Source	Role in analyses	Chapters	Short description
Physical activity	HBSC 2010, 2014	Dependent	3,4,6,7	Indicator of positive health behaviour
Body image	HBSC 2010	Independent	3	Indicator of negative self-image
Body Mass Index	HBSC 2010	Confounder	3	Indicator of weight
Motives for physical activity	HBSC 2010	Independent	4,5	Indicator of exercise motivation
Screen-based activities	HBSC 2014	Dependent	6,7	Indicator of health behaviour
Degree of urbanization	HBSC 2014	Independent	6	Indicator of built environment
Active breaks (active recess)	HBSC 2014	Independent	6	Indicator of school health policy
Accessibility of sports facilities at school	HBSC 2014	Independent	6	Indicator of school environment
Family affluence	HBSC 2014	Confounder	7	Indicator of socioeconomic status
Perceived environment	HBSC 2014	Independent	7	Indicator of perceived social and physical environment

2.3 Statistical analyses

Several statistical methods were used across the study. Analyses were performed using the statistical software packages SPSS and STATA software. Each chapter provides detailed information about the performed statistical analyses. In general, we first described the frequencies and simple prevalence rates of the concerned behaviour. Next, to answer the research questions of each sub-study, the associations between independent and dependent variables were computed using logistic regression models and multilevel logistic regression, crude and adjusted for potential confounders. Moreover, for the purpose of this thesis we used also Intraclass Correlation Coefficients to assess the multilevel structure of data. Finally, to explore the differences between dichotomous

independent variables we used the chi-square test, and for continuous variables we used the t-test.