



Education-Context

Physical Activity Across The Curriculum

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Why Explore Schools to Increase Physical Activity

- Most obvious reason- children are at school 9-10 months/yr
- State mandates and school mission statements include a variety of health outcomes including physical activity
- May be tied to academic achievement- justification beyond health
- Physical infrastructure in place- protected environment

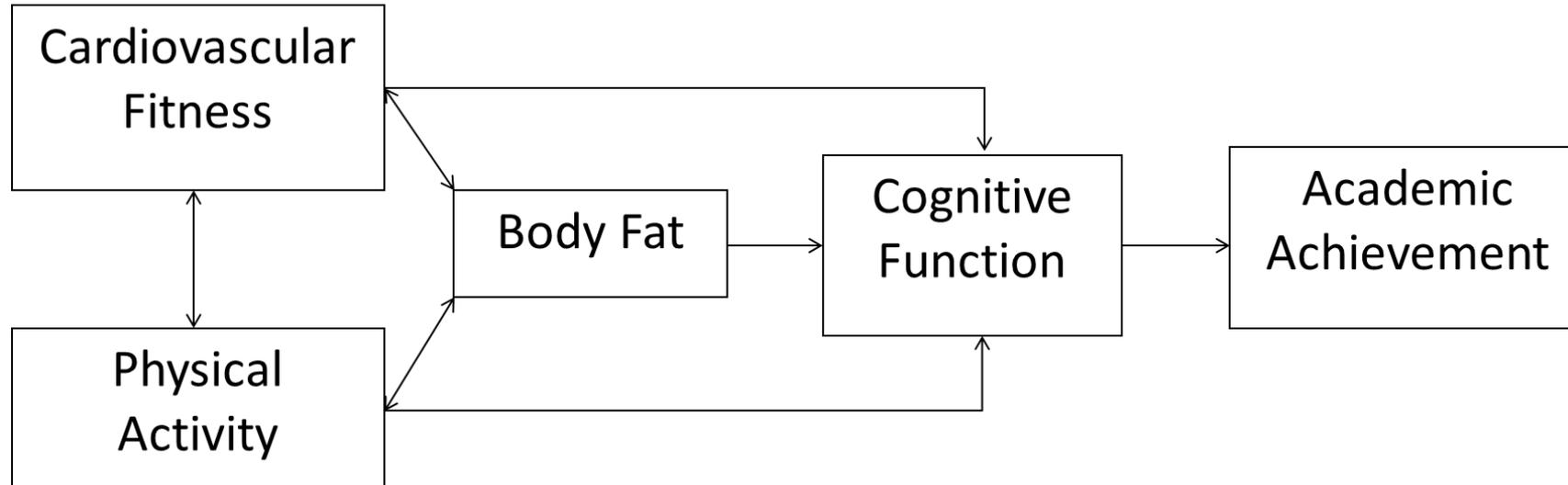
Why Explore Schools to Increase Physical Activity

- Supervision in place- various levels of administration
- Educated workforce in place- salaried to perform X, no additional cost
- Reasonable respect and authority in place- teachers generally respected, elementary students generally follow directions of teachers
- Perpetuity- schools are entrenched in society

Schools are Historically Sedentary

- Bus ride can be > 60 min each way
- Recess and physical education has declined to levels that cannot provide adequate stimulus (energy expenditure) for fitness or to protect against fatness
- Motor time off task is discouraged and disciplined
- Traditional teaching paradigm- sit down and be quiet

Theoretical Model to Improve Health & Academic Achievement



Donnelly JE, Lambourne K, Prev. Med., 2011, 52:S36-42.



Physical Activity Across the Curriculum (PAAC)

A 3-year, randomized controlled trial of physical activity and academic achievement for elementary school children in grades 2 & 3

Donnelly et al., Physical Activity Across the Curriculum (PAAC): A randomized controlled trial to promote physical activity and diminish obesity in elementary school children. *Prev. Med.* 2009, 49:336-41 (DK61489)

Major Aims of PAAC

- Increase physical activity by using classroom teachers to teach existing lessons with physical activity- not an activity break, no decrease in academic instruction
- Primary aim-
 - Diminish increases in BMI
- Secondary aims-
 - Determine association between physically active lessons and academic achievement
 - Describe time-on-task

Conceptual Framework

- Minimal intervention
- Enhances learning
- No additional teacher preparation time
- No additional cost
- Easily perpetuated and replicated
- Desirable for both teacher and student (i.e., FUN)
- Students “must” participate in classroom lessons

The PAAC Program

Integrate 10 minute periods of physical activity within academic lessons for a total of 90 min/wk (i.e. 1 ten min lesson in morning and afternoon).

- Language arts
- Math
- Science
- History

Active Lesson

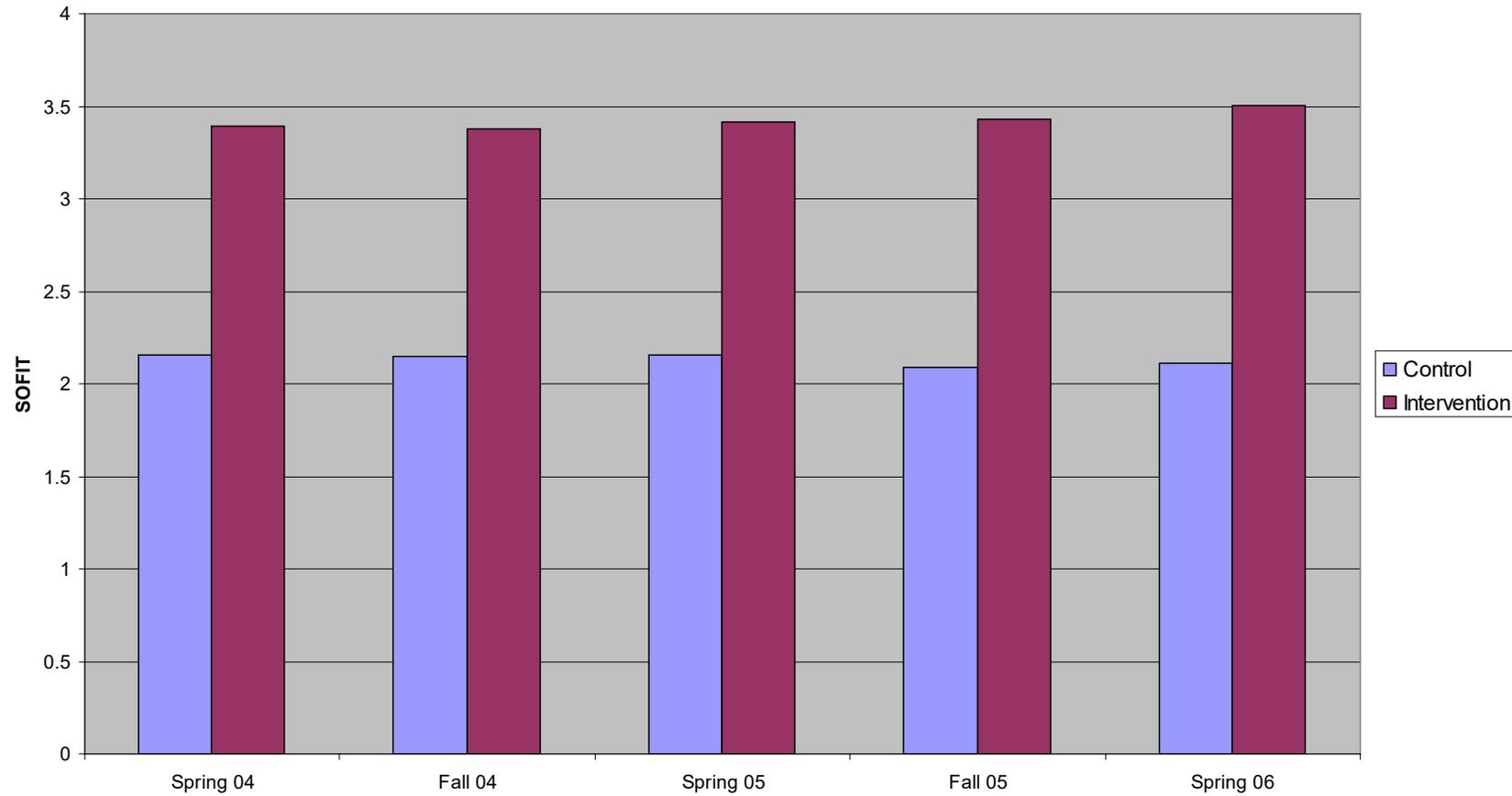


Learning Spanish

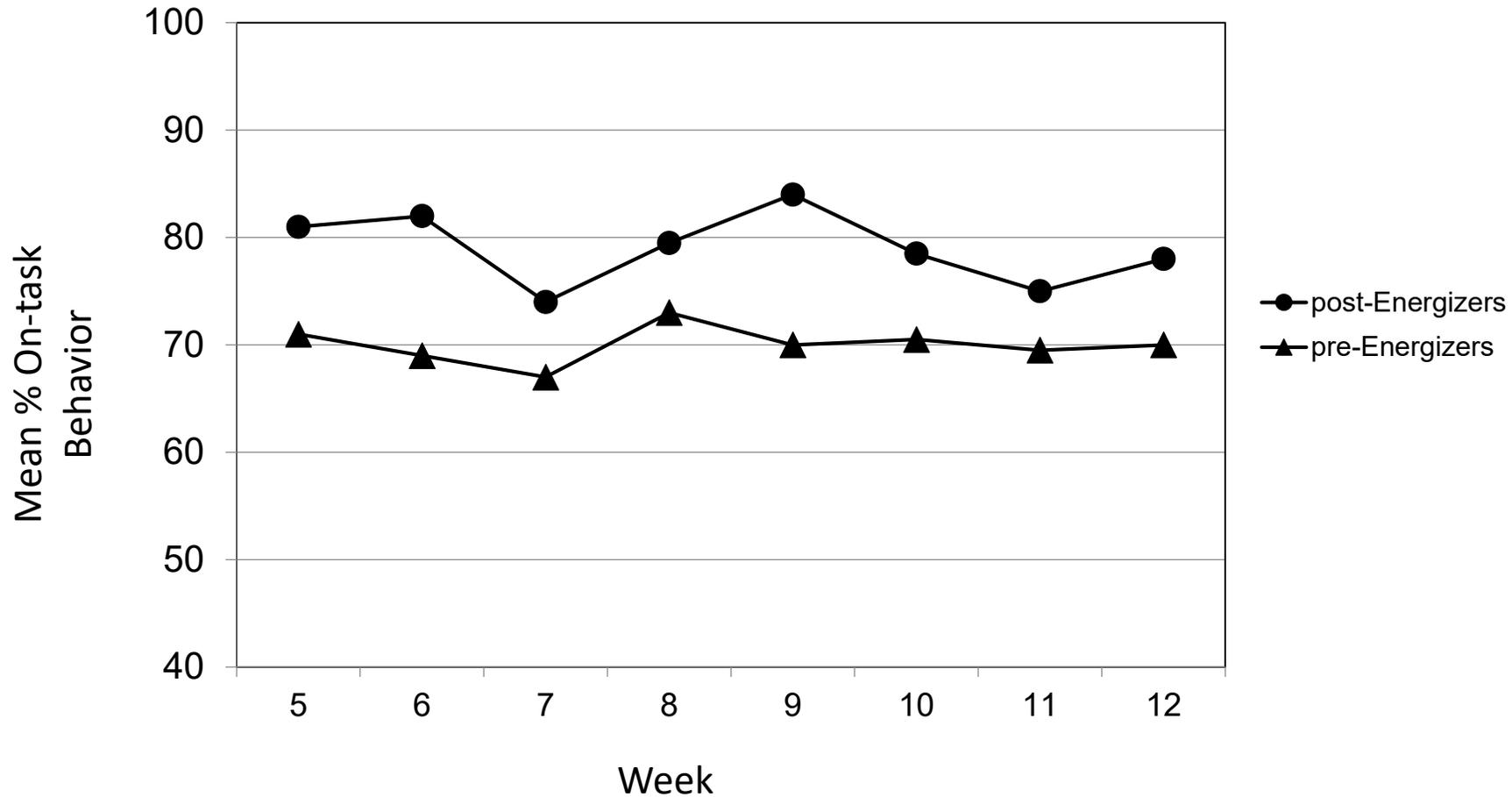


Level of Physical Activity

Mean SOFIT by Semester



Mean percentage of intervals of on-task behavior pre and post Energizers for one fourth grade class.



Mahar et al., 2006. Effects of a classroom-based program on physical activity and on-task behavior. *Medicine and Science in Sports and Exercise* 38, 2086–2094. **Note-** no effect of time on task in PAAC

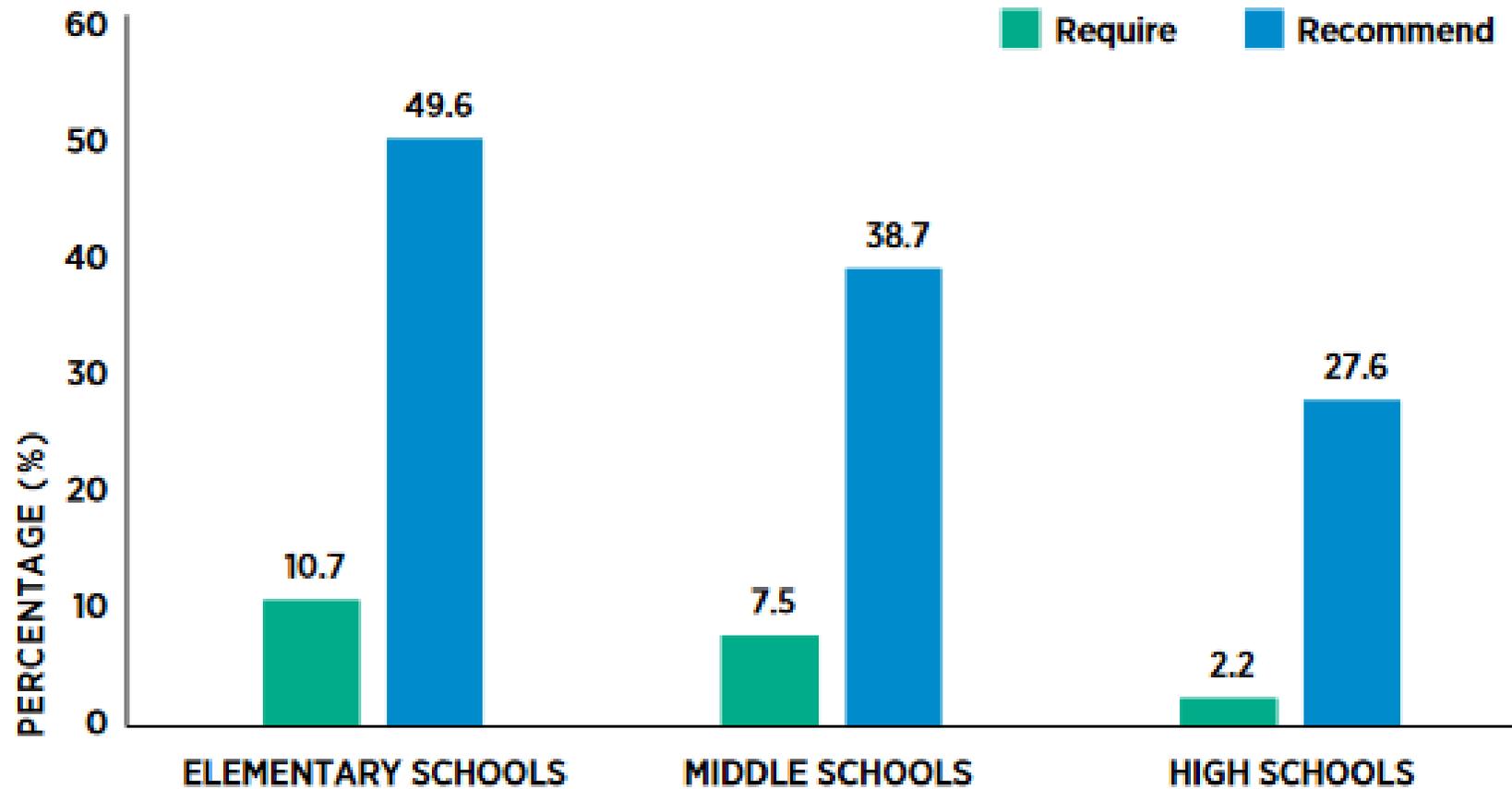
What is Needed to Promote Non-Traditional Physical Activity in Schools

- Low cost/no cost, sustainable programs through university teacher preparation
- Add to universal curriculum for teaching
- Low teacher burden for lesson preparation
- Activity disconnected from motor skills
- Additional evidence to link physical activity/fitness & learning
 - Plausible biological model combined with evidence from well designed interventions linking to state academic achievement tests
- Policy change

How to Increase Physical Activity in Schools Without Decreasing Academic Instruction

- Increase time children are physically active in physical education and recess
- Provide access to physical activity before and after school
- Promote active transportation
- Provide physically active lessons
- Use it as classroom management/behavioral tool

Figure 8 Percentage of U.S. school districts that require or recommend schools provide regular classroom physical activity breaks.



Source: 2016 SHPPS¹⁷

Issues for Consideration

- What is the research base for classroom physical activity for teacher vs. outside vendors
- School culture- priority is academic learning tied to state standards with real consequences
- Teacher training- can we really expect regular classroom teachers to design, organize and deliver physical activity
- Will principals really hold teachers accountable if they do not deliver physical activity as intended

Issues for Consideration

- How do teachers react to doing “yet another thing” and how do teacher organizations or unions play into the mix
- Is the structure of the school (controlled chaos) really a good site
- The variations of educational settings conducive for physical activity-traditional, blended, individualized, shared space
- Alternative affiliated opportunities- Ex. Boys & Girls Clubs or Local Parks & Rec departments
 - Culture of physical activity
 - Academic adjunct, not ultimate focus, minimal/no academic governing entities
 - Formula driven daily agenda

Division of Physical Activity and Weight Management

