Implementing 10-minute classroom physical activity breaks in California elementary schools

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Outline

- Background
  - Why?
  - How?
    - Intervention details
- Effectiveness
  - Physical activity during school
  - Classroom behaviors
- Implementation factors
  - Barriers
  - Facilitators
Learning objectives:

Learn about…

• Implementation strategies and barriers to implementing classroom physical activity breaks,

• Positive impacts on students’ physical activity levels and classroom behaviors found from a one-year intervention across 7 CA school districts
Background and Study details

The “why” and “how”
Why classroom PA breaks?

- 60 minutes of physical activity (PA) per day are recommended for children
- Schools to provide opportunities for children to obtain 30 minutes/day
  - Institute of Medicine recommends a “whole of school approach”
    - i.e. Provide multiple PA opportunities, through physical education (PE), recess, classroom activities and before-and-after school opportunities
- Most kids are not meeting 30 min/day
  - From recess and PE alone
- Evidence of short classroom PA breaks is promising
  - Breaks ~10 minutes long and
  - Involve movement in the classroom
How?

Evaluation Study Design

- CA endowment funded 7 school districts to implement 10-min PA breaks
- 6 districts participated in the study

- Each district developed a plan
  - Goal = all classrooms to implement ≥1 PA break/day
    - Evidence-based curriculum (Instant Recess, Take 10)
  - Fall 2013-Spring 2014 school year

- Similar components:
  - A district-level coordinator to provide:
    - Trainings
    - Support
    - Technical assistance
    - Classroom PA break materials
Participants

- 6 of 7 districts participated in the evaluation
  - 24 elementary schools
    - Almost all low-income schools
    - 5 classrooms from each school for PA assessments
    - Total: 1322 students from 97 classrooms
  - 397 teachers participated in the teacher survey
- >90% retention rate for students and teachers
Measures

- Teacher survey
  - Measured constructs related to:
    - Implementation of PA breaks
    - Student classroom behavior
    - Barriers to implementation
    - Implementation factors
      - E.g. if they received training and/or materials

- Student PA
  - Waist-worn Actigraph GT3X+ accelerometers
  - 15 students/class from 5 classes
    - Each student wore the accelerometer for 1 school day
  - Two schools per week
Results:
Intervention effects on PA
Total PA at school, in classrooms with and without PA breaks

- Classrooms with no PA breaks: 25 minutes
- Classrooms with regular PA breaks: 28.14 minutes

*p < .05*
PA was related to 1 of 10 teacher-reported classroom behaviors

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>Pay attention in class</td>
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<td>2.</td>
<td>Cooperate with peers, ability to work with others</td>
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<td>3.</td>
<td>Have a positive, cheerful attitude</td>
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<td>4.</td>
<td>Produce work and assignments that are high quality</td>
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<td>5.</td>
<td>Are defiant or noncompliant</td>
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<td>6.</td>
<td>Lack effort or motivation or give up easily</td>
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<td>7.</td>
<td>Have excessive movement or are out of seat often</td>
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<td>8.</td>
<td>Are off task or inattentive during class time</td>
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<td>9.</td>
<td>Are unable to change activities or make transitions smoothly</td>
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<td>10.</td>
<td>Are unhappy, sad or depressed</td>
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Cumulative effect of PA opportunities in school on MVPA

Number of PA opportunities reported by teacher

Student MVPA minutes/day

- 23.21
- 25.66
- 26.79
- 28.54
Results: Implementation Factors

Barriers, Facilitators and Buy-in
Implementation Factors: Training

Note: 46% of teachers reported receiving training
Implementation Factors: Receiving Materials

Note: 51% of teachers reported receiving any materials.
### Teacher Beliefs Related to Implementation

<table>
<thead>
<tr>
<th>Factors related to LESS implementation (barriers)</th>
<th>Factors related to MORE implementation (facilitators)</th>
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<tbody>
<tr>
<td>Not enough time</td>
<td>Awareness of classroom benefits</td>
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<td>Interferes with teaching/academics</td>
<td>Awareness of health and student enjoyment benefits</td>
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<td>Lack incentive</td>
<td>Buy-in from other teachers</td>
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<td>Having a PE teacher</td>
<td>Administrator support</td>
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<td>Lower SES school</td>
<td>Teachers’ support PA breaks</td>
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<table>
<thead>
<tr>
<th>Factors unrelated to implementation</th>
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<tr>
<td>Class size</td>
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<tr>
<td>Years teaching</td>
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<td>Students’ cooperation</td>
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</table>
Quotes from teachers related to classroom PA breaks

**Barriers**

- “Time is needed for academic instruction”
- “Our district has strongly pushed us not to do any physical activity. I have to resort to tip toeing. site administrator is anti-fun activities”
- “Teachers need a little more flexibility in scheduling and expectations of how much should be covered and by when”

**Benefits**

- “It wakes up some students and/or jumpstarts them. It is an opportunity to refocus on what was being taught”
- “Kids get their wiggles out”
- “Children's mood improves. Their attention span improves and they can pay closer attention”
Conclusion & Takeaways
Takeaways:

- Classroom PA breaks are promising ways to add to the PA children already get in school
  - Goal: 30 MVPA minutes/day in school
- Teachers noticed improvements in on-task behavior
  - PA breaks as classroom management tool
- Implementation varied based on buy-in at the district, school, administrative and teacher level
  - A major barrier is the lack of time
    - Restructure day and emphasis on test scores
  - Training and materials may not be enough
  - Support and encouragement are key
- Comprehensive school PA programs are likely needed
  - E.g. PE + recess +PA breaks
Questions?