

Developing a web-based program for physical education teachers and parents to teach them how to interact with children in a need-supportive way to encourage them to be physically active

Submission date 14/12/2022	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 15/12/2022	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 11/06/2025	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Although the benefits of physical activity and the detrimental effects of inactivity are known, most children and adolescents do not meet the recommended activity level – WHO suggests that this age group get at least 60 minutes of moderate-to-vigorous physical activity daily. As many non-communicable diseases have roots in childhood and exercise habits tend to carry over into adulthood, it is important to find ways to promote physical activity in children and adolescents. One way to increase children's internal motivation towards physical activity is to ensure their basic psychological needs – autonomy, competence, and relatedness – are satisfied regarding physical activity. Numerous need-supportive intervention studies in the school setting have proven to be effective in increasing student's physical activity related outcomes. The home setting has not been so extensively studied.

In this study we will test the effectiveness of web-based programs for physical education teachers and parents that teach them to be more need-supportive in the interaction with children. We will compare the effects of three combinations of programs – teacher only, parent only and combined teacher- and parent study programs. We assume that both the teacher only and parent only programs will be effective in increasing adolescents' motivation towards and actual participation in out-of-school physical activity. We also assume that the combined intervention group, where both teachers and parents are trained, will be the most effective.

Who can participate?

Children in grades 6-7 aged between 12 and 13 years (at baseline)

What does the study involve?

Grade 6-7 students will be divided into 4 intervention groups:

1. Teacher-delivered intervention group – physical education teachers will complete an online training covering need-supportive communication techniques

2. Parent-delivered intervention group – parents will complete an online training covering need-supportive communication techniques
3. Combined teacher- and parent-delivered intervention group – both physical education teachers and parents will complete an online training covering need-supportive communication techniques
4. Waitlist control group - physical education teachers and parents continue interacting with children as they usually do

The teachers and parents in the experimental groups will have access to web-based learning platforms that guide participants through the six-week training program. The program aims to teach participants need-supportive communication techniques, so that the children will be more motivated to be physically active in their leisure time. All the training material will be presented to the teachers and parents via short video lectures, and they are encouraged to put the techniques into practice.

We will measure the physical activity of students on four occasions – before the training program begins (baseline values), directly after the training program, 1 month after the end of the training program and 5 months after the end of the training program.

What are the possible benefits and risks of participating?

The possible benefit to students taking part in this study is that their physical education teachers and parents adopt need-supportive communication techniques that should help them be physically more active and healthier.

The research does not harm the subjects mentally nor physically. Invasive research methods will not be used.

Where is the study run from?

University of Tartu, Estonia

When is the study starting and how long is it expected to run for?

September 2020 to May 2024

Who is funding the study?

Institute of Sport Sciences and Physiotherapy, University of Tartu (Estonia)

Who is the main contact?

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Additional identifiers

EudraCT/CTIS number

Nil known

IRAS number

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

Version 2 (2022/08)

Study information

Scientific Title

Fostering need-supportive behaviors in physical education teachers and parents: a cluster randomized controlled trial study protocol of a web-based intervention on secondary school students' physical activity

Study objectives

1. We expect to find that the PE teacher-delivered and parent-delivered components of the need-supportive intervention have an effect on Grade 6-7 students' PA.
2. We expect an interaction effect of the teacher- and parent-delivered components of the intervention such that students assigned to receive both the teacher- and parent-delivered components exhibit the greatest increase in PA participation compared to students assigned to receive either component alone and students assigned to the control condition that do not receive either component.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 19/10/2020, Research Ethics Committee of the University of Tartu (Raekoja plats 9–316, 51004 Tartu, Estonia; +372 737 6215; eetikakomitee@ut.ee), ref: 327/T-4, 19.10.2020

Study design

Single-center interventional single-blinded randomized controlled trial

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Home

Study type(s)

Other

Participant information sheet

See additional files

Health condition(s) or problem(s) studied

Leisure-time physical activity of students

Interventions

3 intervention groups will be compared against one control condition (4 groups in total):

1. Teacher-delivered intervention group
2. Parent-delivered intervention group
3. Combined teacher- and parent-delivered intervention group
4. Waitlist control group

Randomization is done by schools and the study involves Grade 6-7 students. Their physical education (PE) teachers and parents will be assigned either to participate in a six-week web-based need-supportive intervention program or to continue teaching and parenting as they currently do (i.e., control group). Students are blinded to allocation.

The PE teachers and parents in the experimental conditions will have access to web-based learning platforms developed for this project that guide participants through the six-week training program. The programs aim to familiarize participants with techniques directed at promoting children's autonomous motivation towards out-of-school physical activity. All the training material will be presented to the participants via short video lectures.

Intervention Type

Behavioural

Primary outcome measure

The students' participation in out-of-school moderate-to-vigorous physical activity (MVPA) measured by self-report questionnaires at baseline, after the 6-week intervention, 1-month follow-up and 5-month follow-up.

Secondary outcome measures

Self-reported measures of psychological variables (perceived need-support; autonomous and controlled forms of motivation towards physical activity; attitudes, subjective norms, perceived behavioral control, and intentions for out-of-school physical activity) measured by self-report questionnaires at baseline, after the 6-week intervention, 1-month follow-up and 5-month follow-up.

Overall study start date

01/09/2020

Completion date

31/05/2024

Eligibility

Key inclusion criteria

1. Age 12-13 years (Grade 6-7 students)
2. No restrictions on participation in physical education classes

Participant type(s)

Healthy volunteer

Age group

Child

Lower age limit

12 Years

Upper age limit

13 Years

Sex

Both

Target number of participants

4 clusters, 108 students in each cluster

Total final enrolment

149

Key exclusion criteria

Restrictions on participation in physical education classes

Date of first enrolment

01/05/2023

Date of final enrolment

01/10/2023

Locations

Countries of recruitment

Estonia

Study participating centre

University of Tartu, Institute of Sport Sciences and Physiotherapy

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Organisation

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Sponsor type
University/education

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Funder(s)

Funder type
University/education

Funder Name
University of Tartu, Institute of Sport Sciences and Physiotherapy

Results and Publications

Publication and dissemination plan
Planned publication in a high-impact peer-reviewed journal

Intention to publish date
30/06/2025

Individual participant data (IPD) sharing plan
The datasets generated during and analysed during the current study will be stored in a publicly available repository (Open Science Framework (OSF) data repository).

IPD sharing plan summary
Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article		18/10/2022	14/12/2022	Yes	No
Participant information sheet	Consent form for school		15/12/2022	No	Yes
Participant information sheet	Information to schools		15/12/2022	No	Yes
Participant information	Invitation to schools		15/12		

sheet			/2022	No	Yes
Participant information sheet	Parent information and informed consent form		15/12/2022	No	Yes
Participant information sheet	Student information and informed consent form		15/12/2022	No	Yes
Other publications	Results of pilot study	25/08/2023	29/08/2023	Yes	No
Results article		10/06/2025	11/06/2025	Yes	No