



# Effects of the inclusion of physical activity in academic classes on educational indicators and health markers: the ACTIVE CLASS study

**Daniel Camiletti-Moirón**; Alberto Grao-Cruces; Fátima Martín Acosta; María González-Pérez; Enrique Cano-Cañada; Tomás García-Calvo; Inmaculada González-Ponce; Julio Conde-Caveda; Carmen Padilla-Moledo; Inmaculada C. Álvarez-Gallardo; Rocío Izquierdo-Gómez; David Sánchez-Oliva

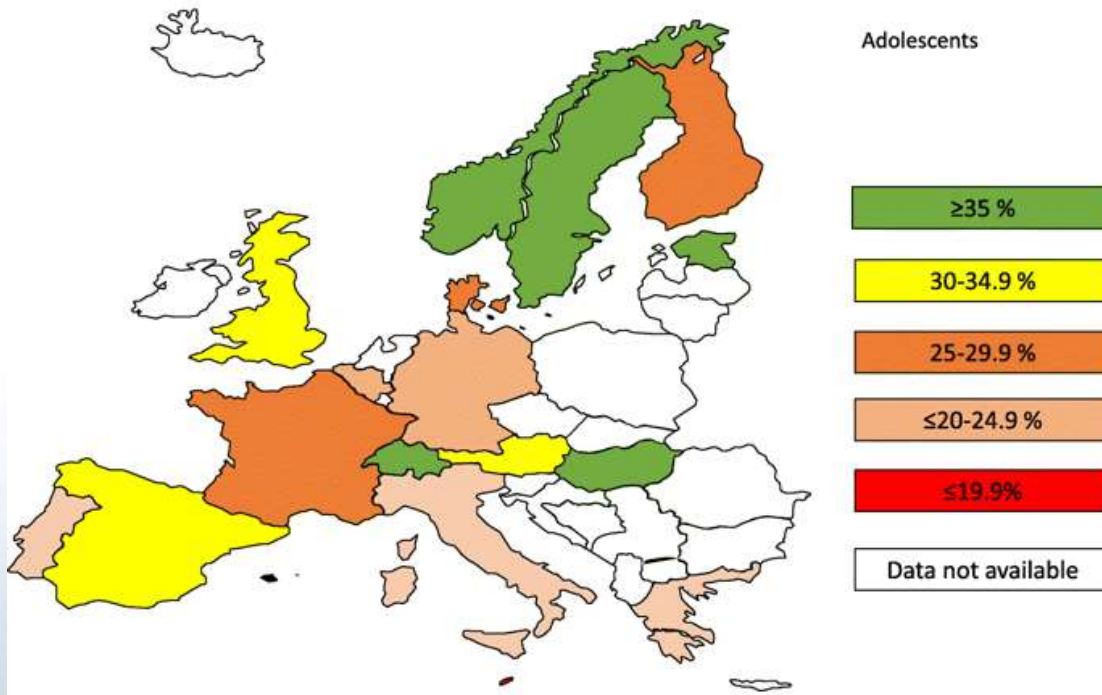
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## PA recommendations at school age:

≥60 daily minutes of MVPA



**81% inactive adolescents**

(Hallal et al., Lancet. 2012)



**71% inactive children and adolescents**

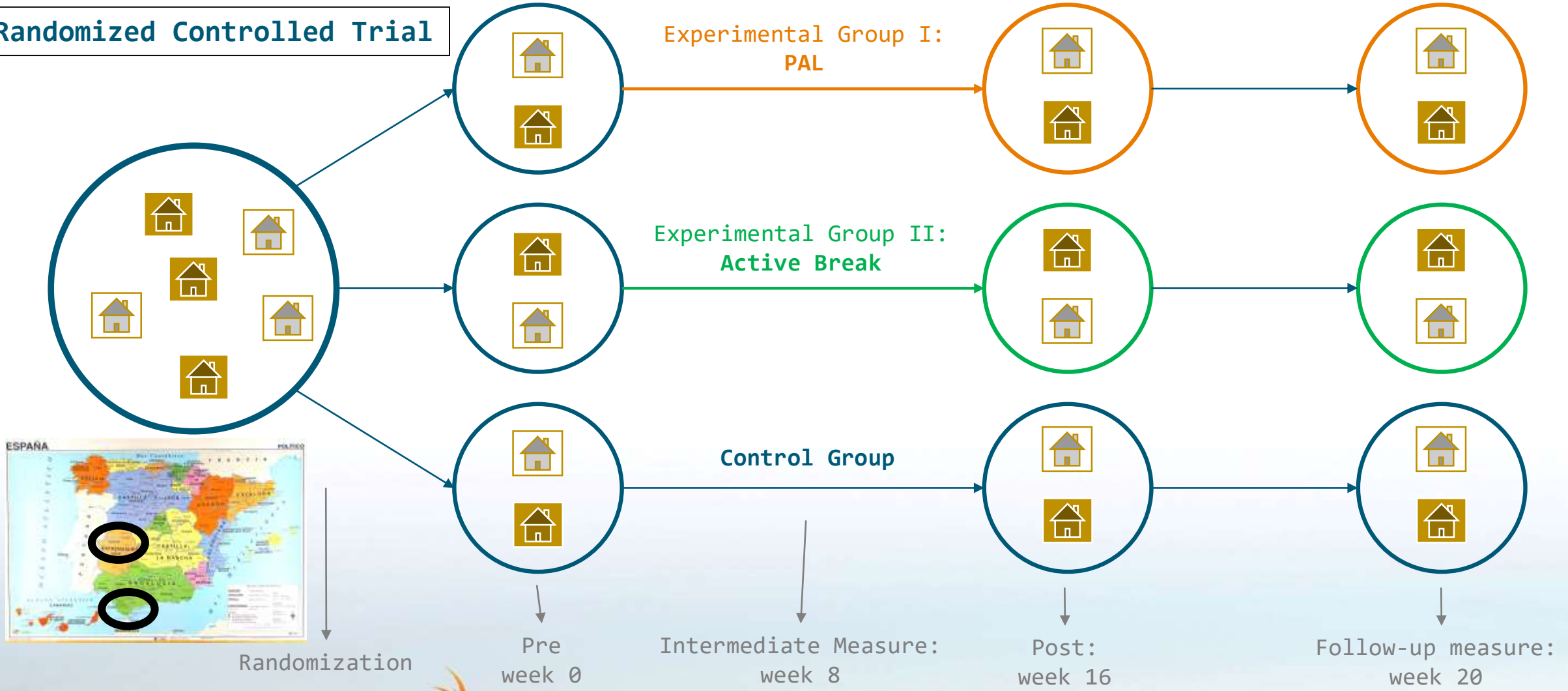
(Steene-Johannessen et al., Int J Behav Nutr Phys Act. 2020)



**63% inactive children and adolescents**

(Gasol Foundation, 2019)

Randomized Controlled Trial



Randomization

Pre week 0

Intermediate Measure: week 8

Post: week 16

Follow-up measure: week 20

## VARIABLES

**Physical Activity  
and sedentary time**



**Academic  
Indicators**



**Cognition**



**Perception  
of learning**



**Fitness**



**Psychological  
Indicators**



**Motivational  
indicators**



**Qualitative  
Analysis**



# PROJECT DESIGN

## TIMELINE



| 2021                            |   |   |   |   |   |   |   |   |    |    |    | 2022                    |   |   |              |   |   |     |       |      |    |      |    | 2023                    |   |   |   |   |   |
|---------------------------------|---|---|---|---|---|---|---|---|----|----|----|-------------------------|---|---|--------------|---|---|-----|-------|------|----|------|----|-------------------------|---|---|---|---|---|
| 1                               | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1                       | 2 | 3 | 4            | 5 | 6 | 7   | 8     | 9    | 10 | 11   | 12 | 1                       | 2 | 3 | 4 | 5 | 6 |
| PHASE 1                         |   |   |   |   |   |   |   |   |    |    |    | PHASE 2                 |   |   | PHASE 3      |   |   |     |       |      |    |      |    |                         |   |   |   |   |   |
| Co-creation of the Intervention |   |   |   |   |   |   |   |   |    |    |    | Pilot Study             |   |   | RCT          |   |   |     |       |      |    |      |    |                         |   |   |   |   |   |
|                                 |   |   |   |   |   |   |   |   |    |    |    |                         |   |   | RCT Planning |   |   | Pre | Inter | Post |    | Foll |    |                         |   |   |   |   |   |
|                                 |   |   |   |   |   |   |   |   |    |    |    | Academic Year 2021-2022 |   |   |              |   |   |     |       |      |    |      |    | Academic Year 2022-2023 |   |   |   |   |   |

# The co-creation process

1. Creation of battery of activities


2. Initial Seminar

3. Teacher Peer Revision

4. Bilateral meetings

5. Teacher creation

- 96 activities.
- For 9<sup>th</sup> and 10<sup>th</sup> year of secondary level.
- Grouped across curricula contents.

|  |   |
|--|---|
| <b>Code of the learning activity</b>   | M2S   |
| <b>Title of the learning activity</b>  | Group and do the exercise!  |
| <b>Type of activity (with movement or throughout movement)</b>                           | Throughout movement   |
| <b>School subject/s (i.e. maths, languages, social sciences and/or natural sciences)</b> | Maths   |
| <b>Educational stage (i.e. primary or secondary)</b>                                     | Secondary education   |
| <b>Learning content</b>  | Decimal numbers and fractions. Operations with fractions.   |
| <b>Place (i.e. indoor in the classroom, indoor out classroom, outdoor)</b>               | Indifferent   |
| <b>Material/s (when applicable)</b>  | 1 piece of paper per student with a different fraction for each one.  |
| <b>Description</b>   | The teacher will give each student a card with a written fraction that will be held on the chest with the hands. The students will move freely around the space and at the teacher's signal they will be grouped according to the teacher's instructions (eg, groups of 3 people). Once they have been grouped, each group must make the least common multiple of the denominator of their fractions and prepare them to be able to make the total sum of the fractions of each group.<br>The number of group members will be changed continuously, as well as the addition and subtraction of fractions. |
| <b>Graphical representation (optional)</b>   |  A diagram illustrating the activity. A teacher figure on the left holds a red card with the word 'Test!'. Several student figures are scattered around, each holding a card with a fraction. Some students are grouped together, representing the formation of groups based on their fraction cards.  |

# The co-creation process

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- 16 teachers involved in the Project and attend to the seminar.
- 3 options days.
- 1h 30' duration.
- Goal: Explain the Project and ask for their involvement in the co-creation process.



# The co-creation process

1. Creation of  
battery of  
activities

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Seminar

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creation

- Teacher Peer Revision.
- Each activity was revised by 2 teachers.
- Each teacher revised 12-13 activities.



# The co-creation process

1. Creation of battery of activities

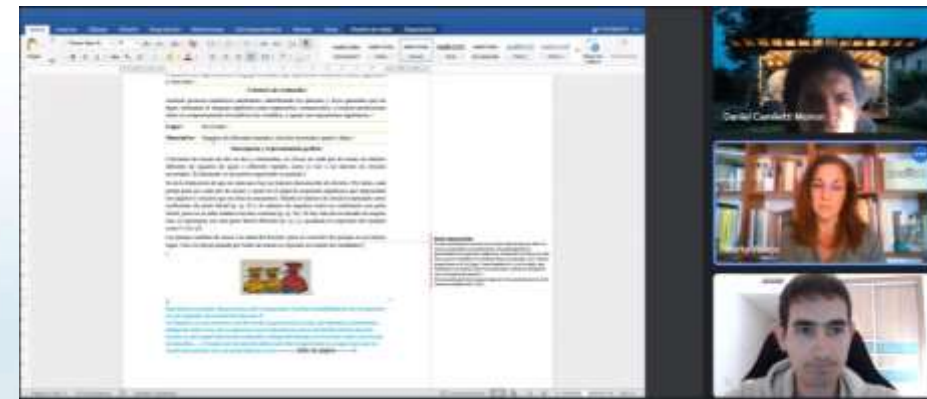
2. Initial Seminar

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- Bilateral meeting with teachers who revised the same activities.
- Goal: Share the comments of both teachers and made a qualitative review.



# The co-creation process

1. Creation of  
battery of  
activities

2. Initial  
Seminar

3. Teacher  
Peer Revision


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creation

- Teacher were encouraged to elaborated new activities by following the same structure as activities created by us.



## *Conclusion*

 This project will be the first national empirical study about physically active lessons interventions, and it is expected to verify the positive effects of the intervention to promote healthy lifestyles in adolescents during school days.

 The Active Class study will contribute to create new resources that may be used by teachers in order to increase PA levels and, therefore, improve health during the school days.

# Active Class Team

## Coordinators



David Sánchez Oliva



Alberto Grao Cruces



Daniel Camiletti Moirón

## PhD Students



Enrique Cano Cañada



Raúl Muñoz González



Fátima Martín Acosta



María González Pérez



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