

## Incorporating Physical Activity Into the School Day



Stewart G. Trost, PhD  
Department of Nutrition and Exercise Sciences  
Oregon State University  
stewart.trost@oregonstate.edu

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## Overview

- The Problem: Obesity and Physical Inactivity
  - How much activity?
- Schools and Physical Activity
- The case for classroom-based physical activity
  - Are they effective?
  - Do they help or hurt academic performance and classroom management?
- Resources for Teachers



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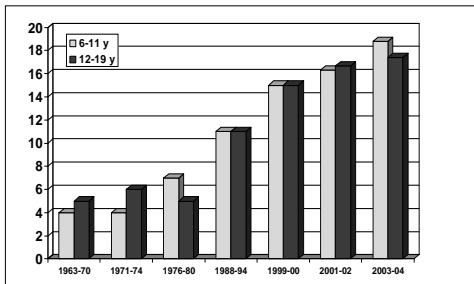
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Prevalence of obesity among US children and adolescents ages 6-19 years



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## USDHHS & USDA 2005 Dietary Guidelines for Americans 2005



Dietary Guidelines  
for Americans  
2005

- Engage in at least 60 minutes of physical activity on most, preferably all, days of the week.
- School-age youth should participate daily in 60 minutes of moderate-to-vigorous physical activity that is developmentally appropriate, enjoyable, and involves a variety of activities
- Evidence-Based Physical Activity Guidelines for School-Age J Pediatr 2005;146:732-737

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## Youth PA Guidelines

### NASPE Guidelines (children 5-12 yrs)

- Children should accumulate at least 60 minutes, and up to several hours, of age appropriate physical activity on all, or most days of the week.
- Children should participate in several bouts of physical activity lasting 15 minutes or more each day.
- Children should participate each day in a variety of age-appropriate physical activities designed to achieve optimal, wellness, fitness, and performance benefits.
- Extended periods (periods of two hours or more) of inactivity are discouraged for children, especially during the daytime hours.

Corbin & Pangrazi (2004). Physical Activity for Children: A statement of Guidelines for Children Ages 5-12.

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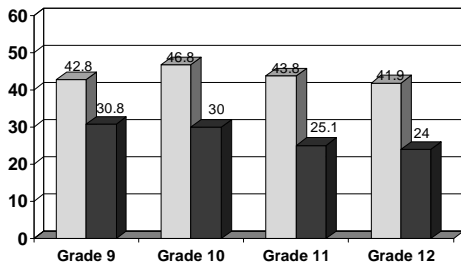
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## Percentage of US High School Students Meeting 60-min MVPA Guideline



2005 Youth Risk Behavior Survey

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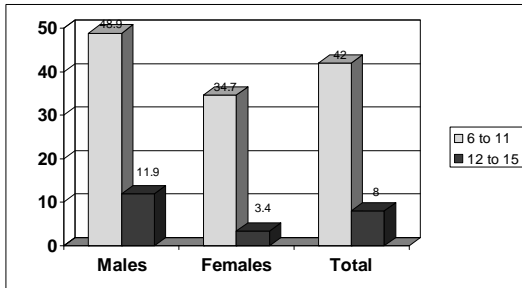
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### % Meeting Guidelines – NHANES Objective Monitoring Study



Troiano et al. Med Sci Sports Exerc 2008;40:181-188

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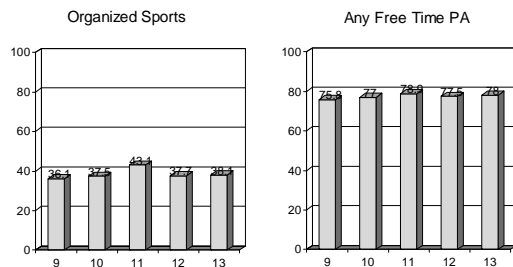
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### CDC YMC Longitudinal Survey




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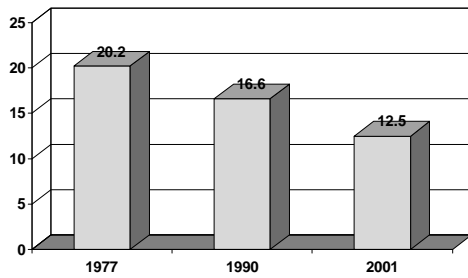
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### U.S. Children 5-15 years: Walking to School



% of School Trips

Sturm R. Preventing Chronic Disease April 2005

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## Why Schools?

- Access to most children and adolescents
- Trained staff with health interests
- Policies
- Facilities
- Able to articulate with community groups

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## Opportunities for Schools to Provide PA

- Active transportation to school
- Physical Education
- Recess
- After-school Programs
- Before-school Programs
- Interscholastic Sports
- Intramural and club programs



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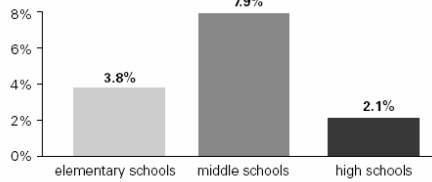
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## School Physical Education

Percentage of schools providing daily PE in 2006<sup>1</sup>



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## Is PE the same as PA ?

- Simons-Morton et al. (1993)

- 20 5<sup>th</sup> grade classes
- 8.5% of class time in MVPA
- ~ 10.4 min MVPA per week

- McKenzie et al. (1995)

- 293 3<sup>rd</sup> grade classes
- 36.2% of class time in MVPA
- 10.6 min MVPA per lesson



- Scruggs et al. (2003)

- 35% of lesson time
- ~ 10 min of MVPA per lesson

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- PA in Academic Classrooms



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### Take 10!

- TAKE 10! is a classroom-based physical activity program for kindergarten to fifth grade students.
- Curriculum tool created by teachers for teachers and students.
- Integrates PA with academic learning objectives - Language Arts, Math, Social Studies, Science and Health
- TAKE 10! materials contain safe and age-appropriate 10-minute physical activities.



<http://www.take10.net>

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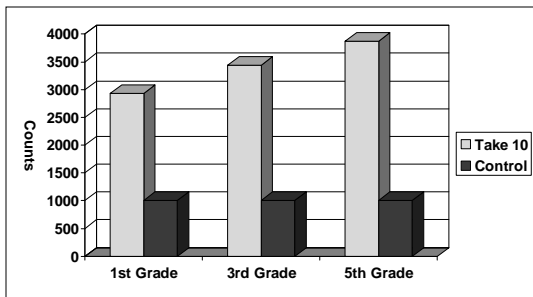
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### Take 10!



Stewart et al. Journal of School Health 2004;74:397-400

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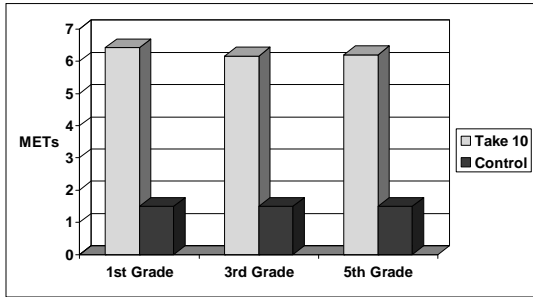
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## Take 10!



Stewart et al. Journal of School Health 2004;74:397-400

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## Energizers

- Classroom-based PA program
- Integrates PA into the curriculum
- 10-min duration
- No equipment required
- Requires little teacher preparation
- Materials can be downloaded at no cost
- <http://www.ncpe4me.com/energizers.html>

Mahar et al. Med Sci Sports Exerc 2006;38:2086-2094

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## Energizers

- Evaluated for effects on physical activity and classroom on-task behavior
- 15 classrooms K-4, N=243
- 9 intervention classrooms, N=135
- 6 control classrooms, N=108
- Pedometers worn during the school day
- On task behavior assessed via direct observation in 3<sup>rd</sup> and 4<sup>th</sup> grade classrooms

Mahar et al. Med Sci Sports Exerc 2006;38:2086-2094

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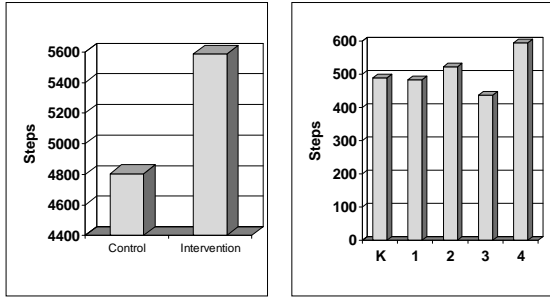
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## Energizers



Mahar et al. Med Sci Sports Exerc 2006;38:2086-2094

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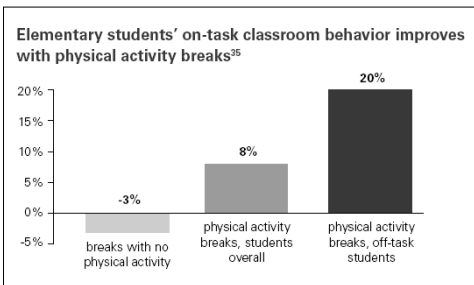
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## Energizers




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## Action Schools BC !

- Goal to provide 150 mins of MVPA per wk
- Classroom Action Zone
- 15 min of PA each school day (75 mins/wk)
- Skipping, chair aerobics, hip hop dancing, resistance exercises with exercise bands
- 6 intervention schools, 2 control
- 287 4<sup>th</sup> and 5<sup>th</sup> grade students

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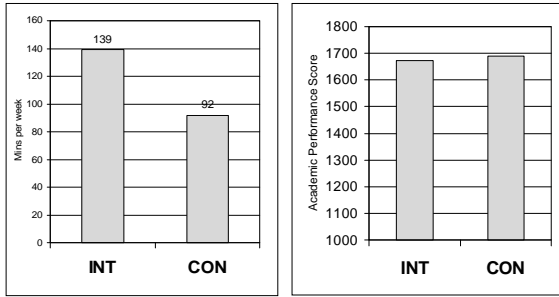
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## Action Schools BC!



Ahamed et al. Med Sci Sports Exerc 2007;39:371-376

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## PA and Academic Performance

- 5 controlled experimental studies show that more PE and other school-based PA programs does not adversely affect academic performance
- In some cases more time in PE leads to improved grades and standardized test scores
- Physically active and fit children tend to have better academic achievement




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## More Resources for Classroom-based Physical Activity

- <http://pecentral.org/lessonideas/classroom/classroom.asp>
- <http://www.ebl.ku.edu/paac/Lessons/MAINpage.htm>
- <http://www.bam.gov/>

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**Thank You !**



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