

# PA4WELL primary schools program: a study to increase students' cardiorespiratory fitness and contribute their physical, social and mental health

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<b>Registration date</b> 25/06/2026	<b>Overall study status</b> Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 25/06/2026	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Public, Scientific, Principal investigator

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## Additional identifiers

## Study information

## Scientific Title

PA4WELL primary schools program: a hybrid effectiveness -implementation trial to increase students' cardiorespiratory fitness and contribute their physical, social and mental health

## Acronym

PA4WELL

## Study objectives

1. To evaluate the effectiveness of the PA4WELL whole-of-school physical activity intervention on cardiorespiratory fitness (primary outcome) among Grade 5 students compared to a control group.
2. To assess the effects of the intervention on secondary health outcomes, including physical activity levels, recovery during the school day and sleep (heart rate variability), and mental and social health.
3. To compare the effectiveness of two levels of implementation support (high vs. low) in improving student outcomes.
4. To examine implementation outcomes of the PA4WELL intervention across study arms, including the proportion of schools implementing at least four of the six intervention components.
5. To identify determinants of implementation (teachers' capability, opportunity, and motivation) and evaluate key implementation outcomes, including acceptability, adoption, appropriateness, feasibility, fidelity, cost, penetration, and sustainability.

## Ethics approval required

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## Ethics approval(s)

Approved 24/04/2026, Human Sciences Ethics Committee of the University of Jyväskylä (University of Jyväskylä PO Box 35, Jyväskylä, FI-40014, Finland; +358 (0)14 260 1211; tutkimusetiikka@jyu.fi), ref: 542/13.00.04.00/2026

## Primary study design

Interventional

## Allocation

Randomized controlled trial

## Masking

Blinded (masking used)

## Control

Active

## Assignment

Parallel

## Purpose

Prevention

## Study type(s)

## **Health condition(s) or problem(s) studied**

Cardiorespiratory fitness, physical activity and physical, mental, and social health and well-being among primary school children.

## **Interventions**

This study is a three-arm cluster randomized controlled trial conducted in 30 Finnish primary schools including approximately 1200 Grade 5 students (aged ~11 years), their teachers, school principals, and parents/guardians.

After recruitment, schools will be matched into sets based on baseline characteristics (previous fitness test results, school size, municipality type, and prior participation in the Finnish Schools on the Move programme). Randomisation will be conducted within matched sets (1:1:1 ratio) by an independent statistician using a computer-generated random number sequence, ensuring allocation concealment.

Schools will be allocated to one of three arms:

1. High implementation support
2. Low implementation support
3. Control (usual practice)

Intervention (arms 1 and 2):

All intervention schools will implement the PA4WELL whole-of-school physical activity intervention based on the WHO framework. The intervention includes six components:

- (1) quality physical education,
- (2) active travel to and from school,
- (3) physical activity opportunities before and after school,
- (4) physical activity during recess and lunch,
- (5) physically active classrooms, and
- (6) targeted physical activity support for students with additional needs.

The intervention engages multiple stakeholders within the school community. Teachers and principals are involved in planning and implementation processes, while parents/guardians are engaged through communication materials (e.g. parent meetings and newsletters) supporting children's physical activity behaviours at home.

Implementation support:

1. High support arm: face-to-face and online support, including workshops for teachers, leadership support for principals, school visits, ongoing facilitation, and structured feedback.
2. Low support arm: online support only (digital materials, videos, and guidance via platform).
3. Control arm: no intervention or implementation support during the study period.

Duration and follow-up:

The intervention lasts 6 months and is implemented in two waves (2026-2027 & 2027-2028). Outcomes are assessed at baseline, post-intervention (7 months), and follow-up (19 months).

Where feasible, outcome assessors will be blinded to group allocation.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

1. Cardiorespiratory fitness (students) measured using 20-metre shuttle run test (number of laps completed) at baseline, 7 months (post-intervention), and 19 months (follow-up)

### **Key secondary outcome(s)**

1. Physical activity (students) measured using Actigraph wGT3X-BT accelerometer (7 days) at baseline, 7 months (post-intervention), and 19 months (follow-up)

2. Recovery during the day and sleep (students) measured using Firstbeat Bodyguard 3 heart rate variability measurement (5 days) at baseline, 7 months (post-intervention), and 19 months (follow-up)

3. Well-being (students) measured using WHO-5 Well-Being Index at baseline, 7 months (post-intervention), and 19 months (follow-up)

4. Mental and social health (students) measured using Strengths and Difficulties Questionnaire (SDQ) at baseline, 7 months (post-intervention), and 19 months (follow-up)

5. School engagements (students) measured using Study Engagement Scale at baseline, 7 months (post-intervention), and 19 months (follow-up)

6. Study burnout (students) measured using Study Burnout Inventory at baseline, 7 months (post-intervention), and 19 months (follow-up)

7. Self-reported physical activity (students) measured using Two-item physical activity questionnaire at baseline, 7 months (post-intervention), and 19 months (follow-up)

8. Perceived physical competence (students) measured using Sport competence subscale of the Physical Self-Perception Profile at baseline, 7 months (post-intervention), and 19 months (follow-up)

9. Body mass index (students) measured using weight and height at baseline, 7 months (post-intervention), and 19 months (follow-up)

10. Parental support for children's physical activity (guardians) measured using Family Physical Activity Environment questionnaire at baseline, 7 months (post-intervention), and 19 months (follow-up)

11. Implementation of whole-of-school physical activity components measured using number of components implemented in previous month at 7 months (post-intervention), and 19 months (follow-up)

12. Teachers' capability, opportunity, and motivation to implement the intervention measured using COM-PASS scale at baseline, 7 months (post-intervention), and 19 months (follow-up)

### **Completion date**

31/05/2029

## **Eligibility**

### **Key inclusion criteria**

1. Grade 5 students (typically aged 11-12 years) enrolled in participating primary schools in Central Finland
2. Primary schools in Central Finland with Grade 5 classes
3. Principals of participating primary schools in Central Finland
4. Grade 5 teachers and, where applicable, physical education (PE) teachers responsible for teaching PE to Grade 5 students in participating schools
5. Legal guardians of participating students

**Healthy volunteers allowed**

Yes

**Age group**

Child

**Lower age limit**

10 Years

**Upper age limit**

14 Years

**Sex**

All

**Total final enrolment**

960

**Key exclusion criteria**

1. Schools with combined classes (e.g. 5-6)
2. Special schools and teacher training schools
3. Schools with a specific focus on sports
4. Individuals unable to participate in study procedures or provide informed consent (for example, due to insufficient language proficiency)

**Date of first enrolment**

02/08/2026

**Date of final enrolment**

30/10/2027

**Locations****Countries of recruitment**

Finland

**Study participating centre**

Schools in Central Finland

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Jyväskylä

Finland  
40600

## Sponsor information

### Organisation

University of Jyväskylä

### ROR

<https://ror.org/05n3dz165>

## Funder(s)

### Funder type

### Funder Name

Jane ja Aatos Erkon Säätiö

### Alternative Name(s)

Jane and Aatos Erkkko Foundation, Jane och Aatos Erkkos stiftelse, J&AE

### Funding Body Type

Private sector organisation

### Funding Body Subtype

Trusts, charities, foundations (both public and private)

### Location

Finland

## Results and Publications

### Individual participant data (IPD) sharing plan

### IPD sharing plan summary

Not expected to be made available